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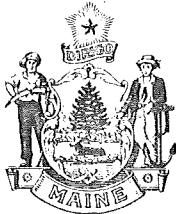
**1984**  
**STATE HEALTH PLAN**  
**FOR MAINE**

Adopted By The  
**MAINE STATE HEALTH COORDINATING COUNCIL**  
December 16, 1983

and Approved by  
Gov. Joseph E. Brennan  
April 2, 1984

Adopted Under the Provisions of  
Title XV of the U.S. Public Health Service Act





# Maine State Health Coordinating Council

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May 15, 1984

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AUGUSTA, MAINE

Dear Fellow Citizen:

Once again, we are pleased to announce that the Maine State Health Coordinating Council has adopted the State Health Plan for Maine. The 1984 Plan was adopted on December 16, 1983. It is the culmination of a year and a half of effort by the Council, the Bureau of Health Planning and Development of the Maine Department of Human Services, and consumers and providers of health care through committee and subcommittee action, the work of advisory groups, and public hearings on the Plan.

The State Health Plan is the vehicle used by the Council to address the needs of Maine people for health services provided in all settings and at reasonable cost. To accomplish this the State Health Plan describes goals and sets standards for improving the health of the people of Maine and their health care system. It is our hope that this Plan will be used by health care professionals, public agencies and others to accomplish these goals for our people.

Sincerely,

The Members of the Maine State  
Health Coordinating Council

bvm



## Preface to the 1984 State Health Plan for Maine

When the Maine State Health Coordinating Council adopted the first State Health Plan for Maine in March, 1980, it committed itself to the following principles:

- (1) health planning is essential if a society's limited resources are to be wisely used;
- (2) the State Health Plan for Maine must be a dynamic document able to change in response to the needs of the State's people; and
- (3) implementation of the Plan will require the involvement and cooperation of many of Maine's citizens.

These principles are carried forward into the 1984 State Health Plan for Maine.

The Council has amended the original Plan several times -- in April, 1980, December, 1980, June, 1981, April, 1982, and in December, 1983. The Council's actions in amending the Plan reflect its commitment to maintaining a Plan that is current and which meets the needs of the people of Maine. Through the amendments, the Plan has matured, broadened, and been made more comprehensive. This amending process has benefited from the involvement of many consumers and providers of health care.

This revision of the State Health Plan was prepared with the assistance of many individuals and organizations. The proposed revisions in existing sections of Chapter IV and in new sections in Chapter IV resulted from studies performed by Council subcommittees made up of Council members, interested individuals and representatives from affected organizations. The participation of these individuals and representatives, serving in an advisory capacity, led to the development of Plan sections which were understood and supported by the individuals who were often charged in the Plan with implementing its goals and objectives.

The noteworthy revisions adopted in this Plan include:

1. One new table is being added to Chapter II, "Area Level Planning and Analysis." The table presents the 1981 utilization of psychiatric units in Maine community hospitals and the Veterans Administration Center at Togus. The table was prepared as part of the Council's revision of the Mental Health Services section.
2. Two tables in Chapter IV.A. in the section on Long Term Care for the Elderly have been revised to present more current information on intermediate care facility beds. The revised tables are included in this proposed Plan.
3. The section in Chapter IV.A. in the 1982 Plan relating to Public Health has been deleted. It has been replaced by a note explaining the deletion and referring the reader to the Bureau of Health of the Department of Human Services for the Bureau of Health's Plan for Public Health.
4. Chapter IV.A. has an extensively revised section on Mental Health Services. The 1982 Plan contained goals and objectives for mental health services and a note stating that the subcommittee created by the Maine State Health Coordinating Council to draft a complete section on mental health services had not had sufficient time to complete its work. The section on Mental Health Services contained in this Plan is the result of the subcommittee's work and subsequent revisions by the Plans Committee of the Council and the full Council. The subcommittee was assisted by technical advisors, including a physician from one of Maine's Mental Health Institutes who was recommended to the Council by the Maine Medical Association, representatives of the Department of Mental Health & Mental Retardation, and a representative of the Maine Health Systems Agency.

5. The Council added two new sections to Chapter IV.A. which fall under the general rubric of Health Promotion. The first section, titled "An Introduction to Health Promotion," provides an introduction to the topic through a review of articles and data. In addition to describing the concept and practice of health promotion, the section stresses the importance of health promotion in improving the health status of the people of Maine. The Maine State Health Coordinating Council has strongly supported health promotion in earlier State Health Plans. Many goals and objectives in the 1982 State Health Plan called for health promotional activities. The Council decided to incorporate a specific section on health promotion and created a subcommittee to develop the section. The subcommittee prepared the section and it was revised by the Plans Committee and the full Council.

The Maine State Health Coordinating Council has chosen to expand upon its health promotion work through detailed study of selected health promotion topics. The Council chose nutrition as its first area of study. The health promotion subcommittee drafted a plan component titled "Nutrition Services" with the assistance of interested organizations and individuals in the field of nutrition. The Plan section was revised by the Plans Committee and the full Council. It is included as part b. of the Health Promotion section.

The subcommittee was assisted in these areas by representatives from Maine Blue Cross and Blue Shield, Maine's Veterans Administration Center, physicians, the Bureau of Health, the Bureau of Maine's Elderly, and the Office of Dental Health in the Maine Department of Human Services, the Department of Educational and Cultural Services,



the Maine Nutrition Council and the Maine Dietetic Association, the Maine Extension Service, and the University of Maine.

6. The State Health Plan section on Computed Tomography (CT) Services has been completely revised. In response to a request made by Commissioner Petit, the Council's Plans Committee created a subcommittee to review the 1982 standards and to propose revisions. The Plans Committee made some revisions in the recommendations of the subcommittee and the Council eventually adopted the proposal of the Plans Committee. The subcommittee was assisted by members of a task force originally formed by the Maine Health Systems Agency, Inc. The Council's advisors on CT services included radiologists from hospitals with and hospitals without CT services, several hospital administrators, and a representative of Blue Cross and Blue Shield of Maine.

The Council held public hearings on the amendments in four cities around the State in August, 1983. The Council carefully reviewed the comments of the public and made several changes on the basis of the comments at its October meeting. Because of a difference of opinion among several physician groups, the Council directed its Plans Committee to reconsider one of the CT standards relating to physician training and to report back to the Council in December. The Plans Committee made its report, which was supported by the Maine Radiological Society, and the Council adopted the amendments to the Plan in December, 1983.

The sections of the 1983 Plan which were not revised or which need additional review are:

- Chapter II "Area Level Planning and Analysis." With the exception of the new table 33A this section remains unchanged.
- Chapter III "State Policy Analysis"

- Chapter IV.A.
1. "Dental Health Care"
  2. "Emergency Medical Care"
  3. "Rehabilitation and Maintenance" -- Tables 1 and 2 of this section have been updated, all other material remains the same.
  4. "Perinatal Care"
  5. "Pediatric Care"
  6. "Specialized Medical Care: End Stage Renal Disease"
  8. "Primary Health Care"
  9. "Substance Abuse Services"

- Chapter IV.B.
1. "General Hospitals - Utilization, Occupancy Rates, and Bed Supply"
    - a. Standard Relating to Statewide Hospital Utilization
    - b. Standard Relating to Statewide Minimum Acceptable Occupancy Rate for Non-federal Short-Stay Hospitals
    - c. Standard Relating to Maximum Number of Non-federal, Short-Stay Hospital Beds per Thousand Population
    - d. Standard Relating to Community Level Hospital Utilization
    - e. Standards Relating to Allocation of Projected Community Patient Days to Specific Hospitals
    - f. Standard Relating to Determination of Projected Obstetrical Patient Days for a Hospital
    - g. Standard Relating to Use of Allocated Projected Patient Days to Determine a Hospital's Appropriate Bed Complement
    - h. Standard Relating to Institutional Medical/Surgical Bed Occupancy Rates
    - i. Standard Relating to Psychiatric and Alcohol Rehabilitation Occupancy Rates
    - j. Standard Relating to Maximum Number of ICU/CCU Beds per Institution

k. Standard Relating to Minimum Space Requirements  
for Intensive Care Unit Patient Rooms

l. Standard Relating to Conditions for Hospital  
Bed Expansion and Renovation

2. "Obstetrical and Neonatal Inpatient Services"

3. "Pediatric Inpatient Services"

4. "Open Heart Surgery"

5. "Cardiac Catheterization Services"

6. "Megavoltage Radiation Therapy Services"

Chapter V.A. "Division of Data and Research"

Chapter V.B. "Division of Planning and Administration"

Chapter V.C. "Division of Project Review"

Chapter VI. "Implementation Strategies"

Glossary of Terms

APR 3 1984



STATE OF MAINE  
OFFICE OF THE GOVERNOR  
AUGUSTA, MAINE  
04888

JOSEPH E. BRENNAN  
GOVERNOR

April 2, 1984

Sandra Prescott, Chairperson  
Maine State Health Coordinating Council  
Bureau of Health Planning and Development  
Department of Human Services  
State House Station 11  
Augusta, Maine 04333

*Sandy*  
Dear Ms. Prescott:

I have reviewed the amendments to the 1982 State Health Plan for Maine under the terms of Section 1524(c) (2) of Title XV of the Public Health Service Act.

I am pleased to inform the Maine State Health Coordinating Council that I approve the amendments. Those amendments and the unchanged portions of the 1982 Plan become the 1984 State Health Plan for Maine. The 1984 Plan effectively defines and describes the health needs of Maine's citizens. It identifies reasonable methods to solve the complex and critical demands of the State's health care system. I am very pleased to see the Council's increased attention to health promotion.

I attach special importance to the fact that the amendments had many interested organizations participate in their preparation and received extensive public discussion before the Council adopted them. The development of the amendments also involved many units of State government.

The healthful well-being of the people has been a priority of my Administration. I congratulate the Council for the considerable effort its membership has expended in the development of this Plan and I anticipate a continuing partnership between the Council, the public and State government in further planning and in implementing the Plan's recommendation.

Sincerely,

*Joe*  
JOSEPH E. BRENNAN  
Governor



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## Table of Contents

	Page
I. Introduction -----	1
A. Legal Authority for the State Health Plan -----	1
B. Health Planning in Maine Under P.L. 93-641 -----	2
C. Major Themes in the State Health Plan for Maine -----	4
D. Purposes and Uses of the State Health Plan for Maine -----	10
II. Area Level Planning and Analysis -----	14
A. The Land Called Maine -----	15
B. Maine's People -----	18
C. Selected Health Status Indicators -----	25
D. Lifestyle -----	46
E. Environment -----	53
F. Resources -----	58
G. Health Expenditures -----	90
III. State Policy Analysis -----	99
A. Inventory of Existing State and Federal Health Policies and Programs -----	107
B. Review of Emergent Policies and Programs -----	158
C. Goals and Objectives -----	168
D. Forecast of Demand or Need -----	168
E. Cost Impact Analysis/Expenditures -----	176
IV. State Level Planning -----	187
A. Health Status and Health System Goals -----	190
1. Dental Health Care -----	190
2. Emergency Medical Care -----	205
3. Rehabilitation and Maintenance (Long Term Care for the Elderly) -----	217
4. Perinatal Care (Obstetrics and Gynecology) -----	239
5. Pediatric Care -----	258
6. Specialized Medical Care: End Stage Renal Disease -----	269
7. State Plan for Public Health -----	275
8. Primary Health Care -----	276



Table of Contents (Con't.)

	Page
9. Substance Abuse Services -----	304
10. Mental Health Services -----	328
11. Health Promotion -----	369
a. An Introduction to Health Promotion -----	369
b. Nutrition Services -----	388
B. Maine Standards for Acute Care Facilities and Services -----	410
1. General Hospitals - Utilization, Occupancy Rates, and Bed Supply -----	414
a. Standard Relating to Statewide Hospital Utilization -----	414
b. Standard Relating to Statewide Minimum Acceptable Occupancy Rate for Non-federal Short Stay Hospitals -----	416
c. Standard Relating to Maximum Number of Non-federal, Short-Stay Hospital Beds per Thousand Population ---	417
d. Standard Relating to Community Level Hospital Utilization -----	419
e. Standards Relating to Allocation of Projected Community Patient Days to Specific Hospitals -----	424
f. Standard Relating to Determination of Projected Obstetrical Patient Days for a Hospital -----	426
g. Standard Relating to Use of Allocated Projected Patient Days to Determine a Hospital's Appro- priate Bed Complement -----	428
h. Standard Relating to Institutional Medical/Surgical Bed Occupancy Rates -----	431
i. Standard Relating to Psychiatric and Alcohol Rehabilitation Occupancy Rates -----	439
j. Standard Relating to Maximum Number of ICU/CCU Beds per Institution -----	439
k. Standard Relating to Minimum Space Requirements for Intensive Care Unit Patient Rooms -----	443
l. Standard Relating to Conditions for Hospital Bed Expansion and Renovation -----	446
2. Obstetrical and Neonatal Inpatient Services -----	448
3. Pediatric Inpatient Services -----	457
4. Open Heart Surgery -----	463
5. Cardiac Catheterization Services -----	470

Table of Contents (Con't.)

	Page
6. Megavoltage Radiation Therapy Services -----	475
7. Computerized Axial Tomography Services -----	483
8. End Stage Renal Disease Services -----	504
V. Inter-Agency Coordination -----	505
A. Division of Data and Research -----	506
B. Division of Planning and Administration -----	513
C. Division of Project Review -----	526
VI. Implementation Strategies -----	530
Glossary of Terms -----	534



## I. Introduction

This section of the State health plan describes the legal basis for the State health plan, the health planning structure in Maine, and the process whereby the plan was developed. It also discusses federal expectations concerning the issues to be addressed in the plan, the health issues identified as high priority by Maine, and the uses of the State health plan.

### A. *Legal Authority for the State health plan*

The legal authority for the preliminary State health plan and the State health plan is Title XV of the Public Health Service Act, the National Health Planning and Resources Development Act of 1974.

That law called for the creation in each state of regional health systems agencies (HSAs), a State health planning and development agency (SHPDA), and a Statewide Health Coordinating Council (SHCC). The planning efforts of these bodies are to culminate in a comprehensive plan for each State - the State health plan.

Each health systems agency is responsible for preparing a health systems plan (HSP) for its health service area. The health systems agencies in each State are to forward their health systems plans to the State agency and the Statewide Health Coordinating Council for use in their plan development processes.

The plan development responsibilities of the State health planning and development agency are described in Section 1523(a) of Title XV of the Public Health Service Act:

Prepare, review at least triennially, and revise as necessary a preliminary State health plan which shall be made up of the HSP's of the health systems agencies within the State. . . . Such preliminary plan may, as found necessary by the State Agency, contain such revisions of such HSP's to achieve their appropriate coordination or to deal more effectively with statewide

health needs determined under paragraph (1)(B). Such preliminary plan shall be submitted to the Statewide Health Coordinating Council of the State for approval or disapproval and for use in developing the State health plan referred to in Section 1524(c).

The Planning responsibilities of the Statewide Health Coordinating Council are described in Section 1524(c) of Title XV:

Prepare, review at least triennially, and revise as necessary a State health plan which shall be made up of the SHP's of the health systems agencies within the State. Such plan may, as found necessary by the SHCC, contain revisions of such HSP's to achieve their appropriate coordination or to deal more effectively with statewide health needs as determined by the State Agency of the State. . . . Each health systems agency which participates in the SHCC shall make available to the SHCC its HSP for integration into the State health plan and shall, as required by the SHCC, revise its HSP to achieve appropriate coordination with the HSP's of the other agencies which participate in the SHCC or to deal more effectively with statewide health needs as determined by the State Agency of the State.

Title XV was amended late in 1979 to require that the Governor of the State and the SHCC approve the State health plan.

The SHPDA is also authorized to carry out regulatory activities under Title XV. The statute requires each State to establish a program designed to limit and direct the development of the health care system. This is called a certificate of need (CON) program, and generally requires the approval by State government of requests for major changes in health facilities and health services and for major purchases of equipment.

*B. Health Planning in Maine Under P.L. 93-641*

Maine is designated as a State without a health systems agency under Section 1536 of the Public Health Service Act. This means that Maine does not have a functioning health systems agency and that all planning and regulatory responsibilities are carried out by the Maine SHPDA. This "1536" designation was sought by Governor Brennan in

December 1982 after the Board of Directors of the Health Systems Agency voted to terminate its designation agreement with the Department of Health and Human Services.

As inferred above, Maine originally identified the entire State as a health service area and created a single health systems agency. The Maine Health Systems Agency officially terminated its activities on March 31, 1983.

The Maine Department of Human Services was designated and funded as the State health planning and development agency in July, 1976. The Bureau of Health Planning and Development (the Bureau) was created to carry out the functions of the SHPDA. Its first director was employed in November, 1976.

The Maine State Health Coordinating Council (the Council) was established by Governor James Longley and held its first meeting in October, 1976. The Council has 29 members (one is a non-voting representative of the Veterans Administration), of whom at least sixty percent or seventeen are consumers of health care who are not providers of health care.

During the years 1977 through 1980, the Bureau of Health Planning and Development, the Maine Health Systems Agency, Inc., and the Maine State Health Coordinating Council made a series of agreements which affected the form and content of the Health Systems Plans and the first State Health Plan for Maine, adopted in March, 1980. The Council amended the State Health Plan in April, 1980, in December, 1980, in April, 1981, and April, 1982. Governor Joseph E. Brennan approved the latter three State Health Plans as provided under amendments to the national health planning legislation. The revisions considered in 1983 represent a partial revision of the 1982 State

Health Plan. The Council will continue to revise portions of the Plan during the coming months and years.

C. *Major Themes in the State Health Plan for Maine*

The recommendations in Chapter IV address a wide variety of issues. Many are specific, dealing with particular health problems or conditions, with characteristics of particular health services, with standards appropriate to particular kinds of facilities, or with the needs of particular population groups. Other recommendations are more general and address problems or changes which transcend the finite components of health care delivery. They encompass more than individual conditions, services, facilities, or populations.

Despite the heterogeneity of the subjects addressed in the recommendations, there are several predominant themes which overlap specific components of the health care system. Those themes reflect the Maine State Health Coordinating Council's over-arching concerns about the health of the people of Maine and the services delivered to maintain and improve that health.

Five such themes have been developed. These are summarized below. It is important to remember that there is some duplication among the themes and, consequently, the division of the goals and objectives into categories is somewhat arbitrary. For example, the Council's interest in developing reimbursement for health education services or prenatal care could be viewed as either concern over access to care or a wish to encourage preventive health activities.

The themes which run through many of the Council's recommendations are:

1. Health Education
2. Prevention
3. Quality and Continuity of Care
4. Distribution of and Access to Health Resources
5. Containment of Health Care Costs

Each of these will be briefly discussed below. Cost estimates for most of the specific research and implementation projects can be found in Chapter IV.

#### 1. Health Education

Many of the Council's goals and objectives reflect a commitment to expand and improve health education services to Maine's people. The commitment is based on the belief of the Council that Maine's people, properly informed, can do many things to improve their health and to avoid disease and other debilitating conditions. The Council believes that the eventual consequence will be a reduction in the use of costly medical services.

The commitment also reflects the position of the Council that individuals have a large responsibility for caring for themselves and their families. Self-care will be improved by people being adequately educated in personal health care methods. This theme appears throughout Chapter IV. It is found in goals and objectives calling for better patient education by providers and institutions.

The need for health education dominates the primary health care recommendations. Regional health agencies are an important mechanism in providing education. The settings for health education include schools, community, workplace, home, and ambulatory and inpatient facilities.



While specific areas are highlighted in the recommendations (e.g., dental health, accident prevention, nutrition), the paramount objective is comprehensive health education.

The Council also believes that additional education is desirable for health care providers. A better understanding of substance abuse, emergency care, nutrition, and mental health would improve care for Maine's people.

## 2. Prevention

A second major theme in the recommendations in Chapter IV is the importance of aggressive disease prevention activities.

Many diseases and conditions can be prevented and prevention is cost-effective. Prevention can reduce suffering, debilitation, and mortality.

The public health recommendations are dedicated to the reduction of morbidity and mortality. The primary activities to meet the objectives are education, screening and immunization to detect and/or prevent health problems in their early stages.

The Bureau of Health in the Department of Human Services provides services in several disease-oriented programs (e.g., tuberculosis, venereal diseases). Among childhood problems, the Bureau addresses genetic diseases, birth defects, vision and hearing impediments, and communicable diseases. The Council identified various life-threatening and/or debilitating diseases such as diabetes, hypertension, and venereal diseases for prevention among the general population. The SHCC also strongly supports the use of fluoride to prevent dental disease.

The Council favors prevention of other conditions or health problems. In the area of substance abuse, it recommends that employers vigorously pursue the identification and treatment of employees who are substance abusers. The SHCC also places the responsibility on health providers to address the inclusion of substance abuse detection and assessment in the delivery of health education, diagnostic and treatment services.

Other prevention objectives in Chapter IV include evaluating present school health services, developing an accident prevention program, and increasing the availability of family planning services to both men and women.

3. Quality and Continuity of Care

A third theme in the goals and objectives adopted by the Maine State Health Coordinating Council is that of providing care of high quality and achieving continuity of such care. Quality as conceived by the Council includes care that is effectively delivered by qualified providers and which is appropriate to the needs of the recipient. Continuity refers to the idea that people who experience disease or injury should have some provider agent (either a person or an organization) which assumes responsibility for assuring the over-all provision of needed care. When care is continuous, the patient is not passed from one provider to another with no overall management of his case. Treatment may be given by more than one provider, but one agent coordinates and monitors the care. In pediatrics, this concept is sometimes referred to as providing the child with a "medical home."

The SHCC stresses the need for continuity in the delivery of health care, including obstetrical, pediatric, emergency, long term care and mental health services.

Specific measures to improve the quality of health care include reducing high risk births, improvement in mental health services for children, decreasing readmissions among mental patients, increasing provider training and expanding emergency medical services.

Many of the standards in Chapter IV relating to the National Health Planning Guidelines aim at improving the quality of acute care services. The standards include those for obstetrics, neonatal special care, pediatrics, open heart surgery, cardiac catheterization and radiology.

#### 4. Distribution of and Access to Care

The fourth theme running through the goals and objectives adopted by the Council is that of achieving an acceptable distribution of health care resources so that Maine's people have access to needed care. Barriers which limit or hinder access can be geographical, financial and sociological. Distribution problems can occur when health care resources exceed the needs or demands of the population and thus cause inefficient utilization. Among the goals and objectives relating to distribution of resources in Chapter IV are the duplication of emergency services within small geographic areas and the maldistribution of primary health care.

The Council has identified the need to eliminate duplication and to reduce expansion in facilities for long term care, obstetrics, pediatrics, and emergency medical services.

Among the goals and objectives which address the questions of access are those which call for expansion of Medicare coverage for dental services, the development of mental health services for children, creation of a mental health component within the emergency medical system, adequate reimbursement for free standing substance abuse treatment programs and non-institutional long term care alternatives.

5. Containment of Health Care Costs

The final theme, and perhaps the most important, is the concern of the Council over the escalation of health care costs during the past decade. This concern appears throughout the recommendations made by the Council. It is also the principal impetus behind the standards adopted under the National Health Planning Guidelines. The Council supports limits on the development of new services and facilities unless they are shown to be needed. The Council perceives a need for improved public understanding of good health habits and the effective use of the health care system. Both factors should eventually reduce the cost of health care. The SHCC emphasizes that duplicative services and facilities are inefficient and create additional costs for the health care system. Alternative forms of service delivery, such as health maintenance organizations, could provide services more efficiently and promote competitive pricing for those services. The ultimate objective is a combination of cost-containment and cost-effectiveness without sacrificing quality. To this end many of the priority objectives are directed at the redistribution of manpower, services and facilities. Specific tasks include the study of the need for

closure and/or consolidation of underutilized facilities, the development of less expensive treatment modalities and effective triage systems for the delivery of appropriate levels of care.

Weaknesses in existing health insurance policies and third party payment mechanisms have been identified by the Council. These include coverage for prenatal and neonatal care, ambulance services and many forms of outpatient care such as treatment for substance abuse.

Impediments and negative financial incentives to noninstitutional care appear to plague long term care services. They are of particular importance because Maine has a large and growing elderly population. It is estimated that 20% of the people who enter nursing homes could be cared for outside such facilities.

Throughout the development of the plan, the Council recognized the conflict between needs and resources. Improvements in the health care system must be accomplished with finite resources. Not all desirable goals can be accomplished.

*D. Purposes and Uses of the State Health Plan for Maine*

1. Purposes of the plan

Federal guidelines suggest that the State health plan has three purposes:

- a) to develop a coordinated and comprehensive approach to the identification and resolution of health problems within the State;
- b) to develop State health and health related policies; and
- c) to guide resource allocation in the achievement of equitable access to quality health care, at a reasonable cost.

The State Health Plan for Maine is unique in that it is the only State plan to comprehensively analyze and summarize existing and emerging State government and federal health policies and programs. Chapter III, "State Policy Analysis," is devoted entirely to this task. In Chapter IV, the goals and objectives of State government are integrated with those relating to the private sector. The Chapter on State Policy Analysis will provide a major impetus for the continued development of State health policy.

The State Health Plan for Maine provides the framework within which decisions are made by public and private agencies in allocating their resources to improve health and to improve the health care system.

## 2. Uses of the plan

Federal guidelines suggest that the State health plan be used by the State-wide Health Coordinating Council and the State health planning and development agency in the performance of their functions. Accordingly, the Plan will be used in the following ways:

- a) The Plan provides a framework for the Bureau in conducting the health planning activities of the State and serves as a foundation for the preparation of subsequent preliminary State health plans;
- b) The Plan guides the Bureau in its plan implementation activities;
- c) The Plan is used by the Bureau as a basis for administering the State certificate of need program and the 1122 program;
- d) The Plan is used by the Bureau in conducting appropriateness reviews;

- (5) The Plan is used by the Council in its review of State plans and applications submitted to the Department of Health, Education, and Welfare under the Public Health Service Act, the Community Mental Health Centers Act, the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970, and the Drug Abuse Office and Treatment Act of 1972.
- (6) The Plan is used by the Council in reviewing the Health Systems Plan of the Maine Health Systems Agency, Inc. Both Public Law 93-641 and its amendments in Public Law 96-79 state that the health systems agency "shall, as required by the SHCC, revise its HSP to... deal more effectively with state-wide health needs."

In addition to the above uses of the Plan, it has several other applications. It is, first of all, a major source of information about the health of the people of Maine, the health care system in Maine, public and private health programs in Maine, and characteristics of the health planning process in Maine. As such, it serves an educational function for those interested in health and health care in Maine.

Secondly, the Plan describes the principal issues related to health status and health care in Maine. It contains numerous recommendations for improvements in health status and the health care system, and it describes actions which are necessary to achieve those improvements. For these reasons, it is a key document for developing health care policy in Maine.

Third, by identifying desired changes in the health care system and by setting standards for services and facilities, the Plan provides a guide for individuals, organizations, or facilities wishing to develop or alter health care services. This guidance will strongly influence the allocation of health care resources in Maine.

Finally, the Plan contains recommendations for further study. As the Plan components were prepared, the Council found that little useful information exists for many aspects of health and health care in Maine. The Plan establishes a research agenda for acquiring information essential for health planning in Maine.









## II. Area Level Planning and Analysis

The federal guidelines for the State health plan suggest that one of the components of both the preliminary State health plan and the State health plan should be a section on "Area Level Planning and Analysis." That section should include "information and intelligence" on such topics as demography, health status, health resources and utilization. Other federal expectations are that several health status indicators will be addressed, including infant mortality, communicable diseases, chronic diseases, dental health, accidents and mental health, drug abuse and alcoholism. The remainder of this chapter will address these requirements. Additional noteworthy information will also be included, such as descriptions of the geography of Maine, its transportation system, and its economy. It is assumed that the health of the people of Maine is influenced by biological, physical, genetic and environmental factors, by choices that individuals make in the conduct of their lives, and by the availability of and manner in which medical and other health resources are used.

This chapter consolidates the most current data available on the health status of Maine's citizens and characteristics of Maine's health care delivery system. The information was obtained from the data files and/or published reports of the Bureau of Health Planning and Development and many other agencies. In each case, the data were collected using methods and procedures specific to the sponsoring agency, and therefore the available data vary considerably with respect to source, method of collection, definitions, and timeliness.

In certain instances it was important that all data in a particular table or group of tables pertain to the same period, in order for meaningful analysis and conclusions to be drawn. In such cases data for an earlier year may be displayed to summarize conditions as they existed at a given point in time.

## A. The Land Called Maine

### 1. Maine as a Rural State

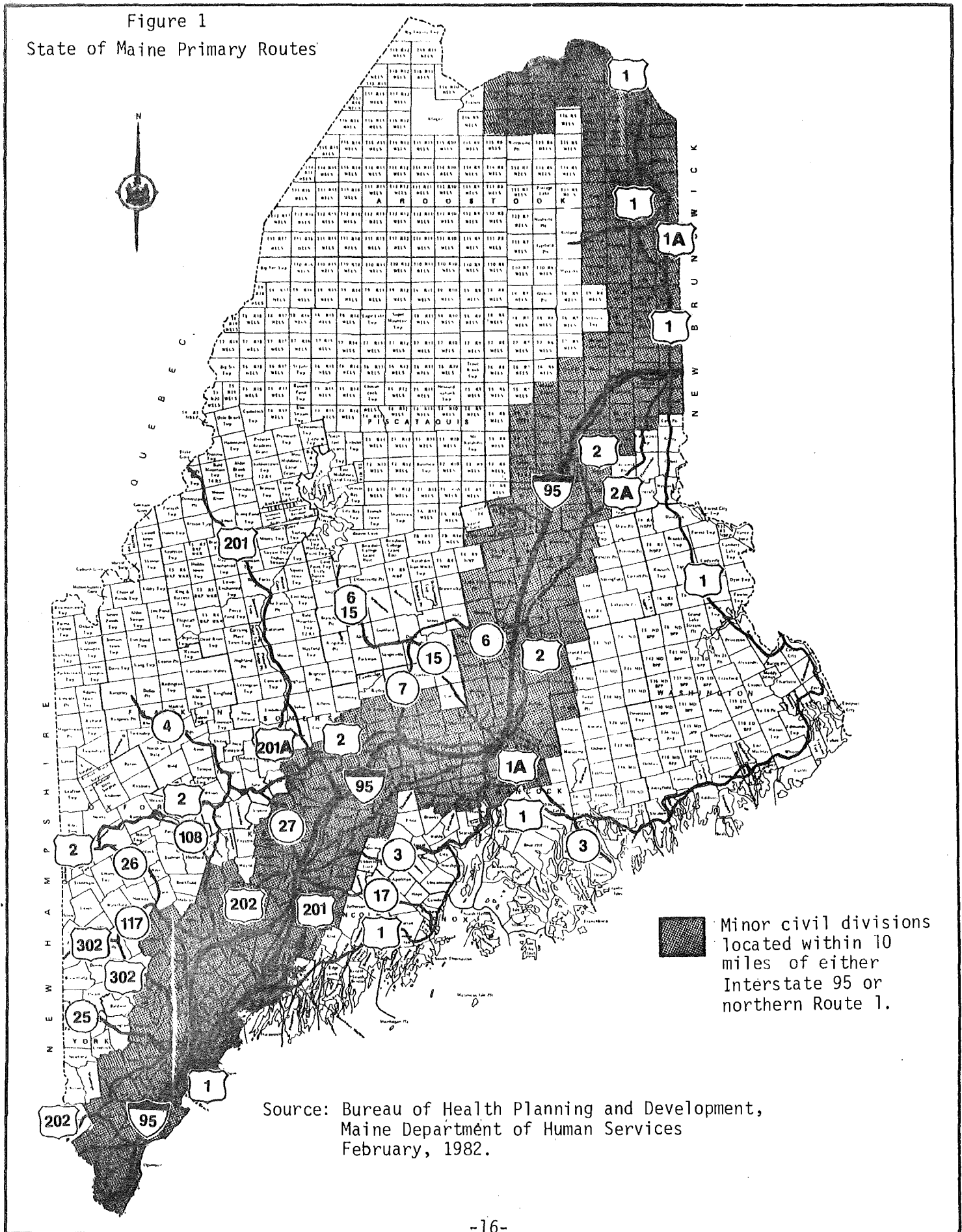
Maine is New England's largest state with an area of 33,215 square miles. Its area is almost equal to that of the five other New England states combined. Maine's shoreline is the longest on the East Coast extending approximately 3,500 miles and supporting 1,200 islands in the Atlantic Ocean. Eighty-four percent of Maine's inland area is forested, giving Maine the largest proportion of forested land in the United States. Approximately 50% of that land is wilderness territory. The 2,500 lakes and 5,000 streams comprise seven percent of the inland area while the remaining nine percent of the land supports the municipalities and the residential, agricultural, and industrial areas.

The state is divided into sixteen counties. The northernmost county, Aroostook, with 6,453 square miles, is larger than Connecticut and Rhode Island combined. The more populated areas of Aroostook County are separated from the rest of the State by large tracts of heavily forested land. Sagadahoc, the smallest county, is located on the mid-coast.<sup>1</sup>

### 2. Transportation

Maine's highways total over 21,000 miles, 91.6% of which are surfaced roads.<sup>2</sup> Interstate Route 95 (I-95) and the Maine Turnpike run through the central part of the state. U.S. Route 1 serves the coastal areas. Census data indicate that in 1980 at least 802,768 people (71% of the State's population) resided in minor civil divisions located within 10 miles of either Interstate 95 or northern Route 1 (Figure 1).

Figure 1  
State of Maine Primary Routes



Source: Bureau of Health Planning and Development,  
Maine Department of Human Services  
February, 1982.

The most prominent geographical transportation problem areas are: 1) the coast, from Portland to New Brunswick and 2) the northwest section of the state. The coastal area contains many peninsulas with some small towns on them which are distant from public transportation and many health care services. There are no major roads beyond Route 1 to serve these peninsulas. Accessibility to the area's islands requires boating services, ferries or emergency air travel. The western areas, bordering northern New Hampshire and Canada, are also characterized by poor road systems and long distances between towns. Helicopters used in case of medical emergency can reach any part of the state and are based in Augusta, Bangor and Old Town.

Maine has no passenger rail service and limited bus and air transportation. An automobile often is essential for travel in Maine, yet 11% of Maine's adult residents do not own one.

### 3. Economy

Maine's 1980 labor force of approximately 500,011 persons (44.4% of the total state population) is composed of an estimated 43% females and 57% males.

Maine's leading industries are forestry, fisheries, agriculture, textiles, and food processing. Many of these are seasonal, which creates high unemployment in coastal and agricultural areas. In 1980, Maine's unemployment rate of 7.7% was slightly higher than the U.S. rate of 7.1%.

In 1979, the per-capita personal income for Maine residents was \$7,051 which was considerably lower than the per-capita figure for New England (\$8,978) and for the United States (\$8,637). Maine ranked 47th in the country on this measure. Aroostook County had the lowest per-capita income (\$5,580) while Cumberland County had the highest (\$8,483) in the State. In 1980, about 22% of the households in Maine had effective buying incomes of less than \$8,000. The median household buying income was \$16,336.<sup>3</sup>

In 1981, approximately 85,000 different households received food stamps; approximately 28% of these households included persons 60 years and older. Also in 1981, about 20,000 households with a population of approximately 54,000 received Aid to Families with Dependent Children.<sup>4</sup>

## B. Maine's People

An individual's health and need for health services are related to such factors as age, sex, genetic characteristics, and ethnicity. Education, social and economic status, too, are often related to disease incidence and health service utilization.

### 1. Population

Maine's population totaled 1,125,027 in 1980 and is expected to reach 1,405,400 by the year 2000 (Table 1). The changing age composition of the population is presented in Figure 2. The population has increased by over 13% in the past decade. The distribution of residents is sparse (Figure 3) with approximately 67% of the population living in communities of less than 10,000 people. Piscataquis County (80% of which is wilderness territory) has the smallest population density with four people per square mile, while Cumberland County has 247 people per square mile. Maine's average number of people per square mile (35) is considerably less than the national average of 64 people per square mile.<sup>5</sup>

The elderly comprise a larger portion of Maine's population than is found nationally. Approximately 13% of Maine's population in 1980 was 65 years or older (Table 1), which is greater than the projected 1980 national level (11%). In some rural communities, the figure is as high as 29 percent. As Table 1 shows, the number of Maine's population aged 65 and over is expected to increase to approximately 163,400 in 1990, and 180,900 in 2000.<sup>6</sup>



Table 1  
POPULATION CHARACTERISTICS  
Maine

<u>Population</u>	<u>Projections</u>		
	<u>1980</u>	<u>1990</u>	<u>2000</u>
Total	1,125,027	1,272,700	1,405,400
Under 5 years	78,531	100,500	92,900
5-14	178,486	188,000	210,100
15-24	205,913	175,900	190,100
25-34	178,858	209,800	180,000
35-44	122,784	190,600	222,800
45-54	112,071	130,300	199,500
55-64	107,423	114,200	129,200
65+	140,961	163,400	180,900
<u>Sociodemographic Characteristics (1980)</u>			
Population	1,125,027		
Per square mile of land area	35.3		
Male	546,427		
Female	578,600		
Percent 65 years and older	12.5		
Percent Unemployment	7.7		
Median Household Buying Income	\$ 16,336		
<u>Vital Statistics (1980)</u>	<u>Number</u>	<u>Rate per 1,000 Population</u>	
Live Births	16,474	14.6	
Deaths	10,768	9.6	
Infant Deaths	154	9.3 (per 1,000 live births)	
Neonatal Deaths	97	5.9 (per 1,000 live births)	
Marriages	12,040	10.7	
Divorces and Annulments	6,205	5.5	

Source: Population (1980) - Bureau of the Census, U.S. Department of Commerce, 1980 Census of Population and Housing: Maine Summary Tape 1A; Maine Health Information Center, February, 1982.

Population Projections (1990 and 2000) - Bureau of the Census, U.S. Department of Commerce, Projection Series II-B, Current Population Reports, Series P-25, No. 716, March, 1979.

Sociodemographic Characteristics - Maine State Planning Office and Bureau of Health Planning and Development, January, 1982.

Vital Statistics - Division of Research and Vital Records, Maine Department of Human Services, January, 1982.

Figure 2

Maine  
Changing Age Composition  
1960-1985

Age-Related Milestones

Major Health Problems

Reduced Income

Retirement

Greatest Civic Participation

Declining Household Size

Maximum Savings

Peak Earnings

Major Borrowing

Major Consumer Purchases

Child Rearing

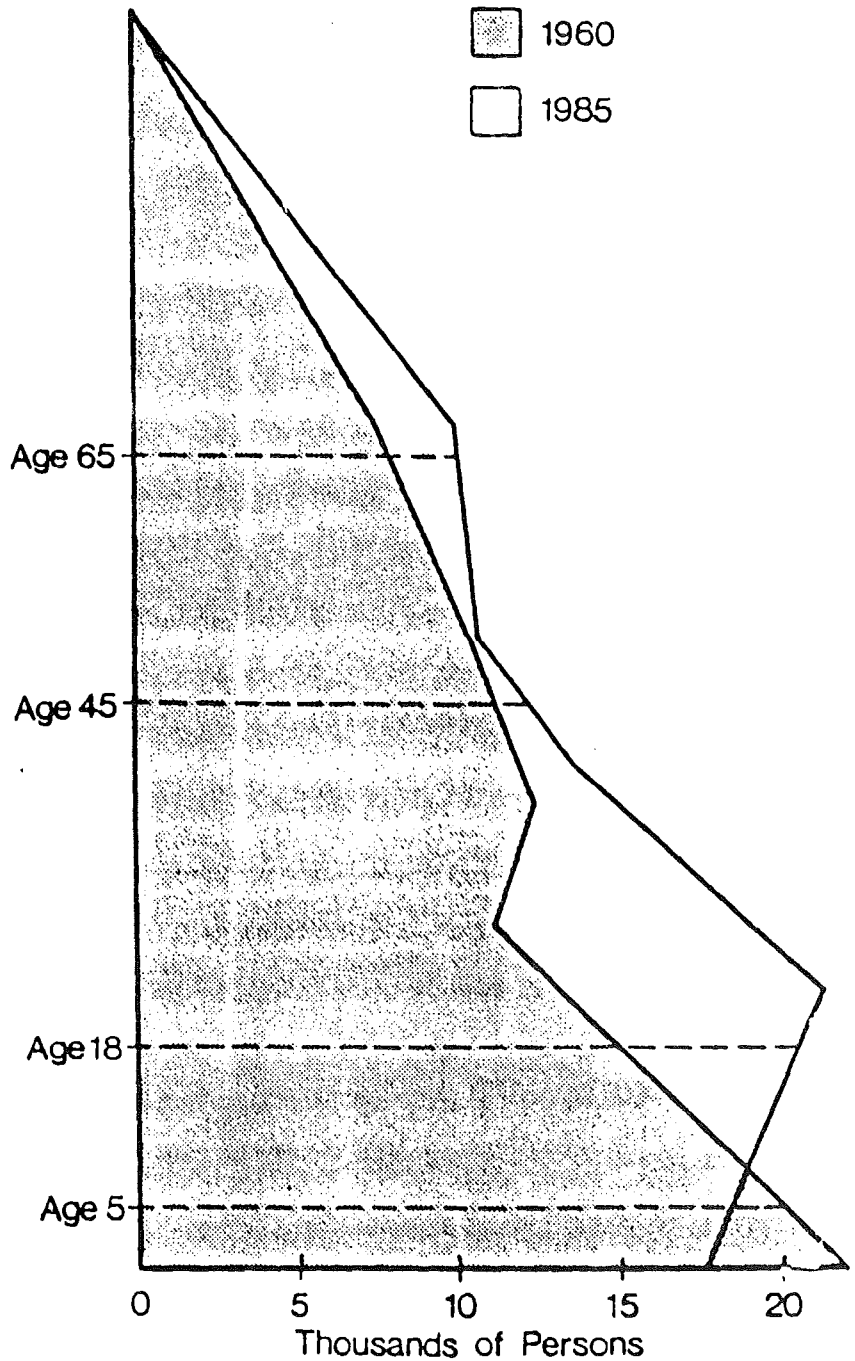
Family Formation

Career Entry

College and Vocational Training

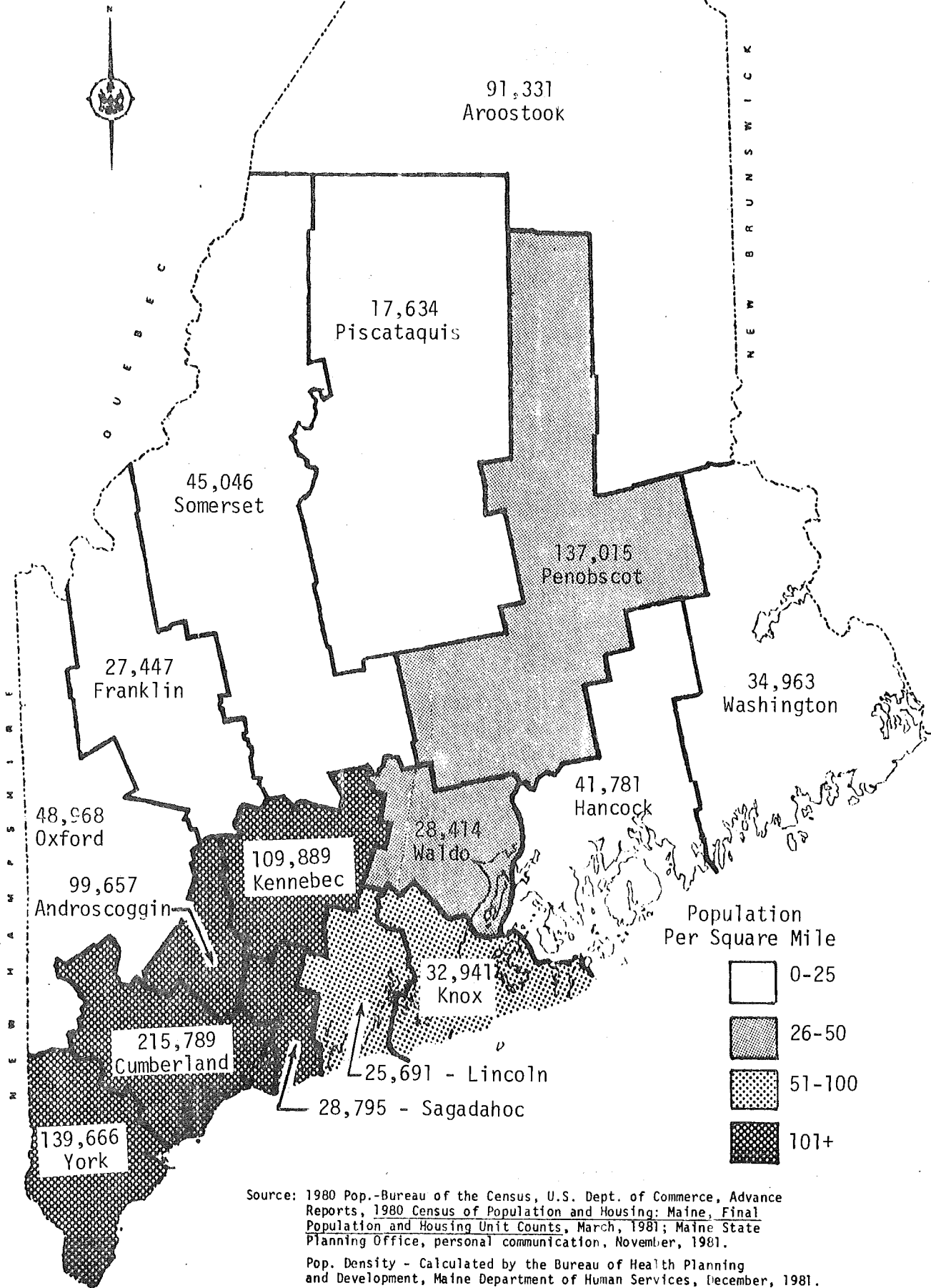
School

Pre School



Source: Maine State Planning Office, Population Projection Series, PPS-3, August, 1978.

Figure 3  
 Population and Population Density  
 by County  
 Maine, 1980



Source: 1980 Pop.-Bureau of the Census, U.S. Dept. of Commerce, Advance Reports, 1980 Census of Population and Housing: Maine, Final Population and Housing Unit Counts, March, 1981; Maine State Planning Office, personal communication, November, 1981.

Pop. Density - Calculated by the Bureau of Health Planning and Development, Maine Department of Human Services, December, 1981.

## 2. Ethnicity

The state population is overwhelmingly white (98.7%). In 1979 the Indian population numbered about 3,300 (Table 2); approximately 1,200 resided on reservations (one for the Penobscot tribe in Penobscot County, and two for the Passamaquoddy tribe in Washington County). About 14% of Maine's population in 1970, both foreign and native born, spoke French as their mother tongue (Fig.4). Androscoggin County had the largest concentration of French speaking people (39.4%), followed by Aroostook County (29.2%).<sup>7</sup> Although the majority of French-speaking people are bilingual, there are some newspapers and radio and television programs produced in French.

## 3. Education

Both education and employment status have been associated with morbidity risks. These factors may be related to utilization of health care services. Education is considered a somewhat better indicator of risk than is employment because changing attitudes have influenced employment choices for many individuals. Nevertheless, Maine's high rate of unemployment and low family income constitute a serious challenge to those seeking to improve the health of Maine people.

Of the 17,395 high school graduates (15,554 public and 1,841 private) in 1981, 46.2% of the public school and 70.2% of the private school graduates continued their education. Of the 69,889 public secondary students, 2,924 dropped out of school in 1980-81, giving Maine a dropout rate of 4.2%. During the 1980-81 school year there were 7,603 private secondary school students in Maine.<sup>8</sup>

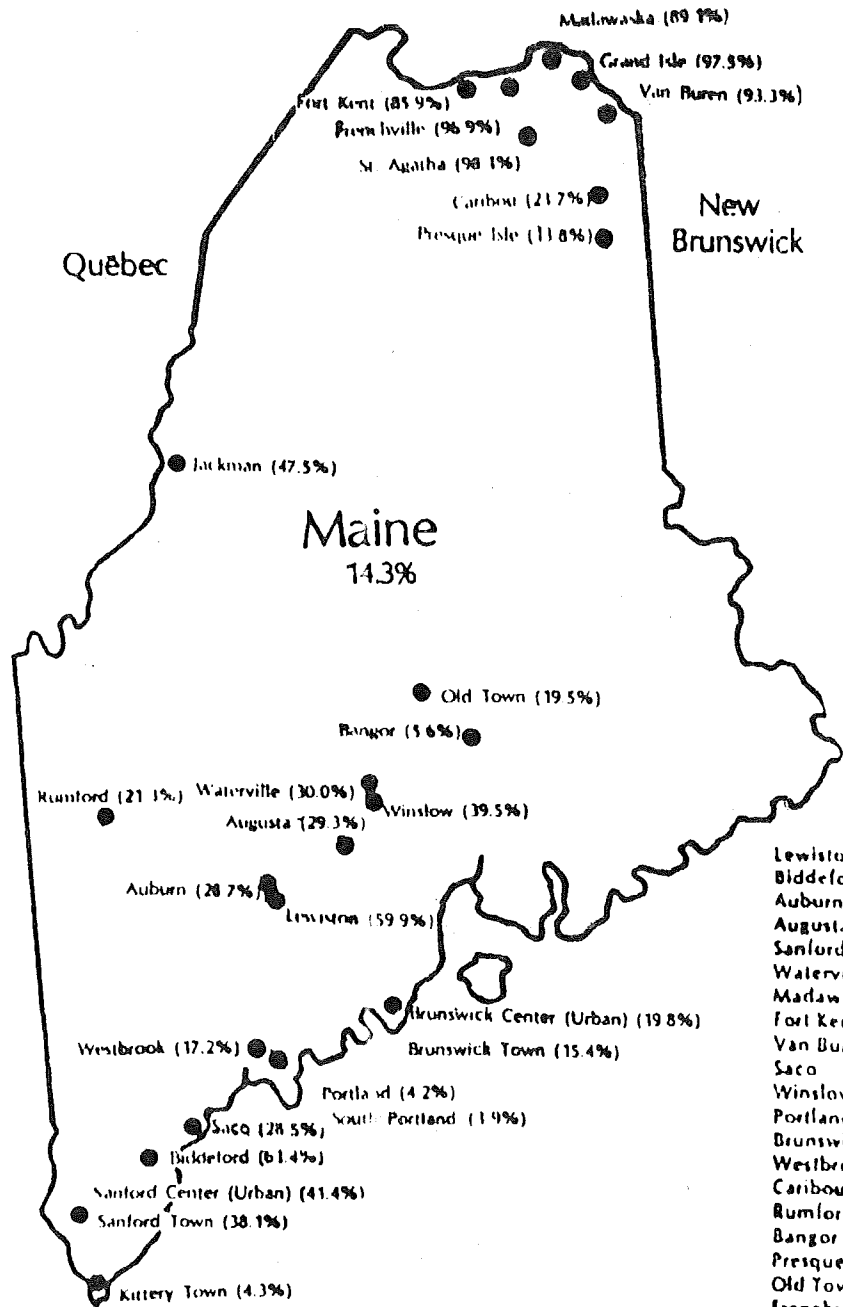
Table 2  
 INDIAN POPULATION, BY TRIBE  
 Maine, 1979

Indian Tribe	Total	Number Residing on Reservation	Number Residing off Reservation
Total	3,297	1,212	2,085
Passamaquoddy (Indian Township)	579	329	250
Passamaquoddy (Pleasant Point)	1,269	532	737
Penobscot (Indian Island)	1,449	351	1,098

Source: Maine State Planning Office, January, 1980.  
 Penobscot Tribe, Indian Island, Maine, January, 1980.

Figure 4

CITIES, TOWNS AND PLANTATIONS  
WITH 1,000 OR MORE FRENCH MOTHER-TONGUE PERSONS  
Maine, 1970



reproduced per: Philippe Collin  
et Stephen T. Dugdale

Maine Cities, Towns and Plantations  
With 1,000 or More French Mother Tongue Persons

	Total Population	Fr. Mo. Tongue	% Fr. Mo. Tongue
Lewiston	41,779	25,037	59.9
Biddeford	19,983	12,268	61.4
Auburn	24,151	6,938	28.7
Augusta	21,945	6,419	29.3
Sanford Town	15,722	5,997	38.1
Waterville	18,192	5,456	30.0
Madawaska Town	5,622	4,997	89.1
Fort Kent Town	4,587	3,929	85.9
Van Buren Town	4,102	3,844	93.9
Saco	11,678	3,331	28.5
Winslow	7,299	2,882	39.5
Portland	65,116	2,747	4.2
Brunswick Town	16,195	2,488	15.4
Westbrook	14,444	2,487	17.2
Caribou	10,419	2,470	23.7
Rumford Town	9,363	1,993	21.3
Bangor	33,168	1,861	5.6
Presque Isle	11,452	1,576	13.8
Old Town City	9,057	1,763	19.5
Frenchville	1,487	1,441	96.9
Millinocket Town	7,544	993	12.8
Old Orchard Beach	5,404	977	18.1

Source: Madeleine Giguère, *Social and Economic Profile of French Mother Tongue Persons: 1970*

Source: Reproduced from the Franco-American Resource Opportunity Group and the Franco-American Office of the University of Maine at Orono, "Du Nord au Sud: Les Franco-Americans," *Le FAROG Forum*, September, 1979.

### C. Selected Health Status Indicators

Heart disease and cancer are the leading causes of death in Maine and in the United States (Table 3). Maine's rates for all cancer sites combined were substantially higher than the national rates in 1977-1979, as they have been for many years. Deaths from lung diseases other than cancer are also higher in Maine than in the nation as a whole. The use of age-standardized rates for these comparisons effectively corrects for the fact that Maine has a relatively elderly population.\*

Deaths from heart disease and cancer rank first and second, respectively, as causes of lost years of life (Table 4). Table 5 shows the leading causes of death by age. Accidents are the leading cause of death in Maine for ages 1 to 34; cancer is the leading cause for ages 35-44; and heart disease, for people 45 and over. Cancer is the second leading cause of death at ages 5 to 14 and 45 and over; suicide is the second leading cause of death in the age range 15 to 34.

Infant mortality has decreased throughout the 1970s in the United States, in New England and in Maine. Maine's 1978 rate of 10.2 deaths per 1,000 live births was the lowest of the three in that year (Figure 5). During the period 1976 through 1978, Maine's neonatal mortality rate was the lowest in the country. In 1978, for example, Maine's rate was 6.1 deaths per 1,000 live births, compared to 8.4 for the United States, and 7.9 for New England.\*\*<sup>9</sup> Maine's neonatal rate remained very low (5.9) in 1980. Childhood mortality, too, decreased between 1973 and 1979. Maine's rates for 1976-78 and 1979, in each age group, were lower than the national rates for 1977 (Figure 6). The slight increase in 1979 for ages 15-19 is not significant.

\*Age-standardized rates (direct method) are the rates that the United States population would experience if it were subject to Maine's rates in each age group.

\*\*United States and New England rates for white population.

Table 3

VITAL STATISTICS INDICATORS OF HEALTH STATUS:  
 AGE-STANDARDIZED DEATH RATES<sup>a</sup> FOR SELECTED CAUSES  
 Maine (three-year average: 1977-1979) and United States (1978)  
 (Resident Data)

Cause of Death <sup>c</sup>	Deaths per 100,000		
	Maine (1977-79)		U.S. (1978)
	Actual Rate	Age Stand. Rate	Actual Rate
Diseases of the Heart	361.6	351.0	348.6
Cancer	207.2	205.4	186.6
Cerebrovascular Disease	83.8	80.1	81.5
Accidents	43.5	44.9	47.9
Chronic Obstructive Pulmonary Disease and Allied Conditions	30.9	29.9	26.7
Influenza and Pneumonia	24.3	23.2	27.3
Arteriosclerosis	16.6	15.6	14.2
Diabetes	15.7	15.3	15.0
Cirrhosis of the Liver	15.1	15.5	13.2
Suicides	13.6	14.2	13.4
Congenital Anomalies	6.4	5.9	5.7
Certain Diseases of Early Infancy	5.5	4.9	16.0

<sup>a</sup>Age-standardized death rates per 100,000 population were computed using the direct method, i.e., applying the age-specific death rates to the standard 1978 United States white population.

<sup>b</sup>Rates for white population.

<sup>c</sup>ICDA-8 used for 1977, 1978 codes; ICD-9 used for 1979 codes.

Source: U.S. - National Center for Health Statistics, Hyattsville, Maryland, September, 1980.

Maine - Bureau of Health Planning and Development, Maine Department of Human Services, September, 1980.



Table 4

LEADING CAUSES OF DEATH RANKED BY CRUDE DEATH RATE  
AND BY TOTAL YEARS OF LIFE LOST  
Maine, 1980  
(Resident Data)

Cause of Death	Crude Death Rate <sup>a</sup> (Rank)	Total Years of Life Lost <sup>b</sup> (Rank)
Diseases of the Heart	1	1
Cancer	2	2
Cerebrovascular Disease	3	4
Accidents	4	3
Chronic Obstructive Pulmonary Disease and Allied Conditions	5	6
Influenza and Pneumonia	6	9
Arteriosclerosis	7	12
Diabetes	8	11
Cirrhosis of the Liver	9	10
Suicides	10	7
Certain Diseases of Early Infancy	11	5
Congenital Anomalies <sup>c</sup>	12	8

<sup>a</sup>Actual Number of deaths per 100,000 population.

<sup>b</sup>Based on difference between age at death and life expectancy from 1977 United States Life Tables for white population. An infant death represents 73.8 years of life lost; death of a 50-year-old person represents 27.7 years of life lost.

<sup>c</sup>The years of life lost measure may be misleading when applied to deaths from congenital anomalies, since such conditions are already present at birth.

Source: Division of Research and Vital Records  
Maine Department of Human Services  
January, 1982.

Table 5

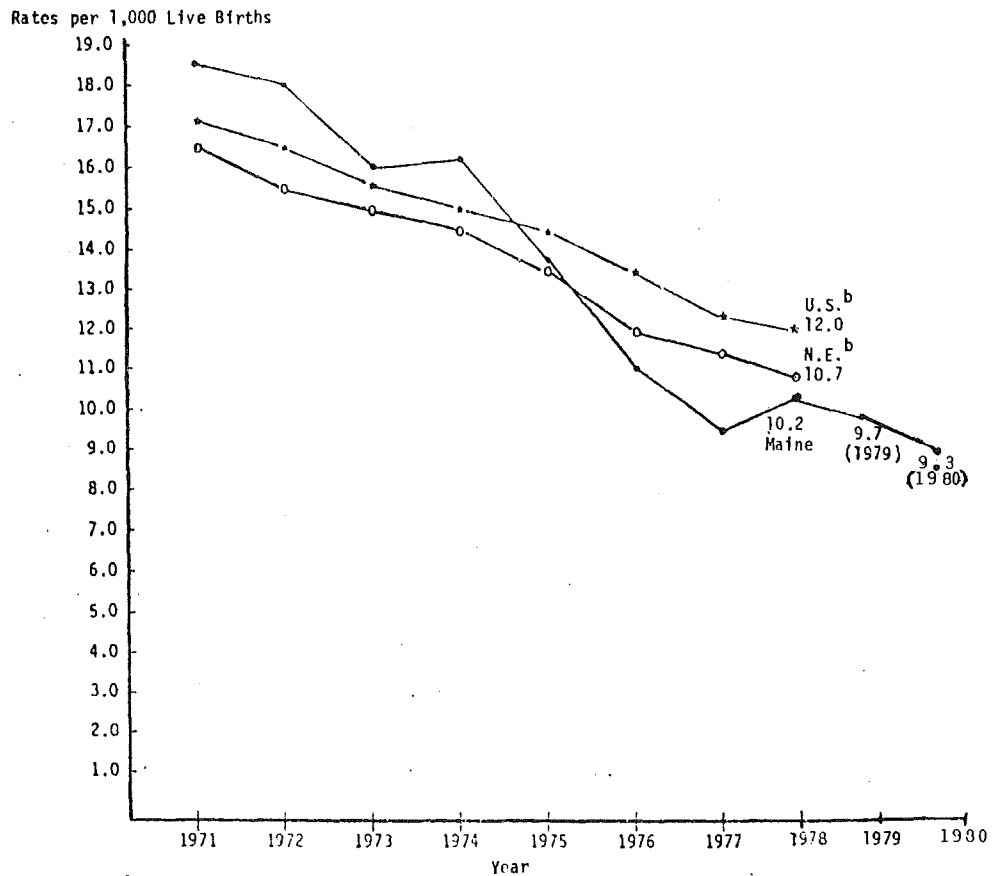
LEADING CAUSES OF DEATH BY AGE AND RATES PER 100,000 POPULATION  
 Maine 1975-1978 (Four-Year Average Rates)  
 (Resident Data)

1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+
Accidents 21.8	Accidents 14.4	Accidents 18.4	Accidents 59.6	Accidents 43.2	Cancer 55.1	Heart 212.0	Heart 587.2	Heart 2376.8
Cong.Heart 5.1	Cancer 3.9	Cancer 2.3	Suicide 11.0	Suicide 19.3	Heart 46.6	Cancer 193.8	Cancer 457.1	Cancer 1060.6
I & P 4.8			Cancer 6.2	Cancer 13.6	Accidents 34.5	Accidents 40.3	Stroke 82.8	Stroke 642.6
Cancer 4.0			Cong.Anom. 1.9	Heart 7.5	Suicide 17.3	Cirrhosis 34.6	Cirrhosis 51.2	I & P 199.1
			Heart 1.3	Stroke 3.5	Cirrhosis 12.5	Stroke 26.2	Accidents 40.6	Arterio 135.9
				Cong.Anom. 2.9	Stroke 7.1	Suicide 20.5	Diabetes 27.9	COLD 103.6
				Diabetes 2.4	Diabetes 3.8	I & P 10.9	Bron.Asthma 26.6	Diabetes 100.0
				I & P 2.2	I & P 3.1	Diabetes 8.6	COLD 22.5	Accidents 83.7
						COLD 7.3	I & P 21.2	Bron.Asthma 82.6
						Bron.Asthma 7.1	Suicide 20.7	Arctic Aneur. 65.9
						Arctic Aneur. 2.5	Arctic Aneur. 13.7	Cirrhosis 45.8
							Arterio. 6.7	Suicide 18.8
All Causes: 42.8	22.2	24.4	82.5	96.4	184.0	566.6	1359.2	4916.6

I & P - Influenza and Pneumonia  
 COLD - Chronic Obstructive Lung Disease  
 Arterio - Arteriosclerosis  
 Causes of Death above line account for  
 over 50% of all deaths in age group.

Source: Bureau of Health Planning and Development  
 Maine Department of Human Services  
 December, 1979

**Figure 5**  
**INFANT MORTALITY IN MAINE, NEW ENGLAND<sup>a</sup> AND U.S.<sup>a</sup>**  
**1971-1980**  
**(Resident Data)**



<sup>a</sup>White rates.

<sup>b</sup>U.S. and New England data not available for 1979 & 1980.

**NEONATAL MORTALITY IN MAINE, NEW ENGLAND, AND U.S.**  
**1977-1979**  
**(Resident Data)**

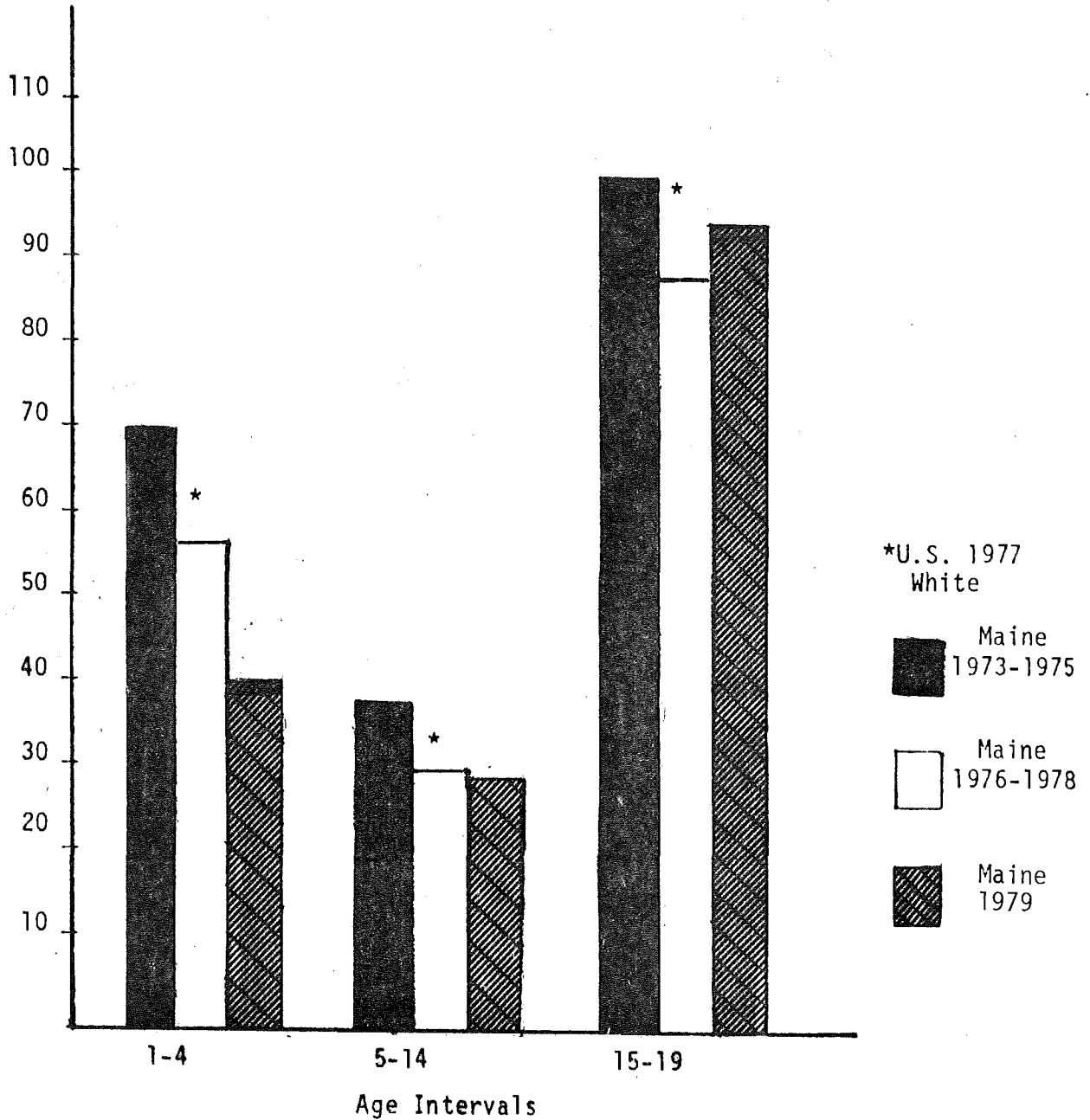
Geographic Area	Neonatal Death Rates per 1,000 Live Births			
	1977	1978	1979	1980
Maine	6.2	6.1	5.8	5.9
New England <sup>a</sup>	8.4	7.9	n.a.	n.a.
U.S. <sup>a</sup>	8.7	8.4	n.a.	n.a.

<sup>a</sup>Rates for white population.  
n.a. - not available.

Source: U.S. and N.E.-Mortality Statistics Branch, Division of Vital Statistics, National Center for Health Statistics, January, 1982.  
Maine - Division of Research and Vital Records, Dept. of Human Svcs., Jan.'82.

Figure 6  
 CHILDHOOD AGE-SPECIFIC MORTALITY RATES  
 Maine, 1973-1975, 1976-1978, 1979, and U.S.<sup>a</sup>, 1977  
 (Resident Data)

Age-Specific Death Rates



<sup>a</sup>White rates.

Rates expressed per 100,000 population within an age interval.  
 From population estimates and projections produced by the Bureau  
 of Health Planning and Development, Maine Department of Human Services,  
 1980 Series.

Source: Bureau of Health Planning and Development  
 Maine Department of Human Services, Sept., 1980.

Table 6 shows Maine's hospital discharges by major diagnosis group. The largest proportion was for circulatory problems, which parallels the Social Security Administration's report that in 1976 Maine's greatest number of disability payments was for circulatory-system disabilities.<sup>10</sup>

Although the 15-34 year age group accounted for the largest number of hospital discharges in 1980 (Table 7), it must be pointed out that 36% of the discharges in these age groups were pregnancy-related. Over a quarter of the discharges in that year were of patients aged 65 and over. This reflects the greater frequency of hospital use by older people. Table 8 compares restricted activity and bed-disability days in the population. In the northeast and in the nation, an average of two acute conditions or illnesses were reported per person per year in 1977-1978. Nine days of restricted activity per person per year were reported, including four days of bed disability. The northeast region rates were slightly higher for infective and parasitic diseases and upper respiratory and digestive system conditions, and slightly lower for all other acute conditions. Data for Maine are not presently available.

Use of Maine hospitals by the pediatric, adult and geriatric populations, as expressed by the number of hospital-patient days per 1,000 persons, is displayed in Table 9a for the years 1975 and 1980. In both years the Southern Maine District exhibits the lowest rates for each age group among the eight Planning and Development Districts. Hospital discharge rates for the eight Districts are displayed in Table 9b.

Geographic variations in hospital usage by all ages are shown in Table 10 for 66 selected areas. A map showing the boundaries of these areas is included as Figure 7. The patient day rates show Maine with an average of 1,034.9 patient days per 1,000 persons with these rates ranging from 383.2 patient days per 1,000 in the Berwick area to 1,525.5 per 1,000 in the Bar Harbor area. Some of the lower patient day rates (Berwick, York, Sanford) are caused because many area

residents travel to New Hampshire for hospital services and the patient days of care obtained in New Hampshire, or other states, are not included in these rates.

Table 6  
HOSPITAL DISCHARGES, BY DIAGNOSIS GROUP  
Maine, 1980

Diagnosis Group	Number of Discharges <sup>a</sup>	Percent
Totals	176,348	100.0
Circulatory	22,329	12.66
Digestive	20,745	11.76
Pregnancy	19,651	11.14
Injuries	16,867	9.56
Respiratory	16,287	9.24
Genitourinary	15,391	8.73
Skin-Musculoskeletal	12,774	7.24
Neoplasms	10,757	6.10
Ill-defined	9,252	5.25
Mental	8,202	4.65
Nervous system	7,489	4.25
Endocrine, etc.	4,870	2.76
Infective and Parasitic	2,745	1.56
Congenital and Perinatal	1,910	1.08
Special Admissions <sup>b</sup>	7,079	4.01

<sup>a</sup>Excludes newborns.

<sup>b</sup>Includes V codes (except V30-V399) and invalid primary diagnosis codes.

Source: Data - Maine Health Information Center, January, 1982.

Percentages calculated by the Bureau of Health Planning and Development, Maine Department of Human Services, March, 1982.

Table 7  
HOSPITAL DISCHARGES BY AGE  
Maine, 1980

Age Group	Number of Discharges <sup>a</sup>	Percent	Rate per 1,000 <sup>b</sup>
All ages	176,348	100.0	156.8
0-4	8,718	4.94	111.0
5-14	8,763	4.97	49.1
15-24	27,060 <sup>c</sup>	15.34	131.5
25-34	25,471 <sup>d</sup>	14.44	142.5
35-44	15,242	8.64	124.2
45-54	17,236	9.77	153.9
55-64	21,615	12.26	201.3
65-74	25,569	14.50	310.7
75+	26,674	15.13	455.0

<sup>a</sup> Excludes newborns.

<sup>b</sup> Rate per 1,000 population in age group. Based on population figures from the Bureau of the Census, U.S. Department of Commerce, 1980 Census of Population and Housing: Maine, Summary Tape 1A.

<sup>c</sup> This number includes 10,509 discharges for childbirth, complications of pregnancy, and the puerperium (ICD-9-CM 630-676).

<sup>d</sup> This number includes 8,289 discharges for childbirth, complications of pregnancy, and the puerperium (ICD-9-CM 630-676).

Source: Data - Maine Health Information Center, January, 1982.

Rates and Percentages calculated by the Bureau of Health Planning and Development, Maine Department of Human Services, March, 1982.



Table 8

ACUTE CONDITIONS, RESTRICTED ACTIVITY, AND BED DISABILITY BY CONDITION GROUP  
 United States and Northeastern United States  
 July 1977 - June 1978

Condition Group	*Incidence of Acute Conditions		*Days of Restricted Activity <sup>a</sup>		Days of Bed Disability <sup>b</sup>	
	U.S.	Northeast	U.S.	Northeast	U.S.	Northeast
All Acute Conditions	2.19	2.06	9.76	8.98	4.44	4.28
Infective and Parasitic Diseases	0.24	0.28	0.91	1.06	0.48	0.57
Respiratory Conditions	1.17	1.08	4.50	4.07	2.36	2.26
Upper Respiratory Conditions	0.61	0.66	1.86	1.98	0.82	0.94
Influenza	0.49	0.34	2.08	1.65	1.22	1.06
Other Respiratory Conditions	0.07	0.07	0.55	0.44	0.32	0.26
Digestive System Conditions	0.10	0.11	0.46	0.48	0.23	0.22
Injuries	0.34	0.31	2.14	1.85	0.59	0.48
All Other Acute Conditions	0.33	0.29	1.75	1.53	0.77	0.76

\*Rates per person, per year.

<sup>a</sup>A day of restricted activity is one on which a person reduces his usual activities for the whole day because of illness or injury.

<sup>b</sup>A day of bed disability is one on which a person stays in bed for all or most of the day because of a specific illness or injury. All hospital days are, by definition, days of bed disability; all days of bed disability are, by definition, days of restricted activity.

Source: NCHS, Acute Conditions, Incidence and Associated Disability, United States, July 1976 - June 1977, Vital and Health Statistics, Series 10, No. 132, September, 1979.

Table 9a

PATIENT DAY RATES <sup>a</sup> BY AGE GROUP  
AND PLANNING AND DEVELOPMENT DISTRICT  
Maine: 1975 and 1980

Planning and Development District	Patient Days per 1,000 Population by Age Group							
	All Ages <sup>b</sup>		Pediatric (0-14 years) <sup>c</sup>		Adult (15-64 years)		Geriatric (65 and over)	
	1975	1980	1975	1980	1975	1980	1975	1980
STATE	1,058.4	1,050.2	239.3	241.6	943.7	844.7	3,471.7	3,682.8
Southern Maine	787.3	903.8	142.3	137.7	711.0	732.3	2,575.2	3,293.7
Cumberland	1,058.1	1,081.4	197.2	178.9	953.8	850.5	3,339.5	3,824.9
Androscoggin	1,090.5	1,084.9	247.1	278.2	974.0	859.2	3,568.3	3,779.0
Kennebec	1,255.6	1,167.3	313.8	340.7	1,140.1	988.3	4,004.6	3,694.9
Mid-Coast	1,009.0	963.2	172.9	169.1	890.7	750.7	3,206.0	3,383.7
Eastern Maine	1,288.6	1,257.5	228.8	272.0	1,065.4	956.9	4,103.0	4,182.8
Penobscot	976.1	985.2	247.4	269.6	899.0	828.2	3,231.3	3,401.6
Northern Maine	1,075.5	1,001.4	368.5	294.4	938.4	792.8	4,258.5	4,227.0

Table 9b

HOSPITAL DISCHARGE RATES <sup>a</sup> BY AGE GROUP  
AND PLANNING AND DEVELOPMENT DISTRICT  
Maine: 1975 and 1980

Planning and Development District	Discharges per 1,000 Population by Age Group							
	All Ages <sup>b</sup>		Pediatric (0-14 years) <sup>c</sup>		Adult (15-64 years)		Geriatric (65 and over)	
	1975	1980	1975	1980	1975	1980	1975	1980
STATE	154.6	153.9	64.6	62.7	157.0	146.7	341.5	369.1
Southern Maine	112.0	123.1	35.3	37.8	114.6	119.9	266.0	310.5
Cumberland	139.8	144.1	54.0	45.0	145.3	139.6	285.7	342.6
Androscoggin	153.6	157.5	64.1	71.9	157.8	150.5	331.8	359.6
Kennebec	186.7	173.9	89.8	89.9	191.1	168.9	384.2	363.4
Mid-Coast	158.7	158.3	54.1	50.3	161.8	149.1	351.4	395.5
Eastern Maine	187.5	188.6	60.7	63.9	183.6	171.5	429.1	470.6
Penobscot	145.3	147.5	66.3	66.7	148.2	142.6	315.6	344.4
Northern Maine	175.4	155.0	91.8	77.1	169.3	140.5	477.1	453.8

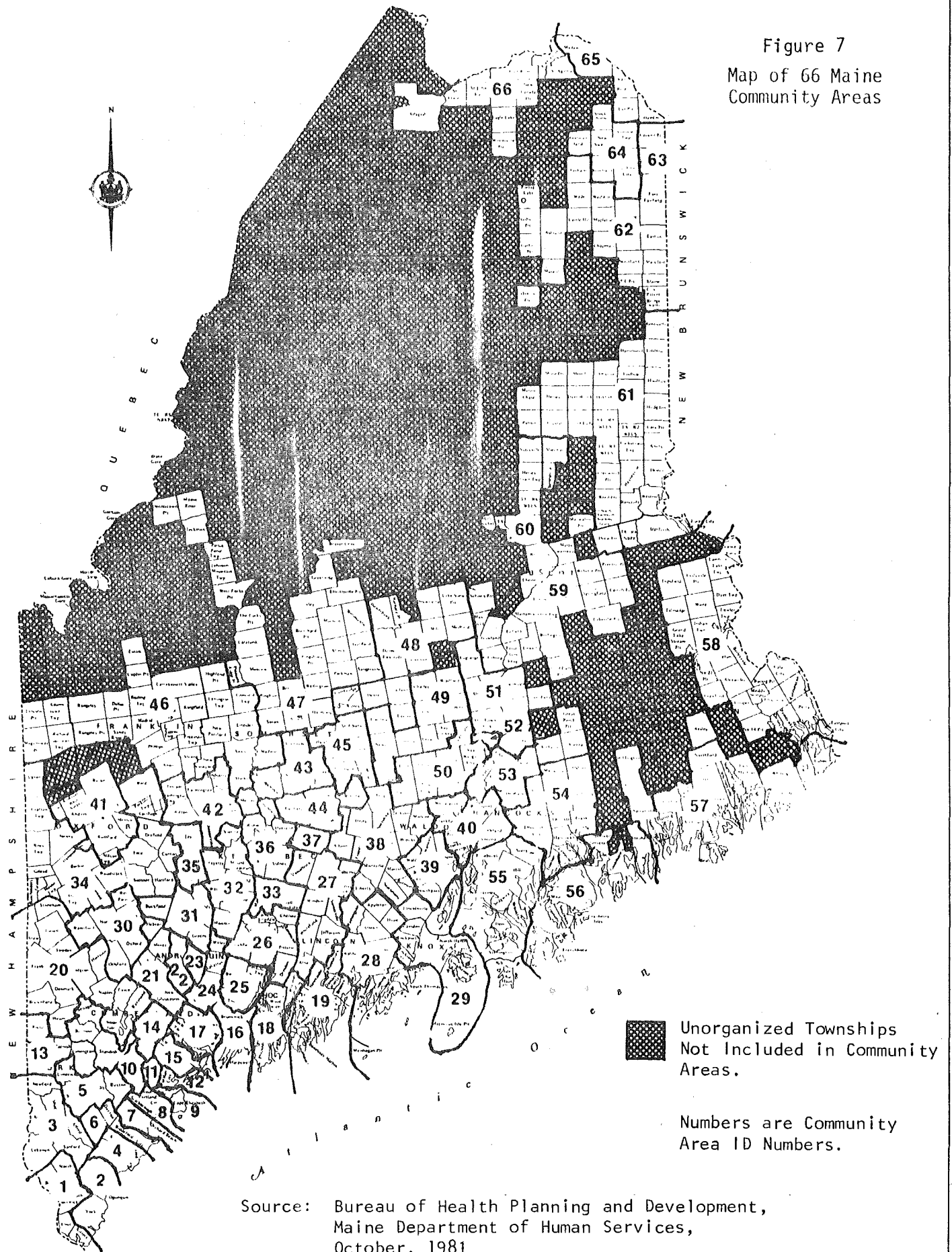
<sup>a</sup> Based on population estimates and projections produced by the Bureau of Health Planning and Development, Maine Department of Human Services, 1980 Series.

<sup>b</sup> Excludes out-of-state admissions and admissions with invalid residence codes.

<sup>c</sup> Excludes newborns.

Source: Maine Health Information Center, February, 1982.

Figure 7  
Map of 66 Maine  
Community Areas



Source: Bureau of Health Planning and Development,  
Maine Department of Human Services,  
October, 1981

Table 10  
ACTUAL PATIENT DAY RATES BY AREA  
Maine, 1978

Area		Actual Patient Day Rates per 1,000 Population	Area		Actual Patient Day Rates per 1,000 Population
ID	Name		ID	Name	
1	Berwick	383.2	36	Belgrade	995.1
2	York	651.8	37	Waterville	1,459.2
3	Sanford	796.2	38	Brooks	1,102.2
4	Kennebunk	673.1	39	Belfast	1,126.9
5	Buxton	666.7	40	Bucksport	882.8
6	Biddeford	986.4	41	Rumford	1,513.6
7	Saco	932.5	42	Farmington	763.8
8	Scarborough	821.6	43	Skowhegan	1,292.5
9	So. Portland	932.1	44	Fairfield	1,324.0
10	Gorham	741.9	45	Pittsfield	1,210.4
11	Westbrook	1,113.2	46	Rangely	1,123.2
12	Portland	1,347.6	47	Greenville	1,070.0
13	Baldwin	731.7	48	Dvr-Foxcroft	1,094.8
14	Gray	793.0	49	Corinth	1,121.6
15	Falmouth	775.3	50	Bangor	982.7
16	Brunswick	919.2	51	Old Town	964.7
17	Freeport	819.8	52	Orono	377.4
18	Bath	1,089.3	53	Brewer	950.9
19	Damariscotta	968.6	54	Ellsworth	1,262.7
20	Bridgeton	991.6	55	Deer Isle	1,173.4
21	N. Gloucester	673.9	56	Bar Harbor	1,525.5
22	Auburn	1,274.7	57	Machias	1,222.0
23	Lewiston	1,282.9	58	Calais	1,521.6
24	Lisbon	789.4	59	Lincoln	1,211.3
25	Topsham	695.9	60	Millinocket	1,043.9
26	Gardiner	973.6	61	Houlton	1,277.0
27	Whitefield	895.1	62	Presque Isle	1,023.5
28	Waldoboro	890.3	63	Ft. Fairfield	786.9
29	Rockland	1,127.0	64	Caribou	1,377.9
30	Norway	952.6	65	Madawaska	1,090.3
31	Leeds	820.2	66	Fort Kent	1,385.8
32	Monmouth	1,016.0			
33	Augusta	1,244.0		AREA TOTAL	1,034.9
34	Bethel	1,144.9			
35	Jay	835.5			

Source: Bureau of Health Planning and Development,  
Maine Department of Human Services,  
October, 1981

Communicable disease incidence has generally declined in the United States and its impact on the health of the nation has been reduced. The leading reported communicable diseases for the period 1977 through 1981 (Table 11) were: strep throat and scarlet fever, influenza, chicken pox, pneumonia and gonorrhea. As of September, 1980, approximately 94% of Maine's school children entering grades 1 through 6 had completed a basic immunization series against diphtheria, pertussis and tetanus, and 94% had been immunized against polio, measles and rubella (Table 12).

The dental health of a population is one element of its overall health. Although it is difficult to estimate accurately the extent of dental disease in Maine, there is some evidence to suggest that dental disease is a widespread and serious health problem. Figure 8, which compares the average number of decayed, missing and filled permanent teeth in the nation's and in Maine's children, shows a consistently higher rate for Maine. It has repeatedly been shown that the use of dental health services is correlated with income. Dental care needs are greater among low-income people in the United States (Figure 9). Over the years, studies have documented the positive influence on dental health where fluoride occurs naturally in the water supply. Studies in Maine and elsewhere have proven the value to dental health of fluoridating public water supplies to optimum levels.<sup>11</sup> Maine communities having fluoridated water supplies are listed in Table 13.

Table 11  
TRENDS IN REPORTED INCIDENCE OF SELECTED COMMUNICABLE DISEASES  
Maine, 1977-1981

Disease	Number of Reported Cases				
	1977	1978	1979	1980	1981
Chicken pox	588	3,262	4,046	4,455	4,488
German Measles	70	158	68	129	33
Hepatitis	45	130	158	80	94
Influenza & Pneumonia	378	9,428	7,898	11,517	22,766
Measles	178	1,320	18	33	5
Meningococcal Infection	27	35	9	47	87
Mumps	83	588	278	309	47
Pneumonia	704	1,521	2,508	2,944	2,848
Salmonellosis	111	121	229	132	246
Strep throat/ Scarlet Fever	2,048	2,676	4,935	4,717	4,581
Gonorrhoea	2,103	2,109	1,746	1,470	1,331
Syphilis	61	79	57	6	5
Tuberculosis	82	70	56	58	52

Source: Division of Disease Control, Bureau of Health  
Maine Department of Human Services, January, 1982.

Table 12  
IMMUNIZATION LEVELS<sup>a</sup> AT SCHOOL ENTRY (Grades 1 through 6)  
Maine, September, 1980

Disease	Percent Immunized <sup>a</sup> 1980
DPT <sup>b</sup> (3 doses)	93.9
Polio (3 doses)	93.6
Measles (1 dose)	94.1
Rubella (1 dose)	94.0

<sup>a</sup>Percent of children who have received the indicated doses.

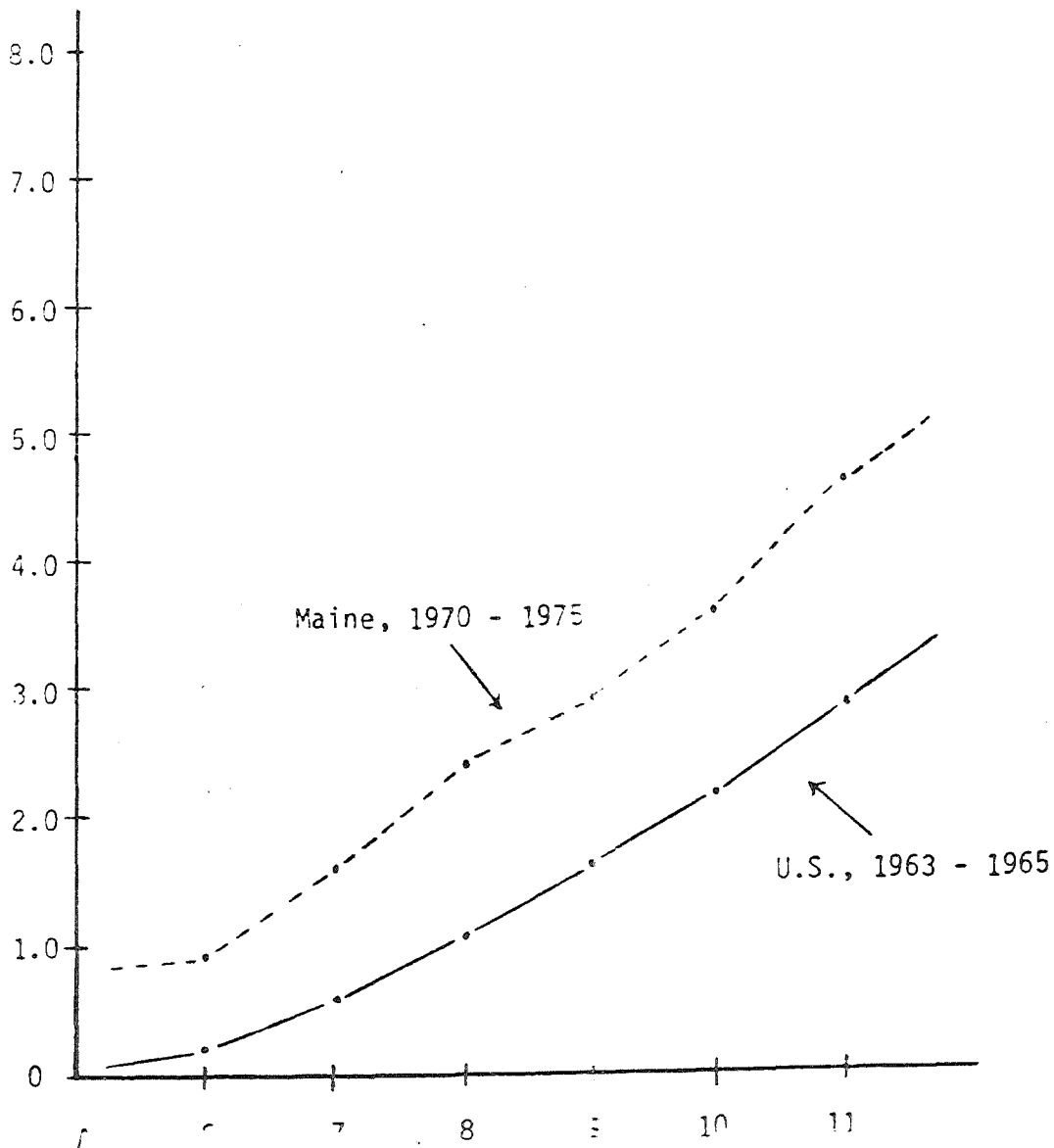
<sup>b</sup>Diphtheria, pertussis, and tetanus.

Source: Immunization Program, Bureau of Health  
Maine Department of Human Services  
February, 1982

Figure 8

AVERAGE NUMBER OF DECAYED(D), MISSING(M), AND FILLED(F) PERMANENT TEETH PER CHILD, BY AGE  
 United States (1963-65) and Maine (1970-75)

Average Number  
 of DMF  
 Permanent Teeth



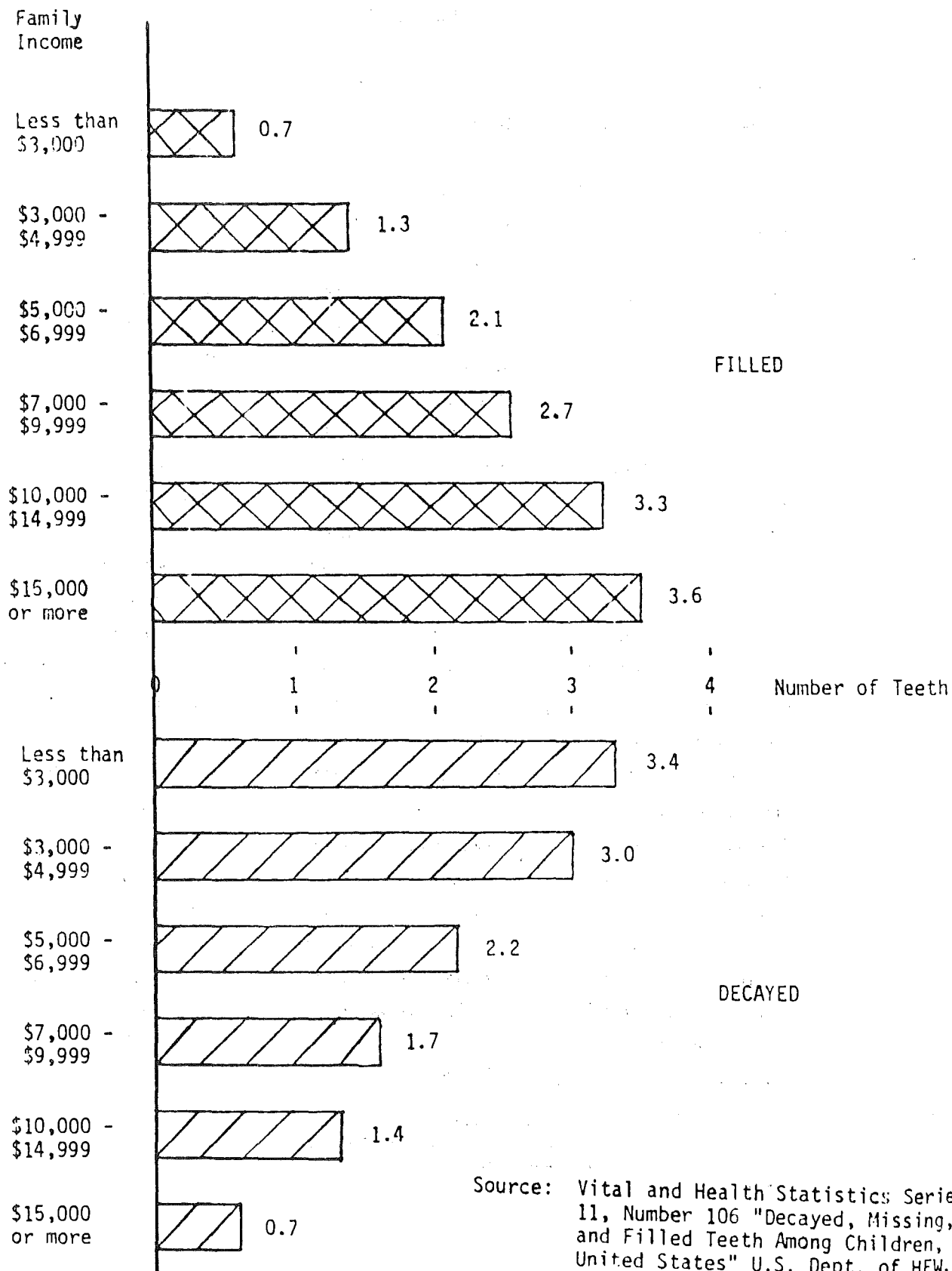
Age	DMF Teeth U.S.	DMF Teeth Maine
6 years	0.20	0.85
7 years	0.60	1.60
8 years	1.10	2.37
9 years	1.60	2.82
10 years	2.20	3.57
11 years	2.80	4.52

Source: Vital and Health Statistics  
 Series 11, Number 106  
 "Decayed, Missing, and Filled  
 Teeth Among Children, United  
 States" U.S. Dept. of HEW, 1971

Maine Department of Health and  
 Welfare Dental Health Reports,  
 Table III, 1970-75

Figure 9

AVERAGE NUMBERS OF FILLED AND OF DECAYED PRIMARY AND PERMANENT TEETH  
PER CHILD, BY FAMILY INCOME  
United States, 1974



Source: Vital and Health Statistics Series 11, Number 106 "Decayed, Missing, and Filled Teeth Among Children, United States" U.S. Dept. of HEW, 1971



Table 13  
**MAINE COMMUNITIES WITH FLUORIDATED WATER SUPPLIES  
 AND YEAR STARTED**  
 Maine, 1981

Ashland	1966	Fryeburg	1971	Orono	1962
Auburn	1969	Gardiner	1973	Orrington (part)	1967
Baileysville	1955	Guilford	1972	Owls Head	1969
Bangor	1967	Hampden	1965	Perry	1969
Bar Harbor	1963	Hermon	1967	Pittsfield	1965
Bath	1969	Holden (part)	1967	Pittston	1973
Belfast	1960	Houlton	1968	Presque Isle	1960
Benton	1965	Indian Island	1963	Randolph	1973
Bethel	1970	Island Falls	1967	Rockland	1969
Blaine	1971	Jackman	1964	Rockport	1969
Bradley	1963	Lewiston	1970	Rumford	1959
Brewer	1967	Loring AFB	1958	Sanford	1972
Bridgton	1963	Lubec	1972	Sangerville	1972
Brunswick	1955	Machias	1966	Skowhegan	1973
Bucksport	1969	Madawaska	1960	Southwest Harbor	1959
Camden	1969	Mars Hill	1971	Thomaston	1969
Caribou	1959	Mechanic Falls	1971	Topsham	1955
Clifton	1967	Medway	1966	Van Buren	1967
Damariscotta	1971	Mexico	1967	Vassalboro	1965
Dixfield	1971	Milford	1963	Veazie	1962
Eagle Lake	1974	Millinocket	1960	Washburn	1961
East Millinocket	1966	Moose River	1964	Waterville	1965
Eastport	1969	Mount Desert	1962	West Bath	1969
Eddington (part)	1967	Newcastle	1971	West Bethel	1970
Ellsworth	1969	Newport	1972	Westfield	1971
Emden	1981	Northeast Harbor	1961	Winslow	1965
Fairfield	1965	North Haven	1966	Winterport	1973
Farmingdale	1973	North Vassalboro	1965	Winthrop	1972
Fort Fairfield	1959	Norway	1952	Woolwich	1969
Fort Kent	1972	Old Town	1963		

Source: Division of Dental Health, Bureau of Health,  
 Maine Department of Human Services,  
 January, 1982

Estimating the incidence and prevalence of acute and chronic mental health problems in Maine is difficult because of the lack of consensus on what should be included and the lack of data. The President's Commission on Mental Health estimates that approximately fifteen percent of the population need mental health services at any given time. The Commission also considers mental health problems to be somewhat greater among children and considerably greater among the elderly.<sup>12</sup>

These figures, extrapolated to Maine, suggest that approximately 162,000 Maine people need mental health services at any given time.<sup>13</sup> There is little reason to believe that the frequency of mental health problems in Maine is less than the national rates, considering the relatively high proportions of persons living in poverty, low occupational status, and poor housing conditions (Table 14). Also, the relative proportions of youths and the elderly to the wage-earning population are high in Maine.

Table 14  
 SELECTED SOCIO-ECONOMIC INDICATORS OF MENTAL HEALTH SERVICES  
 Maine and United States, 1970

Indicator	Maine Mean Ratio <sup>a</sup> or Value	U.S. Mean Ratio or Value	No. Catchment Areas <sup>b</sup> Exceeding U.S. Mean
<u>Socioeconomic Status</u>			
Economic Status			
Percent of All Families Below Poverty Level	10.3	10.7	4
Social Status			
Low Occupational Status, Males: Percent of Employed Males 16 and over who are Operatives, Service Workers, and Laborers Including Farm Laborers	40.8	36.0	6
High Occupational Status, Males: Percent of Employed Males 16 and Over who are Professionals, Technical and Kindred Workers, and Managers Except Farm	22.5	25.4	7
Educational Status			
Median School Years Completed by persons 25 and over	12.1	12.1	2
<u>Household Composition and Family Structure</u>			
Percent of All Households with Husband-Wife Families	70.8	69.4	2
Youth Dependency Ratio: Persons Under 18 per 100 Persons 18-64 In Household Pop.	67.2	63.4	8
Aged Dependency Ratio: Persons 65 and Over per 100 Persons 18-64 in Household Pop.	21.2	17.4	7
<u>Type of Housing (Urbanization)</u>			
Single Dwelling Units: Percent of all Year-Round Housing Units that are Single Detached (Exc. Mobile Homes & Trailers)	67.4	66.4	4
<u>Condition of Housing</u>			
Standard Housing: Percent of Occupied Housing Units with Direct Access/ Complete Plumbing and Kitchen Facilities for Excessive Use	87.1	93.4	8

<sup>a</sup> Value is above or below national mean in the direction correlating with increased risk of mental disability.

<sup>b</sup> The Maine mental health services system encompasses eight geographic Catchment Areas defined according to geographic location as well as by sociodemographic and economic information and transportation availability.

Source: Mental Health Demographic Profile System, Selected Indicators from 1970 Census, National Institute of Mental Health, Divisions of Biometry and Epidemiology; and Mental Health Service Programs, 1977.

#### D. Lifestyle

Much evidence indicates that many of the major health problems in the United States today can be more significantly affected by changes in lifestyles and the environment than by changes in the health system. The choices a person makes in terms of habits and lifestyle will often affect his or her health. Consequently, health professionals and social scientists have studied individual behaviors such as smoking, alcohol and other drug use, nutrition, and recreational and work habits.

The results of several surveys of tobacco use in the adult U.S. population during the period 1949 to 1978 showed that the prevalence of male adult cigarette smoking significantly declined during this period. The prevalence of female adult cigarette smoking appears to have increased from 1955 to 1965; it has subsequently declined slightly. There was little overall change in the prevalence of current regular smoking among teenage males during 1968 to 1974. By contrast, the percentage of teenage female smokers has significantly increased. For both sexes, the small but significant increase in smoking prevalence among children 12 to 14 years old suggests a reduction in the average age of initiation of cigarette smoking.<sup>14</sup>

It is estimated (Table 15) that approximately 288,800 adults in Maine are current smokers. Lung cancer and other diseases resulting from cigarette smoking are of high incidence and seriousness. For lung cancer, the vast majority of cases are fatal in a short period of time.<sup>15</sup> In 1980, for which the most recent statistics are available, 635 deaths were attributed to lung cancer in Maine.

Table 15

SMOKING HABITS OF ADULT POPULATION BY AGE AND SEX<sup>a</sup>  
Maine, 1980

Sex & Age	Current Smoker	Former Smoker	Never Smoker
<u>Total</u>	288,800	209,100	305,600
18-34	138,200	60,000	122,200
34-54	90,200	68,100	76,500
55+	60,400	81,000	106,900
 <u>Males</u>	 148,100	 116,800	 116,800
18-34	77,400	24,200	57,800
35-54	45,900	39,600	30,200
55+	24,900	53,000	28,800
 <u>Females</u>	 140,700	 92,300	 188,900
18-34	60,800	35,800	64,400
35-54	44,300	28,500	46,400
55+	35,600	28,000	78,100

NOTE: Figures may not add due to rounding.

<sup>a</sup>Estimated using (1) 1980 census data and (2) data from the 1981 Maine Hypertension Control Project Baseline Survey, The Social Science Research Institute, University of Maine, Orono, Maine.

Source: Bureau of Health Planning and Development, Maine Department of Human Services, May, 1982.

An estimated 80,000 Maine people abuse alcohol and an additional 30,000 abuse other substances.<sup>16</sup> Table 16 shows that the greatest proportion of alcohol abusers are problem users, rather than final-stage users. As may be seen below, Maine's combined death rate for three selected alcohol-related diseases was approximately 50% higher than the national average in 1974. In that year, Maine ranked 12th in the United States in male deaths, and 11th in female deaths, respectively, from these diseases.<sup>17</sup> In 1978, however, the death rate in Maine from these alcohol-related diseases was lower than in 1974 and close to the national rate.

ALCOHOL RELATED DEATHS BY SEX<sup>a</sup>  
Maine and United States, 1974, 1978

Sex	Year			
	1974		1978	
	Maine	U.S.	Maine	U.S.
Male	26.22	18.36	21.76	18.00
Female	10.02	6.46	6.23	6.34

<sup>a</sup>Deaths from alcoholism, alcoholic psychosis, and cirrhosis of the liver with alcoholism; expressed per 100,000 adults aged 18 and over.

Source: 1974 data - Keller, M., and Gurioli, C., "Statistics on Consumption of Alcohol and Alcoholism," New Brunswick, N.J., Rutgers Center for Alcohol Studies, 1976.

1978 data - Maine: Division of Research and Vital Records, Department of Human Services, October, 1980.

U.S.: Division of Vital Statistics, National Center for Health Statistics, Department of Health and Human Services, telephone communication, October, 1980.

Approximately two and a half percent of all arrests for operating a vehicle under the influence of alcohol were juveniles (Table 16). As can be seen in Figure 10, persons between the ages of 15 and 34 had higher percentages of arrests for driving under the influence of alcohol during 1977-1979 than did persons 35 years or older. Persons in these younger age groups also have a much larger share of fatal accidents in comparison with their percentage of the total licensed drivers in Maine (Figure 11). Alcohol may have been a factor in these fatalities since in Maine, 74% of the single vehicle, rural, fatal accidents and 53% of all fatalities were known to be alcohol-related.<sup>18</sup>

An estimated 30,000 Maine residents abuse substances other than alcohol. The estimated numbers of abusers, by stage, are:<sup>19</sup>

Problem Users	17,000
Early Stage	5,850
Middle Stage	3,900
Late Stage	2,600
Final Stage	650

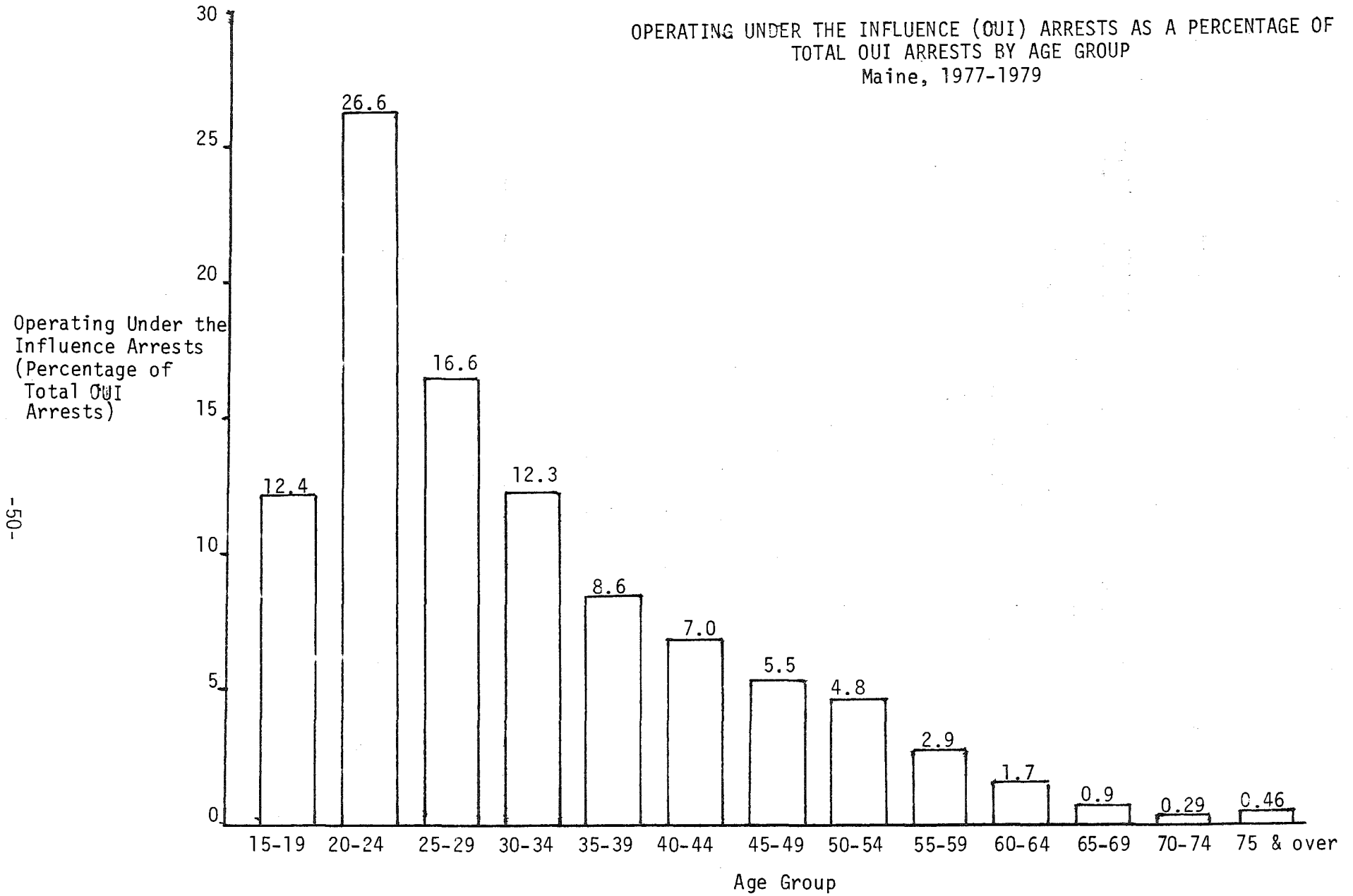
Table 16  
ALCOHOL ABUSE: SELECTED INDICATORS  
Maine, 1980

Indicators		Number
<u>Estimate of Alcohol Abusers</u>	Total	80,000
	Problem Users	40,000
	Early Stage	18,000
	Middle Stage	12,000
	Late Stage	8,000
	Final Stage	2,000
<u>Arrests - (Operating Under the Influence)</u>	Total	9,118
	Juvenile	233
	Adult	8,885
<u>Disease-related Deaths</u>		
	Alcohol Primary Cause	42
	Alcohol Secondary Cause	88

Source: Office of Alcoholism and Drug Abuse Prevention,  
Maine Department of Human Services, January, 1982.

Figure 10

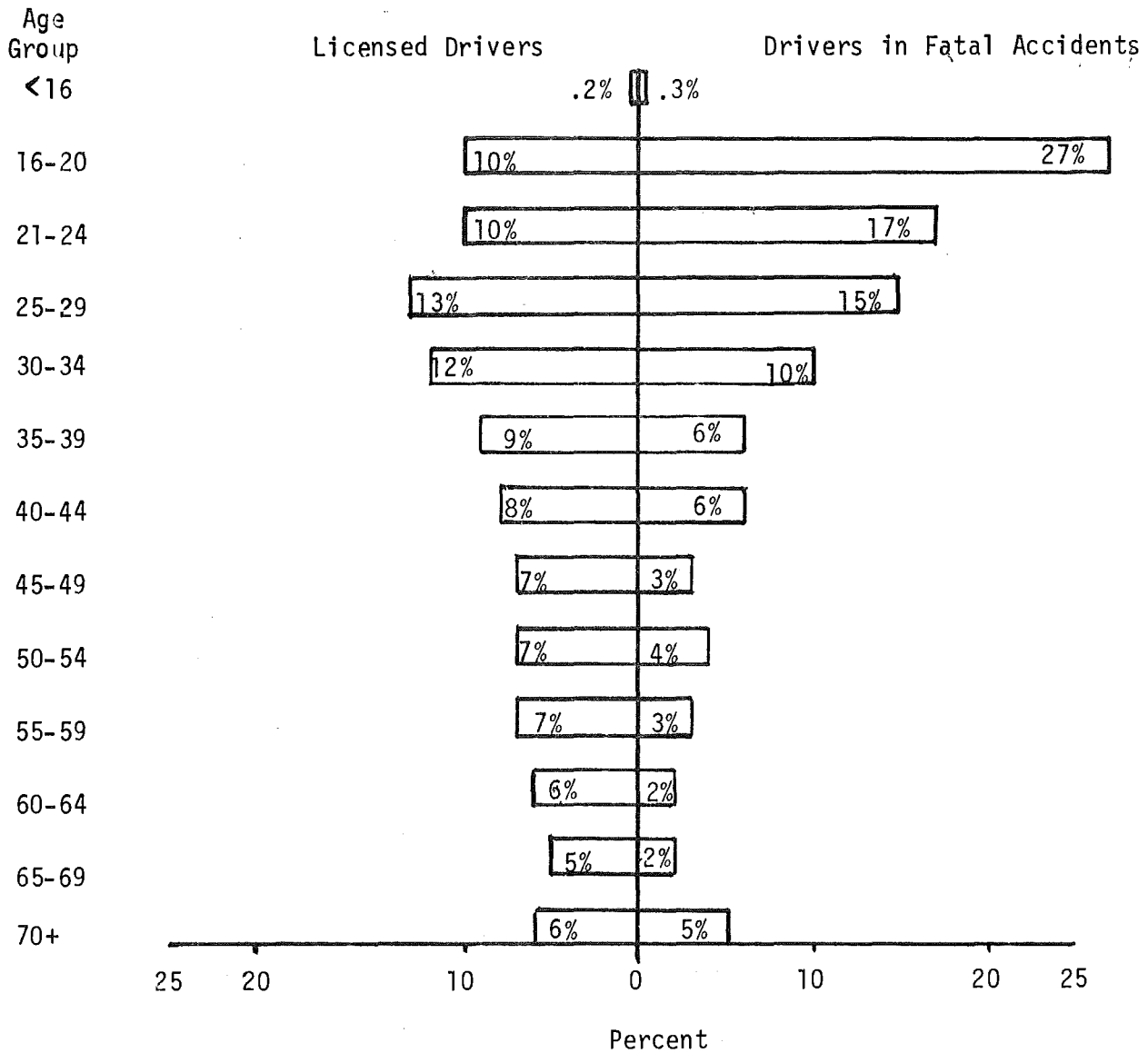
OPERATING UNDER THE INFLUENCE (OUI) ARRESTS AS A PERCENTAGE OF  
TOTAL OUI ARRESTS BY AGE GROUP  
Maine, 1977-1979



Source: Bureau of Safety, Maine Department of Transportation,  
August, 1980.



Figure 11  
 LICENSED DRIVERS AND DRIVERS INVOLVED IN FATAL ACCIDENTS  
 BY AGE  
 Maine, 1978-1979  
 (Percentage Distribution)



Source: Bureau of Safety, Department of Transportation, September, 1980.

A study of the nutritional status of Maine adults was recently conducted by the School of Human Development, University of Maine at Orono.<sup>20</sup> Analyses of the random survey of 1,600 Maine adults, ages 23-50, revealed that:

- Although of similar height, males averaged 20 to 40 pounds more than their reference counterpart.\*
- Females, although shorter than their reference counterpart, usually averaged up to 30 pounds more.
- The majority of both males and females weighed 20% more than their ideal weights when their weights were compared to standards.
- Average triceps skinfold measurements were usually high, indicating a general trend of overweight or obesity.
- Average energy intakes of females, and in most instances males, were below recommended levels.
- Average protein intakes of males and females were much higher than recommended allowances.
- Fat intakes were high, usually 40% or more of dietary calories. A more prudent level would be 30%.
- Carbohydrate levels were generally 39-46% of dietary calories, but should be greater than 50% of dietary calories.
- There was evidence of both very high and very low levels of Vitamin A intake.
- Average Vitamin C intakes were very large. About two-thirds of the participants consumed in excess of 100% of the recommended daily allowance, but some very low intakes were found among the other third.
- Iron intakes were usually low among women and high among men.
- Phosphorus was usually consumed in excess of calcium. Low calcium intakes were found more often among women.
- Average cholesterol intakes were usually at or below 300 mg. for women (prudent level) but between 400-500 mg. for men.

In early 1978, the Maine Cooperative Extension Service requested from each of its county agents information regarding health problems related to poor nutrition. Responses indicated that obesity, dental caries, inadequate nutrition

\*Reference counterpart based on National Research Council survey (national sample) and recommended dietary allowance (RDA) growth standard, 1974.

during pregnancy, and insufficient intake levels of selected vitamins and nutrients are problems common to many areas of the state. In addition, extension agents identified the need for qualified dieticians and nutritionists, nutrition education, and training for classroom teachers.<sup>21</sup>

#### E. Environment

In the past several years, many environmental issues which concern health status have received increasing public attention. Environment refers to those physical, biological and chemical agents transmitted to man through air, water, land, food, shelter and transportation.

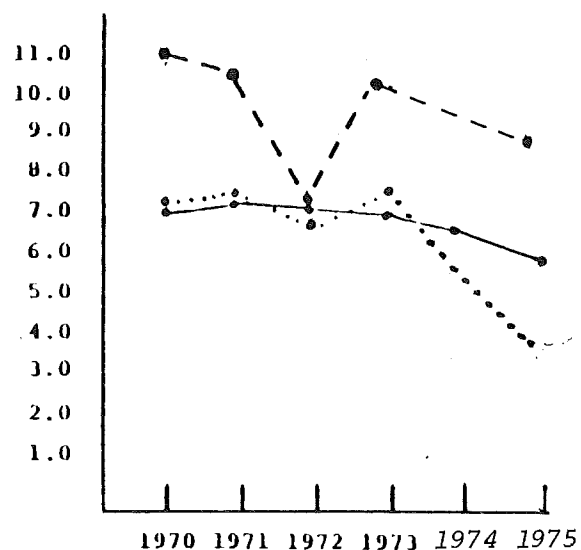
Contrary to popular opinion, Maine does have environmental hazards. For example, Maine has one of the highest rates of respiratory disabilities in the nation. As Figure 12 shows, the percent of disability claims in Maine for respiratory diseases was considerably higher than for the United States and New England in nearly every year since 1970. These high rates may be related to Maine's industry composition. Maine's largest industries (construction, paper, agriculture, and textiles) employ many workers who are at risk of exposure to hazardous chemical agents which primarily affect the respiratory system. High rates of respiratory disease disability claims may result. In 1980 there were 44 occupation-related deaths and 19,846 disabling cases (Table 17). Workers in the fabricated metals, lumber and wood products industries suffered the highest rates of injury and illness (346.1 per 1,000 persons employed and 337.4 per 1,000 respectively). However, the likelihood of disability differed substantially among these industries. The number of reported cases of occupational lung disease in Maine increased from 43 in 1978 to 74 in 1979. In 1980, 70 cases were reported. Pneumonia and asthma (toxic and non-toxic) were the significant disabling categories (Table 18).

It has been claimed that as much as 70 to 80 percent of cancer episodes are environmentally induced. Since 1950, Maine's rate of deaths caused by cancer has been consistently higher than the United States rate (Table 19), suggesting that Maine residents are at higher risk for this disease. Presently available data

Figure 12

PERCENT OF DISABILITY CLAIMS FOR RESPIRATORY DISEASES  
Maine, New England, United States, 1970 - 1975<sup>a</sup>

Percent of Disability  
Claims for  
Respiratory Diseases



	Maine	New England	United States
1970	11.1	7.3	6.9
1971	10.7	7.4	7.2
1972	7.4	6.6	7.3
1973	10.1	7.3	7.0
1975	7.8	4.1	6.6

KEY

Maine	-----
New England	.....
United States	_____

Source: State Health Information Project, Bureau of Health Planning and Development, Maine Health Facts, 1977, and the United States Social Security Administration.

<sup>a</sup> Data for 1974 are not available.

Table 17

OCCUPATIONAL MORBIDITY AND MORTALITY  
BY MAJOR INDUSTRY GROUP <sup>a</sup>  
Maine, 1980

Industry	Number Employed <sup>b</sup>	Morbidity and Mortality				
		Total Cases <sup>c</sup>		Disabling Cases <sup>e</sup>		Fatalities
		Number	Rate <sup>d</sup>	Number	Percent	
TOTAL - all industries	400,800	51,531	128.6	19,846	38.5	44
Major industry groups	90,300	23,179	256.7	9,042	39.0	20
<u>Industry</u>						
Lumber and wood products	13,300	4,488	337.4	1,988	44.3	13
Paper	18,200	4,048	222.4	1,323	32.7	1
Leather	20,300	3,861	190.2	1,590	41.2	0
Food	10,300	2,861	277.8	1,296	45.3	0
Textiles	8,200	1,831	223.3	651	35.6	2
<u>Construction</u>						
Special Trades	8,700	2,319	266.6	900	38.8	4
General Bldg.	6,900	2,248	325.8	777	34.6	0
<u>Manufacturing</u>						
Fabricated metals	4,400	1,523	346.1	517	33.9	0

<sup>a</sup>These data do not include federal employees.

<sup>b</sup>Average number employed per year.

<sup>c</sup>Total number of reported cases of occupation-related injury, disease or death.

<sup>d</sup>Rates per 1,000 persons employed.

<sup>e</sup>Reports indicating at least one lost workday. Percent based on total cases reported.

Source: Data - Bureau of Labor Standards, Maine Department of Labor, December, 1981.

Rates and percentages calculated by the Bureau of Health Planning and Development, Maine Department of Human Services, December, 1981.

Table 18  
 OCCUPATIONAL LUNG DISEASES BY SEVERITY<sup>a</sup>  
 Maine, 1978-80

Nature of Illness <sup>b</sup>	1978		1979		1980	
	Disabled <sup>c</sup>	Non-Disabled <sup>d</sup>	Disabled	Non-Disabled	Disabled	Non-Disabled
TOTAL	43		74		70	
Tuberculosis	--	1	1	--	--	--
Upper Respiratory Conditions	3	3	8	10	7	14
Pneumonia, Asthma, etc., (toxic)	13	3	17	22	26	16
Asbestosis	--	--	--	--	--	--
Other Pneumoconiosis <sup>e</sup>	3	1	1	--	2	1
Pneumoconiosis with Tuberculosis	--	1	4	--	--	--
Upper Respiratory Conditions (non-toxic)	1	2	--	4	--	--
Pneumonia, Asthma, etc., (non-toxic)	8	4	4	3	2	2

<sup>a</sup>These data do not include federal employees.

<sup>b</sup>Coded according to ANSI Z16.2 standards (expanded).

<sup>c</sup>Reports indicating at least one lost workday.

<sup>d</sup>Reports indicating no lost workdays.

<sup>e</sup>Includes pneumoconiosis and related diseases other than aluminosis, anthracosis, asbestosis, byssinosis, siderosis, silicosis, and pneumoconiosis combined with tuberculosis.

Source: First Reports of Occupational Injury or Occupational Illness filed with the Maine Workers' Compensation Commission; compiled by Maine Department of Labor, Bureau of Labor Standards, Research and Statistics Division, December, 1981.

Table 19

AGE-STANDARDIZED DEATH RATES<sup>a</sup> FOR ALL CANCERS  
 Maine (Total) and United States (White): 1950-1979  
 (Resident Data)

Year	Maine	United States
1950	140.67	124.7
1955	n.a.	124.9
1960	139.26	124.2
1965	n.a.	125.8
1970	145.26	127.8
1971	143.72	127.7
1972	139.74	128.3
1973	139.21	127.7
1974	144.56	129.0
1975	134.85	128.1
1976	148.06	129.5
1977	144.05	130.0
1978	150.16	130.8
1979	158.30	n.a.

n.a. - not available.

Note - This table is not comparable to Table 3 because a different standard population has been used for calculation of the age-standardized death rates.

<sup>a</sup> Age-standardized death rates per 100,000 population were computed using the direct method, i.e., applying the age-specific death rates for cancer to the standard 1940 United States white population.

Sources - Vital statistics of the United States, U.S. Department of Health, Education and Welfare, National Center for Health Statistics.

Bureau of Health Planning and Development, Maine Department of Human Services, September, 1980.

are insufficient to pinpoint the causative factors, however.

## F. Resources

This section describes the resources from which health care services are provided to Maine's citizens. Information characterizing the manpower and facilities by which services are delivered is included, as are data describing utilization of services and facilities and expenditures for health care services in Maine.

### 1. Manpower

#### a. Medical Manpower

In 1980, 1,592 allopathic physicians (M.D.'s) and 179 osteopathic physicians (D.O.'s) were actively practicing in Maine (Tables 20,21).

The most common specialities of allopathic physicians were: Internal Medicine (199 physicians); General Practice (100 physicians); Family Practice (200 physicians); General Surgery (124 physicians); and Psychiatry (85 physicians). Among osteopaths, General Practice (86 physicians) was the most common specialty. The four populous Maine counties of Androscoggin, Cumberland, Kennebec and Penobscot contain nearly two-thirds (1,167) of Maine's physicians, while the remaining 12 Counties contain slightly over one-third (604) of Maine physicians.<sup>22</sup>

A 1976 Carnegie Commission report<sup>23</sup> indicated that maldistribution, rather than shortage, is the primary problem in physician manpower supply in the United States today. The number of physicians per 100,000 population in 1980 was lower in Maine, however, than in the United States as a whole (Table 22) and this shortage is reflected in the designation of nineteen primary care shortage areas in the State (Figure 13). The locations of these shortage areas reflect the unequal distribution of physicians within the state, as shown in Table 23. The most populous county, Cumberland, had one physician for every 423 persons in 1980, while in Waldo County there was only one physician per 1,235 residents. The variation among different areas of the state was even more pronounced with respect to those physicians who provide primary medical care. The ratio of primary care physicians to population ranged from 1:2,400 in Sagadahoc County to 1:922 in Cumberland County.



Table 20  
 ACTIVE ALLOPATHIC PHYSICIANS IN MAINE\*  
 BY SPECIALTY<sup>a</sup> AND COUNTY OF EMPLOYMENT  
 July 1, 1980

Specialty	COUNTY OF EMPLOYMENT																
	Total	Androscoggin	Aroostook	Cumberland	Franklin	Hancock	Kennebec	Knox	Lincoln	Oxford	Penobscot	Piscataquis	Sagadahoc	Somerset	Waldo	Washington	York
<b>MAINE - TOTAL</b>	<b>1,592</b>	<b>167</b>	<b>81</b>	<b>438</b>	<b>30</b>	<b>57</b>	<b>222</b>	<b>63</b>	<b>25</b>	<b>44</b>	<b>227</b>	<b>18</b>	<b>23</b>	<b>28</b>	<b>18</b>	<b>29</b>	<b>122</b>
Allergy	10			3			1	1		1	3	1					
Anesthesiology	59	7	4	20	1		5	4		1	8		2	1	1		5
Cardiovascular Dis.	30	3		14			4			1	4		1		1		2
Dermatology	13	1		6			1	1			4						
Emergency Medicine	59	11	1	12	3		8	1		4	10			2			7
Family Practice	200	23	7	35	7	10	24	9	10	8	25	5	4	3	4	2	24
General Practice	100	9	12	11	3	8	10	2	3	3	14	1	1	4	1	9	9
Internal Medicine	199	15	12	60	3	10	27	12	4	4	21	3	2	3	2	3	18
Neurology	12			5			2				5						
OB-GYN	73	12	3	26		4	7	3			9		2	1			6
Ophthalmology	47	4	3	13		2	9	2			6	1		1	1	1	4
Otorhinolaryngology	26	5	1	7	1		5	1			4		1				1
Pathology	41	5	2	8	1	1	9	1		2	7			2			3
Pediatrics	83	7	6	28	1	4	11	2	1	2	12		1	1	1	1	5
Psychiatry	85	6		32	1	1	20	5		1	13					1	5
Pulmonary Disease	12	1		6			1				3						1
Radiology	38	5	2	13		1	5	1	1	1	3			2		1	3
Radiology (Diag.)	32	3	3	7	1	2	3	2		2	6	1				1	1
Surgery (General)	124	9	11	25	3	6	19	5	2	5	9	2	4	4	3	5	12
Surgery (Neuro.)	11	1		4			4				2						
Surgery (Ortho.)	59	7	1	15	2		10	4		2	8	2		1	1	1	5
Surgery (Urolog.)	30	4	2	8			5	2		1	6			1			1
All Other Specialities <sup>b</sup>	137	14	3	59		4	20	1		1	28		2				3
Unknown	112	15	8	21	3	4	12	4	4	5	17	2	3	2	3	2	7

NOTE: This table is based on edited files which have been corrected for missing and erroneous information which came to light subsequent to initial data compilation. Tabulations released earlier are superseded by these data.

\*Licensed, active professionals working in Maine who responded to survey.

<sup>a</sup>Self-reported specialty.

<sup>b</sup>Specialty groups reported by less than 10 physicians: Aerospace Medicine, Diabetes; Endocrinology, Gastroenterology, General Preventative Medicine, Geriatrics, Gynecology, Hematology, Infectious Disease, Laryngology, Neoplastic Diseases, Nephrology, Child Neurology, Nuclear Medicine, Obstetrics, Occupational Medicine, Otology, Clinical Pathology, Forensic Pathology, Pediatrics (Cardiology), Physical Medicine and Rehabilitation, Child Psychiatry, Psychosomatic Medicine, Public Health, Therapeutic Radiology, Rheumatology, Diagnostic Roentgenology, Surgery (Abdominal), Surgery (Cardiovascular), Surgery (Colon and Rectal), Surgery (Pediatrics), Surgery (Plastic), Surgery (Thoracic), Other.

Source: Lemieux, D. Maine Health Professionals 1979-1980, Bureau of Health Planning and Development, Maine Department of Human Services, December, 1981.

Table 21  
 ACTIVE OSTEOPATHIC PHYSICIANS IN MAINE\*  
 BY SPECIALTY<sup>a</sup> AND COUNTY OF EMPLOYMENT  
 April 30, 1981

Specialty	County of Employment																
	Total	Androscoggin	Aroostook	Cumberland	Franklin	Hancock	Kennebec	Knox	Lincoln	Oxford	Penobscot	Piscataquis	Sagadahoc	Somerset	Waldo	Washington	York
MAINE - TOTAL	179	1	4	72	3	2	23	4	3	9	17	2		10	5	2	22
Anesthesiology	4			2			1										1
Cardiology	1										1						
Pulmonary Disease	2			1													1
Gastroenterology	3			1			2										
General Practice	86		3	31	2	1	8	3	2	4	8	2		7	4		11
Geriatrics	9			2				1		1				1		1	1
Industrial Medicine	1										1						
Internal Medicine	5			2			2				1						
Manipulative Therapy (Osteo.)	11	1		4		1	1				1				1		2
Neuropsychiatry	1			1													
Obstetrics	1			1													
Obstetrics & Gynecology	2			1													1
Ophthalmology	1			1													
Otorhinolaryngology	1			1													
Pathology (Anatomic & Clinical)	1			1													
Pathology (Anatomic & Clinical and Cytopathology)	3			1			1				1						
Pediatrics	1			1													
Physical Med. & Rehab	2			1			1										
Proctology	1																1
Radiology	6			4			1				1						
Surgery	7			4			3										
Surg. (Obs. & Gyn.)	1													1			
Surgery (Ortho.)	2			2													
Surgery (Periph. Vasc)	1			1													
Other Specialty	13			5	1		3			1							3
Unknown	13		1	4						3							1

NOTE: This table is based on edited files which have been corrected for missing and erroneous information which came to light subsequent to initial data compilation. Tabulations released earlier are superseded by these data.

\*Licensed, active professionals working in Maine who responded to survey.

<sup>a</sup>Self-reported specialty.

Source: Lemieux, D. Maine Health Professionals 1979-1980, Bureau of Health Planning and Development, Maine Department of Human Services, December, 1981.

Table 22

ACTIVE PHYSICIANS: NUMBER AND RATIO TO POPULATION  
Maine (1980) and United States (1980)

Physicians	Maine (1980)	United States <sup>a</sup> (1980)
All Physicians	1,771	449,500
Allopathic	1,592	432,400
Osteopathic	179	17,100
Ratio of Physicians per 100,000 Population	157	202

<sup>a</sup>Includes physicians in Federal service; also includes physicians practicing in Puerto Rico and other U.S. Possessions.

Source: U.S. Estimates - U.S. Department of Health and Human Services, Health - United States, 1981.

Maine - Cooperative Health Manpower Resource Inventory, Bureau of Health Planning and Development, Maine Department of Human Services, September, 1981.

Figure 13  
 Primary Care Shortage Areas  
 Maine, 1982

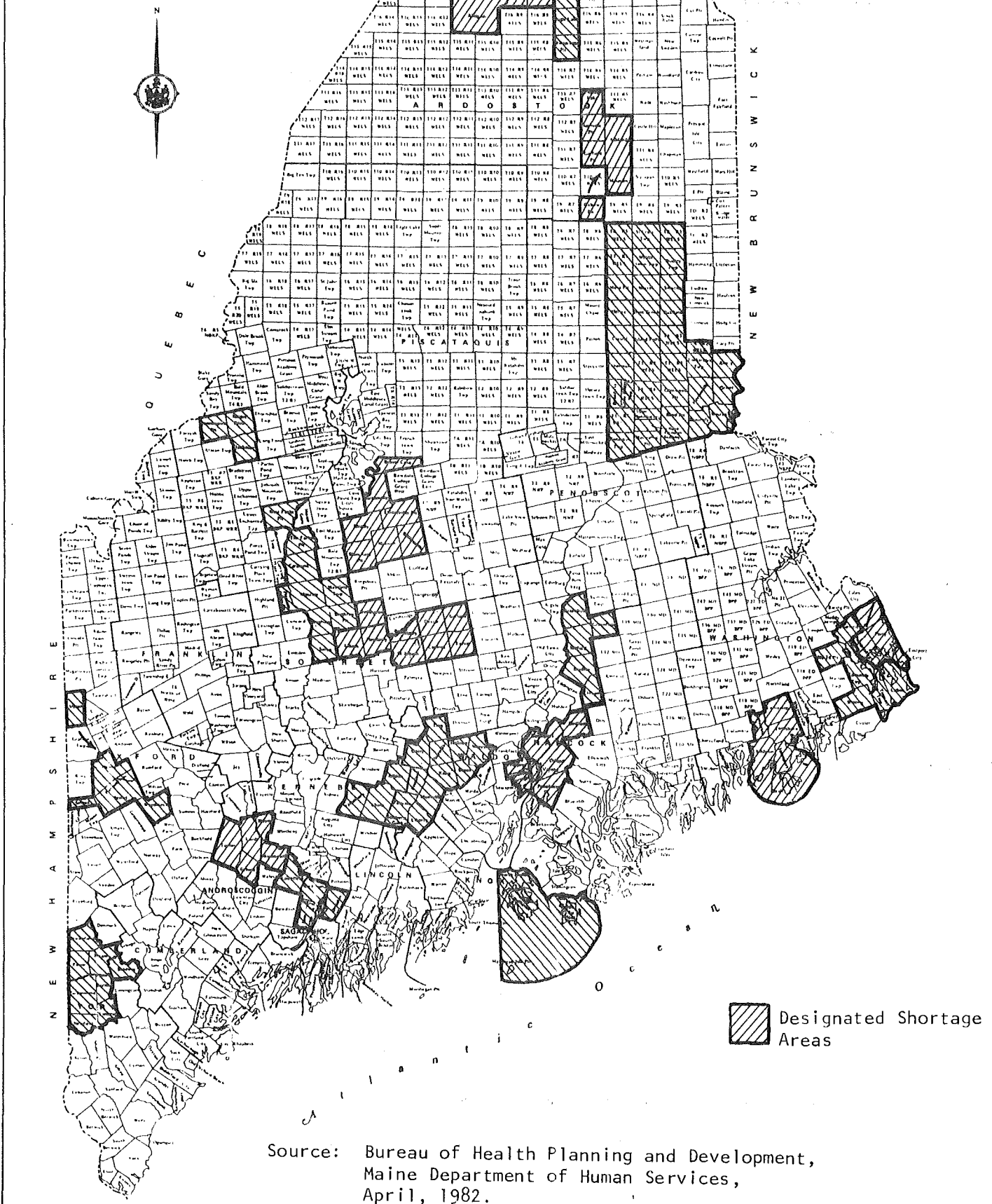


Table 23  
ACTIVE PHYSICIANS<sup>a</sup>: NUMBER AND RATIO TO POPULATION<sup>b</sup> BY COUNTY  
Maine, 1980

County	1980 Population	Allopathic (M.D.)	Osteopathic (D.O.)	Total Physicians	Ratio to Population	Primary Care Physicians	Ratio to Population
TOTAL	1,125,027	1,592	179	1,771	1: 635	871	1: 1,292
Androscoggin	99,657	167	1	168	1: 593	80	1: 1,246
Aroostook	91,331	81	4	85	1:1,074	50	1: 1,827
Cumberland	215,789	438	72	510	1: 423	234	1: 922
Franklin	27,447	30	3	33	1: 832	18	1: 1,525
Hancock	41,781	57	2	59	1: 708	41	1: 1,019
Kennebec	109,889	222	23	245	1: 449	108	1: 1,017
Knox	32,941	63	4	67	1: 492	33	1: 998
Lincoln	25,691	25	3	28	1: 918	21	1: 1,223
Oxford	48,968	44	9	53	1: 924	26	1: 1,883
Penobscot	137,015	227	17	244	1: 562	102	1: 1,343
Piscataquis	17,634	18	2	20	1: 882	12	1: 1,470
Sagadahoc	28,795	23		23	1:1,252	12	1: 2,400
Somerset	45,046	28	10	38	1:1,185	21	1: 2,145
Waldo	28,414	18	5	23	1:1,235	14	1: 2,030
Washington	34,963	29	2	31	1:1,128	18	1: 1,942
York	139,666	122	22	144	1: 970	81	1: 1,724

Note: This table is based on edited files which have been corrected for missing and erroneous information which came to light subsequent to initial data compilation. Tabulations released earlier are superseded by these data.

<sup>a</sup>Licensed, active physicians working in Maine who responded to survey.

<sup>b</sup>Bureau of the Census, U.S. Department of Commerce, Advance Reports, 1980 Census of Population and Housing: Maine, Final Population and Housing Unit Counts, March, 1981; Maine State Planning Office, personal communication, November, 1981.

<sup>c</sup>Primary care physicians include all allopathic and osteopathic physicians providing direct patient care who practice principally in general or family practice, general internal medicine, general pediatrics or obstetrics and gynecology.

Source: Cooperative Health Manpower Resource Inventory, Bureau of Health Planning and Development, Maine Department of Human Services, October, 1981.

Future efforts to identify areas of Maine with shortages of primary care physicians will make use of recently developed Primary Care Analysis Areas (Figure 14). These areas were developed by the Maine Health Systems Agency, Inc. in 1979. The 62 areas identify rational areas for the delivery of primary care as defined by federal criteria used in the designation process.

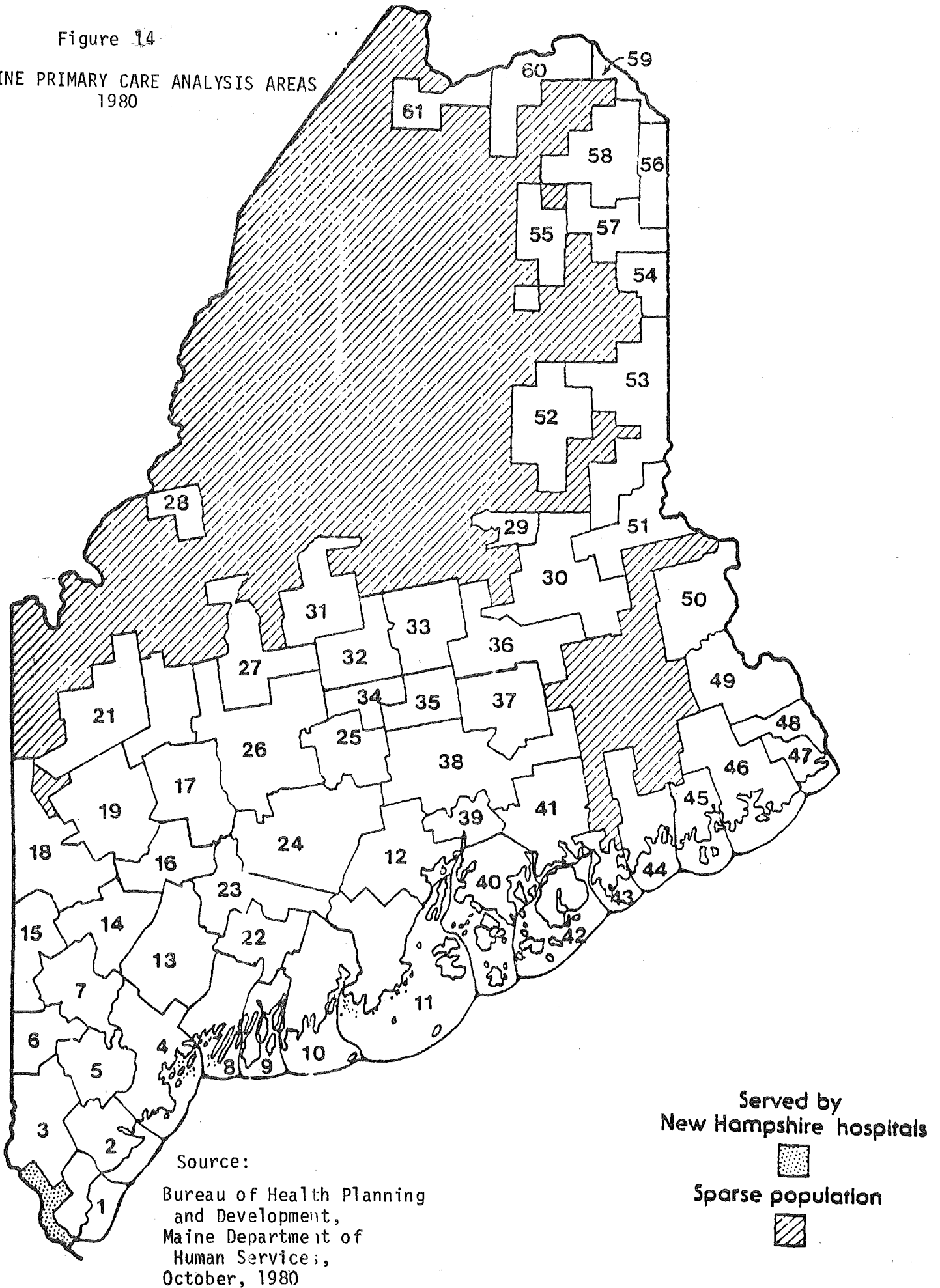
It has been generally noted that physicians living in rural areas are retiring at a higher rate than younger doctors are replacing them.<sup>24</sup> A 1975 survey of primary care physicians in Maine found their average age to be 52, five years older than the national average. More than one-third of the responding primary care physicians were over 55, and less than 10% were under 35.<sup>25</sup> Data available for 1978 indicate an influx of younger physicians, with 35.8% of primary care physicians aged 55 and over and 24.6% aged 35 and under.<sup>26</sup>

Several studies have documented a need for family physicians in Maine, as assessed by physicians presently active in the state and by accepted standards for physician distribution.<sup>27,28</sup> Over the past five years, six family practice residency training programs have been established in southern, central and northern Maine. Fifty of the 62 graduates of these residency programs as of December, 1979, were practicing in Maine.<sup>29</sup>

The New England College of Osteopathic Medicine (NECOM) began instruction in October, 1978. NECOM is Maine's sole medical school. Its graduates will have received a heavy emphasis on primary care training through clinical experience at several sites in Maine.

Figure 14

MAINE PRIMARY CARE ANALYSIS AREAS  
1980



The utilization of physician extenders is one way to ameliorate the problems of the maldistribution of primary care physicians. The two most common types of these mid-level health practitioners in Maine are the physician's assistant (including Medex) and the nurse practitioner. As of June, 1980, 76 physician assistants and 195 nurse practitioners were licensed to practice in the state.<sup>30</sup>

In 1981, Maine had 6,377 active registered nurses (Table 24) working most frequently in the areas of Medical-Surgical Care (2,397 R.N.'s) and General Practice (996 R.N.'s). Comparative data show that in 1979 the number of hospital-based registered nurses and licensed practical nurses per 1,000 patient days was not statistically significantly different in Maine than in the United States (Table 25). As with physicians, there is considerable variation within the state in the supply of nurses (Table 26).

#### 1h. Dental Manpower

The major index of dental health resources is the number of practicing dentists. In 1980, there were 483 actively practicing dentists in the state, or about one dentist for each 2,329 people in Maine. The national ratio was estimated at about one per 2,000 people in 1977.<sup>31</sup> The ratio of dentists to population varies among counties (Table 27), although, as shown in Figure 15, dentists in Maine are widely distributed geographically.

As of April, 1982, five areas in Maine were designated by the federal government as dental shortage areas (Figure 16). Future dental shortage areas will be identified using 45 Dental Care Analysis Areas (Figure 17) which have been developed by the Bureau of Health Planning and Development, the Maine Dental Association, and the Maine Health Systems Agency, Inc.

Another category of dental manpower is the dental hygienists. In 1979, there were 287 dental hygienists active in Maine, or approximately three hygienists for each five practicing dentists (Table 27).



Table 24  
 ACTIVE REGISTERED NURSES IN MAINE\*  
 BY AREA OF PRACTICE AND COUNTY OF EMPLOYMENT  
 January 1, 1981

County of Employment	Area of Practice										
	Total	Public Health	General Practice	Geriatric	OB/GYN	Medical/Surgical	Pediatric	Psychiatry Mental Health	Anesthesia	Other	Unknown
MAINE TOTAL	6,377	376	996	699	524	2,397	300	307	104	356	318
Percent <sup>a</sup>	100.0	6.2	16.4	11.5	8.6	39.6	5.0	5.1	1.7	5.9	-
Androscoggin	611	33	84	91	59	203	37	22	14	33	35
Aroostook	373	30	101	39	30	96	20	4	7	26	20
Cumberland	1,816	93	240	185	155	760	103	74	26	94	86
Franklin	102	10	19	7	11	33	1	3		5	13
Hancock	182	19	43	23	18	51	3	4	5	8	8
Kennebec	900	31	102	77	59	358	46	116	18	57	36
Knox	213	20	31	25	22	80	6	5		16	8
Lincoln	63	2	13	11	7	20	1			3	6
Oxford	187	9	27	39	9	70	4	2	3	6	18
Penobscot	870	39	143	66	62	351	44	52	18	59	36
Piscataquis	69	5	12	6	7	26	1		2	6	4
Sagadahoc	106	11	16	17	8	33	8	1	1	8	3
Somerset	135	10	39	20	12	38	2	1	2	8	3
Waldo	72	8	14	4	5	24	1	2	2	2	10
Washington	132	13	27	15	16	39	2	2	4	6	8
York	546	43	85	74	44	215	21	19	2	19	24

NOTE: This table is based on edited files which have been corrected for missing and erroneous information which came to light subsequent to initial data compilation. Tabulations released earlier are superseded by these data.

\*Licensed, active professionals working in Maine who responded to survey.

<sup>a</sup>Percent of knowns.

Source: Cooperative Health Manpower Resources Inventory, Bureau of Health Planning and Development, Maine Department of Human Services, October, 1981.

Table 25

REGISTERED NURSES AND LICENSED PRACTICAL NURSES  
 BY NUMBER OF NURSES PER 1,000 PATIENT DAYS  
 Maine, New England, and United States:1979

Type of Nurse/Parameter	Geographic Area		
	Maine	New England	United States

## Registered Nurses (RN)

Number (FTE)	3,435	45,081	627,215
RN/1,000 patient days	1.76	1.84	1.65

## Licensed Practical Nurses (LPN)

Number (FTE)	1,305	15,482	257,209
LPN/1,000 patient days	0.67	0.63	0.68

## All Nurses (RN and LPN)

Number (FTE)	4,740	60,563	884,424
Percent RN	72.5%	74.4%	70.9%

Source: American Hospital Association, Hospital Statistics 1980 Edition;  
 Chicago, 1980 (1979 data).

Table 26  
ACTIVE NURSES<sup>a</sup>: NUMBER AND RATIO  
TO POPULATION BY COUNTY  
Maine: 1981 (RN), 1980 (LPN)

County	1981 Population <sup>b</sup>	Registered Nurses		1980 Popu- lation <sup>c</sup>	Licensed Practical Nurses	
		Number	Ratio to Pop.		Number	Ratio to Pop.
TOTAL	1,128,300	6,377	1: 177	1,125,027	2,365	1: 476
Androscoggin	97,500	611	1: 160	99,657	205	1: 486
Aroostook	99,100	373	1: 266	91,331	251	1: 364
Cumberland	211,400	1,816	1: 116	215,789	543	1: 397
Franklin	27,000	102	1: 265	27,447	44	1: 624
Hancock	43,400	182	1: 238	41,781	79	1: 529
Kennebec	107,100	900	1: 119	109,889	292	1: 376
Knox	35,200	213	1: 165	32,941	54	1: 610
Lincoln	26,100	63	1: 414	25,691	20	1: 1,285
Oxford	48,000	187	1: 257	48,968	89	1: 550
Penobscot	141,500	870	1: 163	137,015	342	1: 401
Piscataquis	17,000	69	1: 246	17,634	28	1: 630
Sagadahoc	29,000	106	1: 274	28,795	39	1: 738
Somerset	46,500	135	1: 344	45,046	97	1: 464
Waldo	29,700	72	1: 412	28,414	24	1: 1,184
Washington	36,400	132	1: 276	34,963	47	1: 744
York	133,100	546	1: 244	139,666	211	1: 662

NOTE: This table is based on edited files which have been corrected for missing and erroneous information which came to light subsequent to initial data compilation. Tabulations released earlier are superseded by these data.

<sup>a</sup>Licensed, active professionals working in Maine who responded to survey.

<sup>b</sup>From population projections produced by the Bureau of Health Planning and Development, Maine Department of Human Services, 1980 Series.

<sup>c</sup>Bureau of the Census, U.S. Dept. of Commerce, Advance Reports, 1980 Census of Population and Housing: Maine, Final Population and Housing Unit Counts, March, 1981; Maine State Planning Office, personal communication, November, 1981.

Source: Bureau of Health Planning and Development  
Maine Department of Human Services, December, 1981.

Table 27  
ACTIVE DENTISTS<sup>a</sup> AND DENTAL HYGIENISTS<sup>a</sup>: NUMBER AND RATIO TO POPULATION BY COUNTY  
Maine: 1980 (Dentists), 1979 (Dental Hygienists)

County	1980 Population <sup>b</sup>	1980 Dentists	Ratio to Population	1979 Population <sup>c</sup>	1979 Hygienists	Ratio to Population
TOTAL	1,125,027	483	1:2,329	1,105,200	287	1: 3,851
Androscoggin	99,657	42	1:2,373	96,600	18	1: 5,367
Aroostook	91,331	27	1:3,383	98,400	11	1: 8,945
Cumberland	215,789	136	1:1,587	208,200	107	1: 1,946
Franklin	27,447	9	1:3,050	26,200	6	1: 4,367
Hancock	41,781	21	1:1,990	41,900	8	1: 5,238
Kennebec	109,889	49	1:2,243	105,100	26	1: 4,042
Knox	32,941	18	1:1,830	34,100	9	1: 3,789
Lincoln	25,691	12	1:2,141	25,100	7	1: 3,586
Oxford	48,968	16	1:3,060	47,300	9	1: 5,256
Penobscot	137,015	57	1:2,404	138,800	41	1: 3,385
Piscataquis	17,634	6	1:2,939	16,900	4	1: 4,225
Sagadahoc	28,795	11	1:2,618	28,000	4	1: 7,000
Somerset	45,046	15	1:3,003	45,500	11	1: 4,136
Waldo	28,414	7	1:4,059	28,500	1	1:28,500
Washington	34,963	10	1:3,496	35,200	2	1:17,600
York	139,666	47	1:2,972	129,300	23	1: 5,622

NOTE: This table is based on edited files which have been corrected for missing and erroneous information which came to light subsequent to initial data compilation. Tabulations released earlier are superseded by these data.

<sup>a</sup>Licensed, active professionals working in Maine who responded to survey.

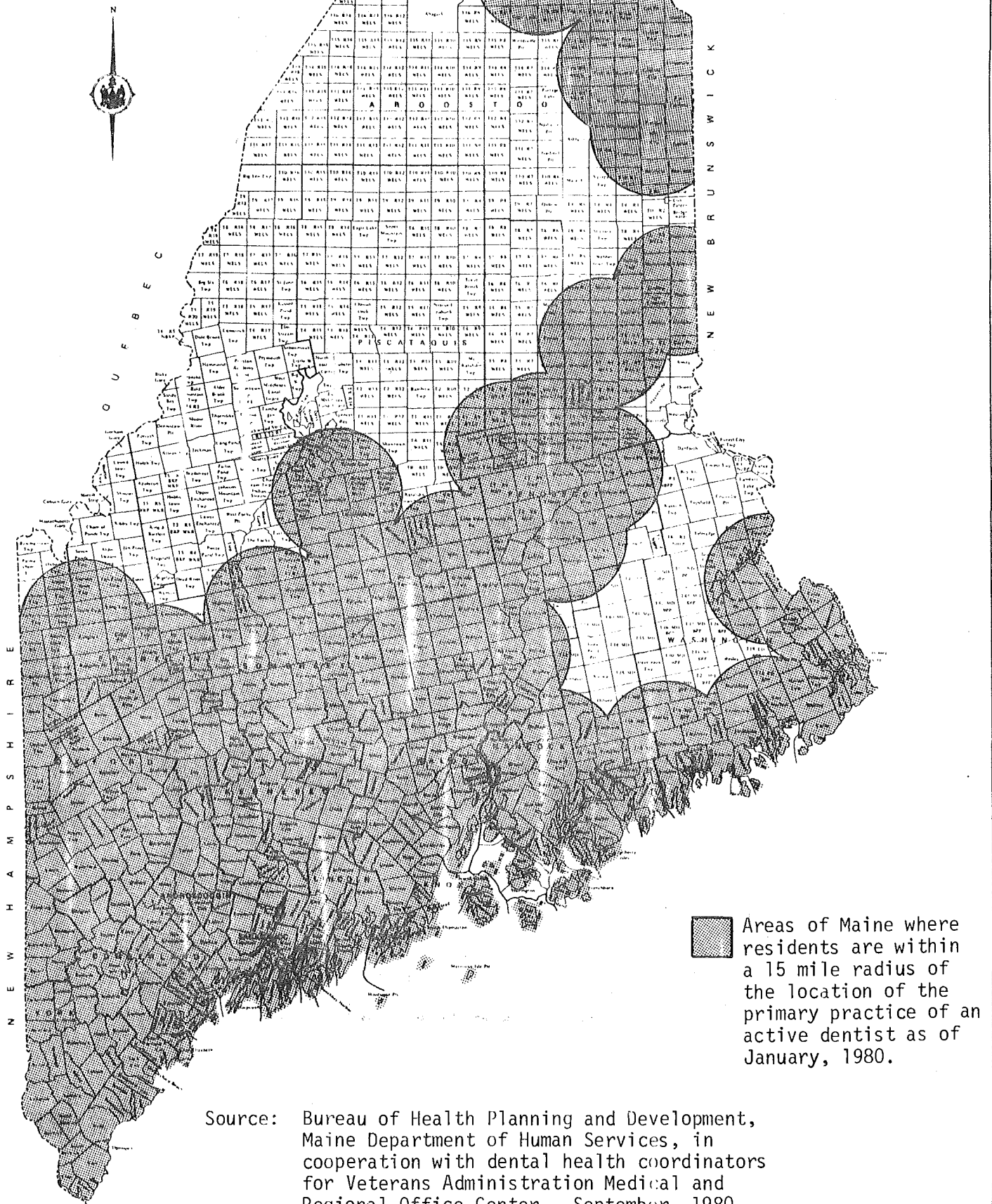
<sup>b</sup>Bureau of the Census, U.S. Department of Commerce, Advance Reports, 1980 Census of Population and Housing: Maine, Final Population and Housing Unit Counts, March, 1981; Maine State Planning Office, personal communication, November, 1981.

<sup>c</sup>From population projections produced by the Bureau of Health Planning and Development, Maine Department of Human Services, 1980 Series. Figures may not add due to rounding.

Source: Bureau of Health Planning and Development, Maine Department of Human Services, December, 1981.

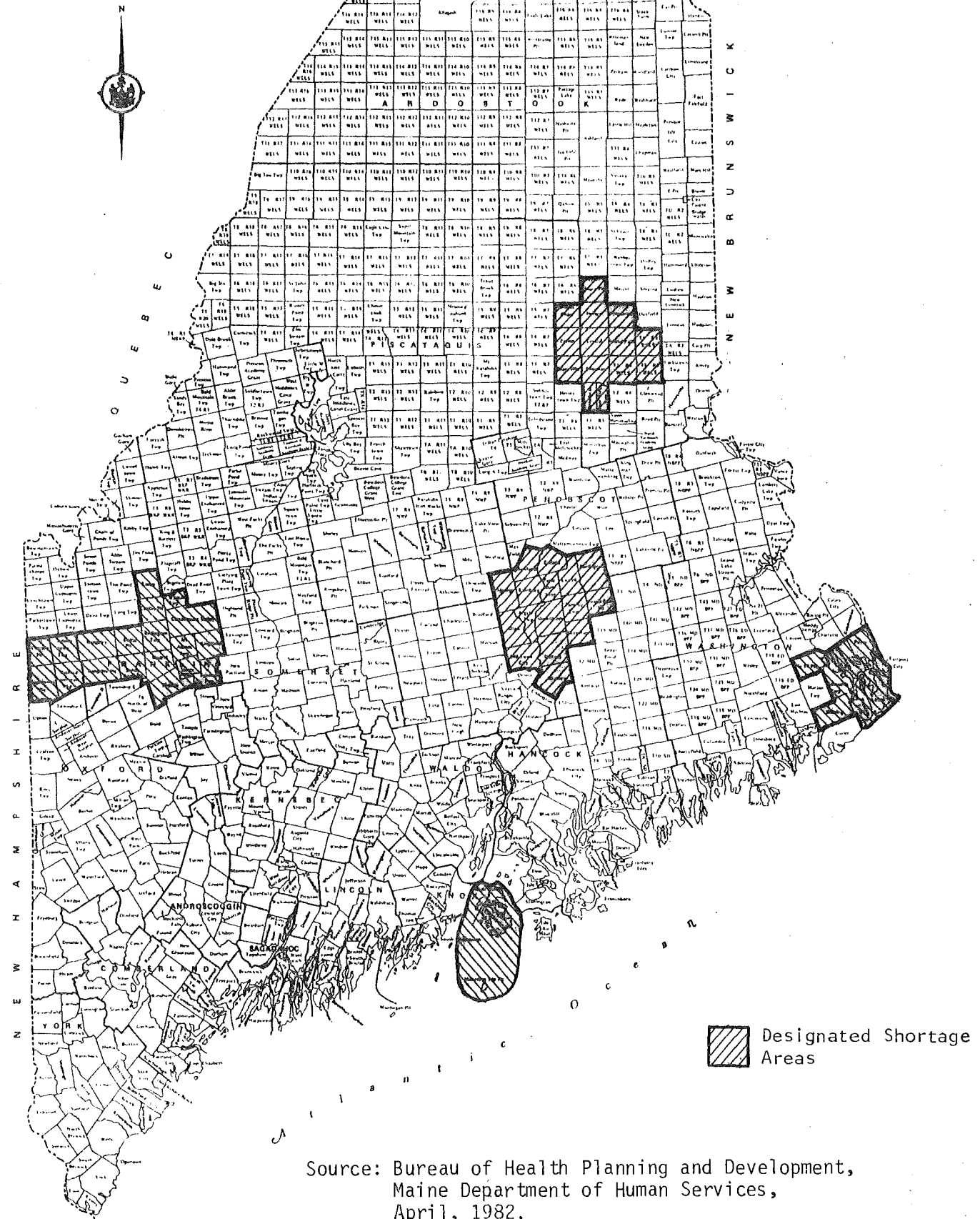
Figure 15

ACTIVE DENTISTS: PRACTICE LOCATION  
Maine, 1980



Source: Bureau of Health Planning and Development, Maine Department of Human Services, in cooperation with dental health coordinators for Veterans Administration Medical and Regional Office Center. September, 1980.

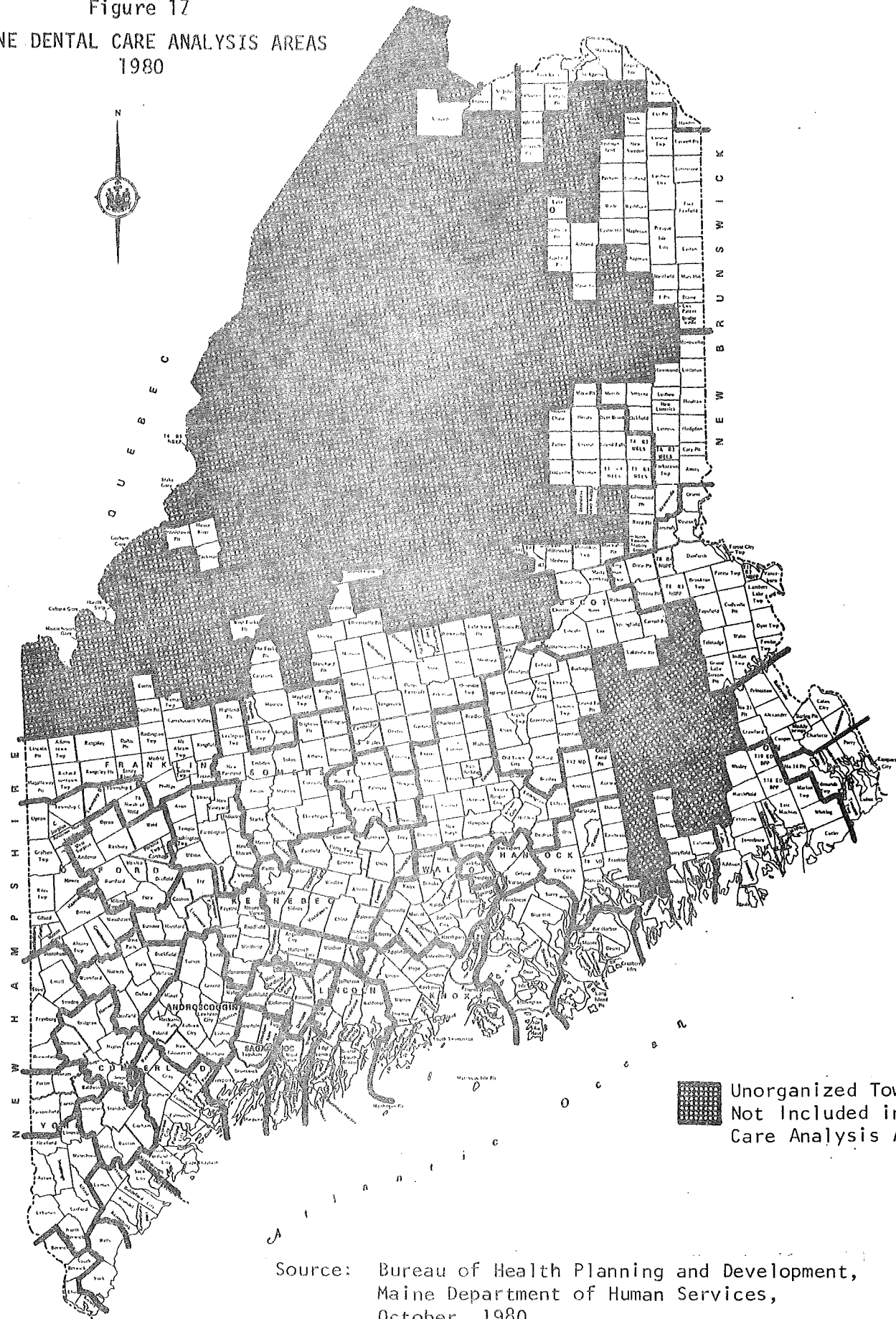
Figure 16  
 Dental Care Shortage Areas  
 Maine, 1982




Source: Bureau of Health Planning and Development,  
 Maine Department of Human Services,  
 April, 1982.

Figure 17

MAINE DENTAL CARE ANALYSIS AREAS  
1980



 Unorganized Townships  
Not Included in Dental  
Care Analysis Areas.

Source: Bureau of Health Planning and Development,  
Maine Department of Human Services,  
October, 1980.

## 2. Facilities

Maine had 46 general hospitals in 1981 containing a total of 4,525 beds. Of the 49 hospitals in 1980, nineteen were in the 51-100 bed category; only three facilities had more than 300 licensed beds (Table 28). Table 28 also indicates the number of hospitals that provided specialized obstetric, neonatal care, emergency, skilled nursing, and psychiatric services.

Kennebec, one of the more populous counties, has the highest rate of hospital beds per thousand population, while Waldo, a rural coastal county, has the lowest (Table 29). Penobscot has the highest skilled nursing bed rate, with eight counties having no beds in this category.

The geographic distribution of hospitals in Maine is displayed in Figure 18 which shows Maine hospitals located within the 42 Hospital Analysis Areas developed by the Maine Health Data Service in 1974. The hospitals plotted on Figure 18 are identified in Table 30. The numbers of acute care beds, skilled nursing beds, intermediate care beds, and boarding care beds in each hospital (licensed as of July, 1981), are displayed in Table 30.

Intermediate care is provided in 159 facilities with 8,560 beds, and boarding care in 296 facilities with 3,572 beds. Table 31 shows that Oxford County has the highest rate of intermediate care beds per 1,000 residents. Knox County has the highest rate for boarding care beds. Waldo County has the lowest rate of intermediate care beds, and Franklin and Hancock Counties have the lowest rates of boarding care beds.



Table 28

SELECTED HOSPITAL CHARACTERISTICS IN MAINE  
ACUTE CARE  
1980

Hospital Characteristics	Number of Hospitals
Acute Care Hospitals	49
Licensed Beds:	
0-30	8
31-50	11
51-100	19
101-300	8
301+	3
Obstetric Units	33
Neonatal Units:	
Neonatal Intermediate Care Units (Level II)	3
Neonatal Intensive Care Units (Level III)	1
Emergency Departments:	
Initial Care, Triage & Referral (Level I)	4
Standby Emergency Care (Level II)	19
24-hour Emergency Care (Level III)	25
Level not reported	-
None	1
Skilled Nursing Beds on Premises	9
Psychiatric Units	9

Source: Cooperative Health Facilities Resource Inventory,  
Bureau of Health Planning and Development,  
Maine Department of Human Services,  
July, 1981

Table 29  
HOSPITAL AND SKILLED NURSING FACILITIES AND BEDS<sup>a</sup> IN MAINE BY COUNTY  
July, 1981

County	Number of Hospitals	Number of Hospital Beds	Rate/1,000 Population <sup>c</sup>	Number of Facilities with SNF Beds <sup>b</sup>	Number of SNF Beds	Rate/1,000 Population
Total	46	4,525	4.0	17	430	0.4
Androscoggin	2	472	4.8	1	71	0.7
Aroostook	6	396	4.0	3	37	0.4
Cumberland	7	1,073	5.1	4	87	0.4
Franklin	1	60	2.2	-	-	-
Hancock	4	166	3.8	-	-	-
Kennebec	3	599	5.6	1	18	0.2
Knox	2	139	3.9	1	20	0.6
Lincoln	2	68	2.6	-	-	-
Oxford	2	147	3.1	-	-	-
Penobscot	6	646	4.6	3	122	0.9
Piscataquis	2	66	3.9	1	12	0.7
Sagadahoc	1	92	3.2	-	-	-
Somerset	2	128	2.8	-	-	-
Waldo	1	58	2.0	-	-	-
Washington	2	115	3.2	-	-	-
York	3	300	2.3	3	63	0.5

<sup>a</sup>Includes all facilities with these beds regardless of licensure level, except for state, federal, and college facilities.

<sup>b</sup>Facilities with several bed types (levels of care) are counted more than once in this table.

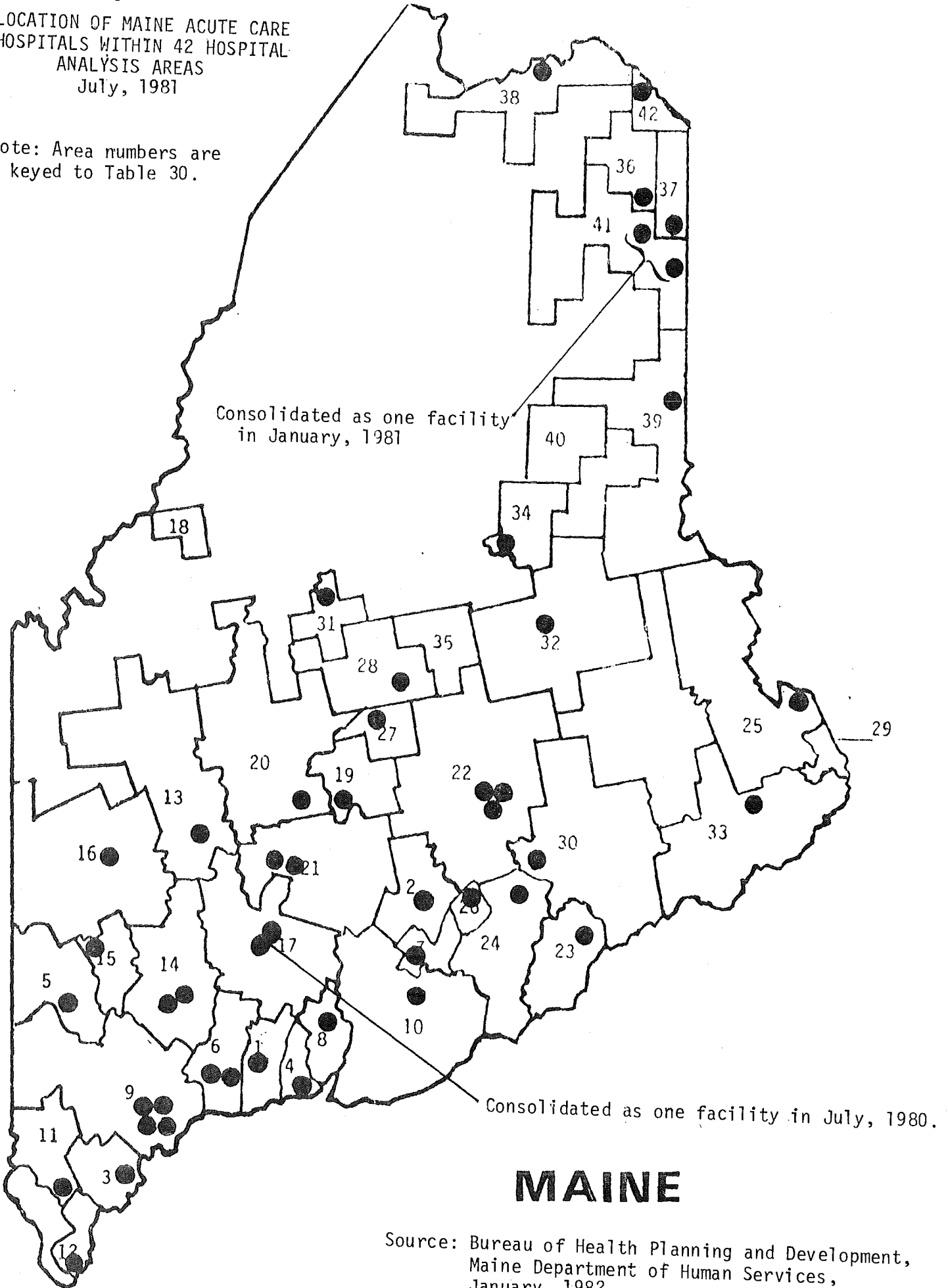
<sup>c</sup>1981 Projected Population. From population projections produced by the Bureau of Health Planning and Development, Maine Department of Human Services, 1980 Series.

Source: Division of Licensing and Certification, Maine Department of Human Services, Health Care Facilities Directory, July, 1981.

Figure 18

LOCATION OF MAINE ACUTE CARE HOSPITALS WITHIN 42 HOSPITAL ANALYSIS AREAS July, 1981

Note: Area numbers are keyed to Table 30.



Source: Bureau of Health Planning and Development, Maine Department of Human Services, January, 1982.

Table 30  
 ACUTE CARE HOSPITALS IN MAINE  
 BY HOSPITAL ANALYSIS AREA<sup>a</sup> AND  
 NUMBER OF LICENSED BEDS  
 July, 1981

Hospital	Hospital Analysis Area <sup>b</sup>		No. of Licensed Beds			
	Area Number	Area Name	Acute	SNF	ICF	BC
Aroostook Medical Center	41	Presque Isle	110	14	50	
Bath Memorial	1	Bath	92			
Blue Hill Memorial	24	Blue Hill	24			
Calais Regional	25	Calais	77			
Camden Community	7	Camden	33	20	140	
Cary Medical Center	36	Caribou	65			
Castine Community	26	Castine	12			
Central Maine Medical Center	14	Lewiston	239			
Charles A. Dean Memorial	31	Greenville	14		28	
Community General	37	Ft. Fairfield	47	12		
Down East Community	33	Machias	38			
Eastern Maine Medical Center	22	Bangor	349	15		
Franklin County Memorial	13	Farmington	60		20	
Henrietta D. Goodall	11	Sanford	82			
Houlton Regional	39	Houlton	75	11		
James A. Taylor Osteopathic	22	Bangor	60		38	
Kennebec Valley Medical Center	17	Augusta	220			
Maine Coast Memorial	30	Ellsworth	64			
Maine Medical Center	9	Portland	525			
Mayo Memorial	28	Dover-Foxcroft	52			
Mercy	9	Portland	176			
Mid Maine Medical Center	21	Waterville	301			
Miles Memorial	8	Damariscotta	36			
Millinocket Community	34	Millinocket	50			
Mount Desert Island	23	Bar Harbor	66			
Northern Cumberland	5	Bridgton	34			
Northern Maine Medical Center	38	Fort Kent	70			

Table 30 (con't.)

ACUTE CARE HOSPITALS IN MAINE  
BY HOSPITAL ANALYSIS AREA<sup>a</sup> AND  
NUMBER OF LICENSED BEDS

July, 1981

Hospital	Hospital Analysis Area <sup>b</sup>		No. of Licensed Beds			
	Area Number	Area Name	Acute	SNF	ICF	BC
Osteopathic Hospital of Maine	9	Portland	160			
Parkview Memorial	6	Brunswick	58			
Penobscot Bay Medical Center	10	Rockland	106			
Penobscot Valley	32	Lincoln	44			
Plummer Memorial	27	Dexter	13			
Redington-Fairview General	20	Skowhegan	92			
Regional Memorial	6	Brunswick	90	8		
Rumford Community	16	Rumford	97			
Sebasticook Valley	19	Pittsfield	36			
St. Andrews	4	Boothbay Hbr.	32			
St. Mary's General	14	Lewiston	233			
St. Joseph's	22	Bangor	130			
Stephens Memorial	15	Norway	50			
Van Buren Community	42	Van Buren	29			
Waldo County	2	Belfast	58			
Waterville Osteopathic	21	Waterville	78			
Webber Hospital	3	Biddeford	150			
Westbrook Community	9	Portland	30			
York Hospital	12	York	68	18		

<sup>a</sup>Hospital analysis areas as developed by the Maine Health Data Service, 1974.

<sup>b</sup>See map of analysis areas (Figure 18).

Source: Analysis Areas - Maine Health Data Service, 1974.

Licensed Beds - Division of Licensing and Certification,  
Maine Department of Human Services,  
Health Care Facilities Directory, July, 1981.

Table 31  
 INTERMEDIATE AND BOARDING CARE FACILITIES AND BEDS<sup>a</sup> IN MAINE BY COUNTY  
 July, 1981

County	Number of Facilities with ICF Beds <sup>b</sup>	Number of ICF Beds	Rate/1,000 Population <sup>c</sup>	Number of Facilities with BC beds	Number of BC beds	Rate/1,000 Population <sup>c</sup>
Total	159	8,560	7.6	296	3,572	3.2
Androscoggin	16	1,081	11.1	27	247	2.5
Aroostook	14	705	7.1	25	318	3.2
Cumberland	25	1,484	7.0	35	552	2.6
Franklin	5	139	5.1	3	22	0.8
Hancock	6	423	9.7	2	11	0.3
Kennebec	15	934	8.7	47	603	5.6
Knox	4	277	7.9	30	311	8.8
Lincoln	2	124	4.8	8	81	3.1
Oxford	8	546	11.4	13	139	2.9
Penobscot	17	754	5.3	18	345	2.4
Piscataquis	2	94	5.5	3	75	4.4
Sagadahoc	5	203	7.0	10	78	2.7
Somerset	13	522	11.2	31	259	5.6
Waldo	1	60	2.0	18	142	4.8
Washington	8	361	9.9	5	81	2.2
York	18	853	6.4	21	308	2.3

<sup>a</sup>Includes all facilities with these beds regardless of licensure level, except for state, federal, and college facilities.

<sup>b</sup>Facilities with several bed types (levels of care) are counted more than once in this table.

<sup>c</sup>1981 Projected Population. From population projections produced by the Bureau of Health Planning and Development, Maine Department of Human Services, 1980 Series.

Sources: Division of Licensing and Certification, Maine Department of Human Services, Health Care Facilities Directory, July, 1981.

Division of Licensing and Certification, Maine Department of Human Services, Maine Licensed Boarding Homes Directory, July, 1981.

The occupancy percentages in Maine health facilities are displayed in Table 32. The table shows that the hospitals with greater numbers of beds also have higher occupancy rates. Maine's intermediate and boarding care facilities have very high occupancy rates.

The state also has more than 30 ambulatory care centers which provide medical and other types of primary care. The centers are not-for-profit, often free-standing facilities and they serve approximately half of Maine's towns and cities. Many of these centers have been established since 1970.

Approximately 18,000 persons are cared for each year at Maine's two mental health institutes and 30,000 persons are served at the eight community mental health centers. The locations of these and other facilities are shown in Figure 19. About 4,000 people are admitted to inpatient psychiatric services for treatment of acute disturbances. Table 33 shows admissions and discharge data for the institutes and community mental health centers. Utilization figures for Community Based Psychiatric Units are shown in Table 33A.

Of those admitted to the institutes, approximately half have had prior admissions to the same institution; and somewhat fewer than half of those readmitted had been released within the prior six months. Aftercare programs have been set up to help maintain former psychiatric patients in the community, with a caseload of approximately 2,950 clients.<sup>32</sup>

Figure 20 depicts Maine's substance abuse facilities which, in 1981, provided residential, shelter and detoxification services to approximately 4,600 people with alcohol-related problems (Table 36). In addition, halfway house, outpatient, and extended care were provided to approximately 4,800 people who abuse alcohol and other drugs as well (Table 36). Tables 34 and 35 show substance abuse outpatient and residential treatment facilities by region.

Table 32  
 PERCENT OCCUPANCY IN HEALTH FACILITIES IN MAINE\*  
 Hospitals and Other Facilities  
 1980

Facility Type/ Bed Size Group	Percent Occupancy
Hospitals	82.0
0-30	51.8
31-50 <sup>a</sup>	56.9
51-100	61.3
101-300	74.8
300+	88.8
Skilled Nursing Care	76.4
Intermediate Care	98.4
Boarding Care <sup>d</sup>	91.0

\*Facilities open as of December 31, 1980.

<sup>a</sup>Excludes 1 facility with unknown inpatient days.

<sup>b</sup>Excludes 2 facilities with unknown inpatient days.

<sup>c</sup>Excludes 30 facilities with unknown inpatient days.

<sup>d</sup>Excludes 106 facilities with unknown inpatient days.

Source: Cooperative Health Facilities Resource Inventory,  
 Bureau of Health Planning and Development,  
 Maine Department of Human Services, September, 1981.



Figure 19

Community Mental Health Centers,  
Children Services Programs, and  
Corrections Programs

Maine, 1981



Table 33

ADMISSIONS AND DISCHARGES  
COMMUNITY MENTAL HEALTH CENTERS AND MENTAL HEALTH INSTITUTES  
Maine, FY81

Community Mental Health Centers FY81						
Area	CMHC	Counties Served	Beginning Population 7/1/80	Admissions <sup>a</sup>	Discharges	Ending Population 6/30/81
<b>Total</b>			12,070	14,346	12,977	13,439
I	Aroostook Mental Health Center	Aroostook	920	1,526	1,379	1,067
II	The Counseling Center	Penobscot Piscataquis Hancock Washington	1,808	1,903	2,074	1,637
III	Kennebec Valley Mental Health Ctr.	Kennebec Somerset	2,151	3,406	2,023	3,534
IV	Tri-County Mental Health Services	Androscoggin Oxford Franklin	2,953	2,616	2,672	2,897
V	Area V Board	Cumberland	1,369	1,450	1,689	1,130
VI	York City Counseling Services	York	1,720	1,295	1,172	1,843
VII	Bath-Brunswick Mental Health Assn.	Lincoln Sagadahoc	532	1,156	1,005	683
VIII	Mid-Coast Mental Health Center	Knox Waldo	617	994	963	648
Mental Health Institutes FY81						
Facility			Beginning Population 7/1/80	Additional Clients	Discontinued Clients	Ending Population 6/30/81
<b>Total</b>			757	1,552	1,514	795
Augusta Mental Health Institute			397	934	891	440
Bangor Mental Health Institute			360	618	623	355

<sup>a</sup>Includes readmissions.

Source: Maine Department of Mental Health and Mental Retardation, personal communication, January, 1982.



Table 33A

Selected Utilization Figures for  
Community Based Psychiatric Units in Maine  
1981

Hospital Name	Beds Set up and Staffed	# Discharges	# Patient Days	% Occupancy	Av. Length of Stay	Average Daily Census
Webber Hospital	12	422	3,953	90.25	9.37	10.83
Maine Medical Ctr.	26	877	8,906	93.85	10.16	24.40
St. Mary's General	21	600	5,403	70.48	9.01	14.80
Regional Memorial	11	322	2,370	59.00	7.36	6.49
Kennebec Valley Medical Center	11	244	3,229	80.45	13.23	8.95
Aroostook Med. Ctr.	10	279	1,815	49.59	6.50	4.96
Mid-Maine Med. Ctr.	24	417	8,130	92.79	19.50	22.27
Penob. Bay Med. Ctr.	6	130	1,440	65.83	11.08	3.95
Veterans Administra- tion Facility at Togus	211	1,263	66,819	86.52	52.90	182.87

Source: Maine Health Facilities Resources and Utilization, 1981, Bureau of Health Planning and Development, Maine Department of Human Services.



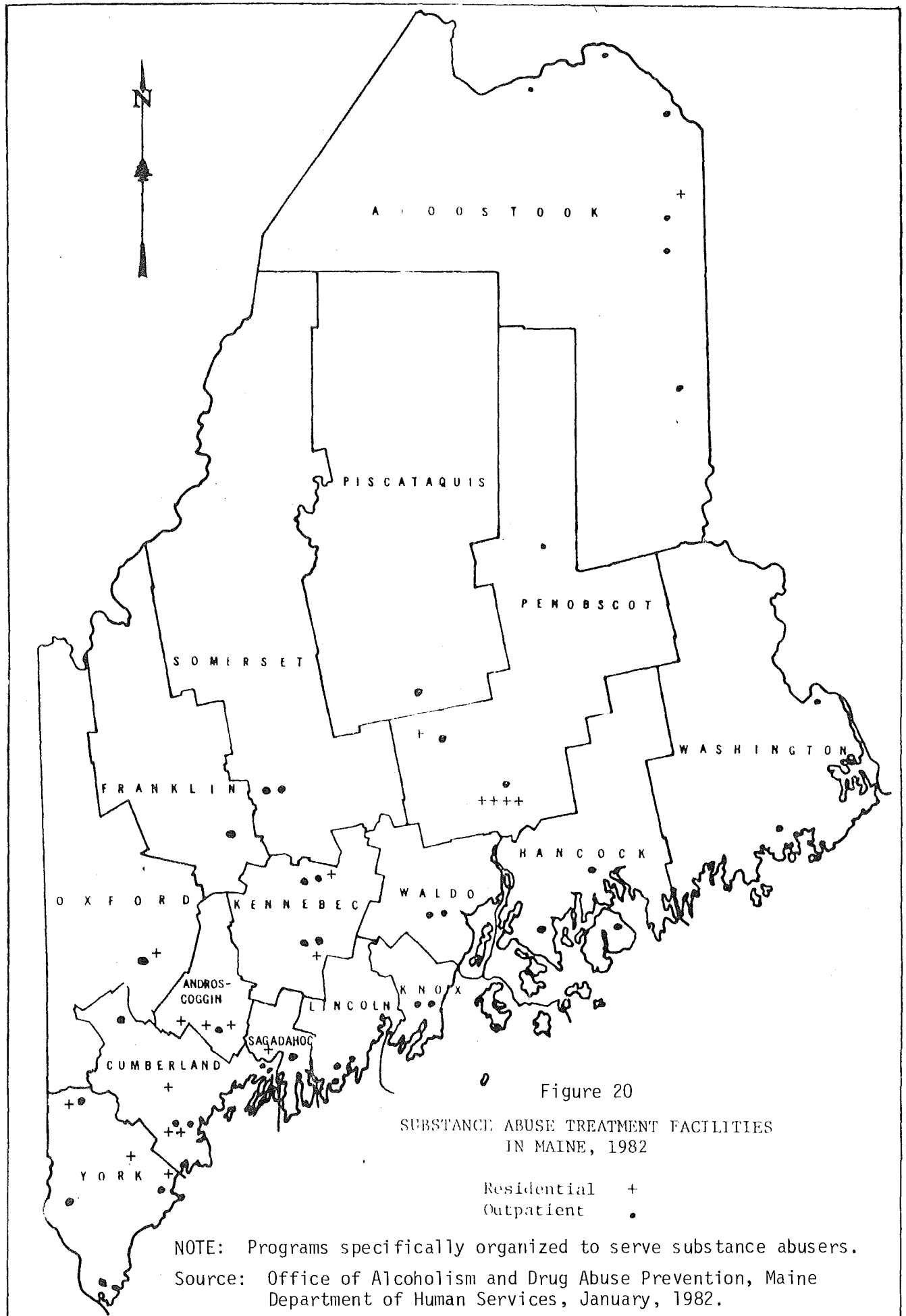


Figure 20

SUBSTANCE ABUSE TREATMENT FACILITIES  
IN MAINE, 1982

Residential +  
Outpatient •

NOTE: Programs specifically organized to serve substance abusers.

Source: Office of Alcoholism and Drug Abuse Prevention, Maine Department of Human Services, January, 1982.

Table 34

SUBSTANCE ABUSE RESIDENTIAL TREATMENT FACILITIES  
BY SERVICE AND REGION, 1981

	REGION I	REGION II	REGION III	REGION IV	REGION V
SERVICE	York, Cumberland, Knox Sagadahoc, Lincoln, Waldo	Androscoggin, Franklin, Oxford	Kennebec, Somerset	Penobscot, Piscataquis, Hancock, Washington	Aroostook
Shelter	TWENTY FOUR HOUR CLUB- Portland	FELLOWSHIP HOUSE- Lewiston		HOPE HOUSE- Bangor	
Detox.	TWENTY FOUR HOUR CLUB- Portland CROSSROADS- So. Windham	FELLOWSHIP HOUSE- Lewiston		HOPE HOUSE- Bangor PLUMMER MEMORIAL HOSP. - Dexter	
-87- Residential Rehab.	CROSSROADS- So. Windham DAY ONE- Bar Mills MERRYMEETING HOUSE - Bowdoinham	ST. MARY'S HOSPITAL - Lewiston ELAN III, V, VII, VIII - Poland Springs ELAN IV- Waterford	KENNEBEC VALLEY COMP. ALCOHOLISM TREATMENT PROG. - Waterville VET. ADMIN. ALCOHOL TREAT- MENT UNIT- Togus	ALCOHOL INSTITUTE, EMMC - Bangor HOPE HOUSE - Bangor	AROOSTOOK MENTAL HEALTH SERVICES RESIDENTIAL TREATMENT - Limestone
Halfway Houses	SERENITY HOUSE - Portland			BANGOR HALFWAY HOUSE (Men) BANGOR HALFWAY HOUSE (Women) - Bangor	
Extended Care	MILESTONE FOUNDATION- Old Orchard Beach				

NOTE: Programs specifically organized to serve substance abusers.

Source: Office of Alcoholism and Drug Abuse Prevention,  
Maine Department of Human Services, January, 1982.

Table 35  
 SUBSTANCE ABUSE OUTPATIENT TREATMENT FACILITIES  
 BY REGION, 1981

REGION I	REGION II	REGION III	REGION IV	REGION V
York, Cumberland, Knox Sagadahoc, Lincoln, Waldo	Androscoggin, Oxford, Franklin	Kennebec, Somerset	Penobscot, Piscataquis, Hancock, Washington	Aroostook
COMMUNITY ALCOHOLISM SERVICES- Portland - Rockland - Belfast  DAY ONE- Portland  BATH-BRUNSWICK MENTAL HEALTH- Brunswick - Bath - Boothbay Harbor - Damariscotta  FULL CIRCLE- Brunswick  WESTERN MAINE COUNSELING SERVICE- Bridgton  SKYWARD- Rockland - Damariscotta - Belfast  YORK COUNTY COUNSELING SERVICES- Kezar Falls - Saco - Sanford - York	TRI-COUNTY MENTAL HEALTH SERVICES - Lewiston - Farmington - Norway - Rumford	CRISIS AND COUNSELING- -Waterville -Augusta  NEW DIRECTIONS - Waterville - Augusta - Madison  KENNEBEC VALLEY COMP. ALCOHOLISM TREATMENT PROG. - Madison	ALCOHOL INSTITUTE, EMMC - Bangor  PLUMMER MEMORIAL HOSP. - Dexter  MILLINOCKET COMMUNITY HOSPITAL- Millinocket  MAYO REGIONAL HOSPITAL - Dover-Foxcroft  MID-COAST MEMORIAL HOSP. - Ellsworth  BLUE HILL MEMORIAL HOSP. - Blue Hill  MOUNT DESERT ISLAND HOSPITAL- Bar Harbor  CALAIS REGIONAL HOSPITAL - Calais  DOWNEAST HOSPITAL - Machias	AROOSTOOK MENTAL HEALTH SERVICES - Caribou - Fort Kent - Houlton - Madawaska - Presque Isle - Van Buren

NOTE: Programs specifically organized to serve substance abusers.

Source: Office of Alcoholism and Drug Abuse Prevention,  
 Maine Department of Human Services, January, 1982.



Table 36  
 CLIENTS ADMITTED TO SUBSTANCE ABUSE FACILITIES  
 Maine, 1981

Service	Number of Clients
TOTAL	9,368
Shelter	1,940
Detoxification	1,085
Residential Rehabilitation	1,545
Halfway Houses	212
Outpatient	4,543
Extended Care	43

Note: These figures reflect only those agencies which report to OADAP. Therefore, persons receiving services at community mental health centers, general hospitals and other agencies which do not report to OADAP are not included. The numbers are derived from clients admitted in the first three quarters of 1981 projected through the fourth quarter.

Source: Office of Alcoholism and Drug Abuse Prevention,  
 Maine Department of Human Services, December, 1981.

## G. Health Expenditures

One measure of resources utilized in the delivery of health care is the amount of dollars expended for services within this system. Increasing expenditures for health care have raised concern about the allocation of our resources to various sectors of the health economy, as well as the ability of people to pay for and obtain needed health services.

As part of an ongoing project to accumulate and study information on health care expenditures, the Bureau of Health Planning and Development has developed a "funds flow analysis". The analysis provides information on the total investment for health care in Maine, the services that are being bought and the sources of payment for these services.<sup>33</sup>

Figure 21 shows the estimated distribution of personal health expenditures in Maine for 1978 by services bought (i.e., by type of expenditure). Of the total expenditures of \$778 million, hospitals accounted for \$326 million or 41.9%, followed by Physicians at 131 million, or 16.9%.

Figure 22 displays the estimated distribution in 1978 of the sources of funds for health expenditures. The federal government was the largest funding source at 32.4%, followed by consumer and other (30.6%) and private insurance (24.7%).

Table 37 displays estimated per capita health expenditures for four major categories. Per capita hospital expenditures were \$330.50 in 1979 and have increased at an average rate of 13.7% per year. Physician expenditures per capita have increased at an annual average rate of 12.8% and were \$130.59 in 1979. Expenditures for nursing home care have experienced the greatest average increase per year at 17.1%.

Figure 21  
 HEALTH EXPENDITURES, BY TYPE OF EXPENDITURE  
 Maine, 1978  
 (Percentage Distribution)

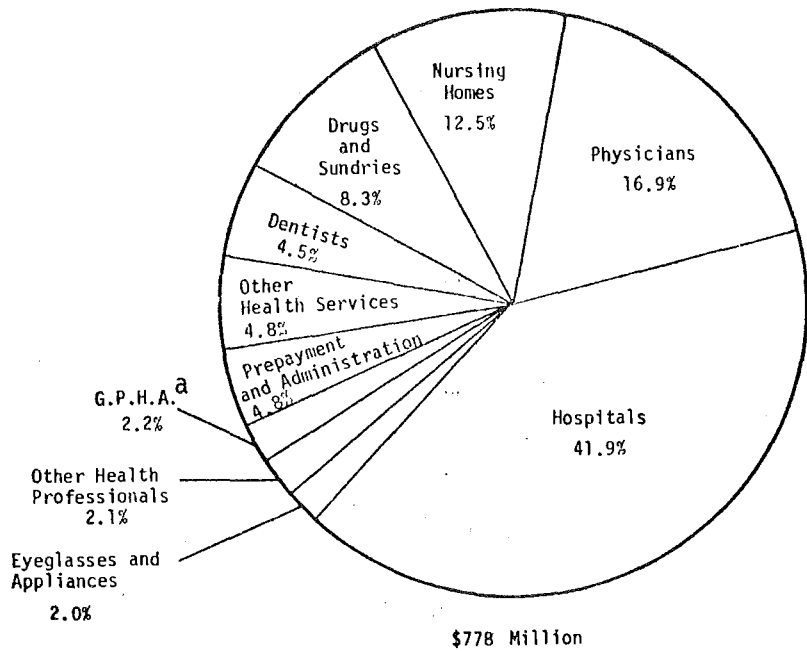
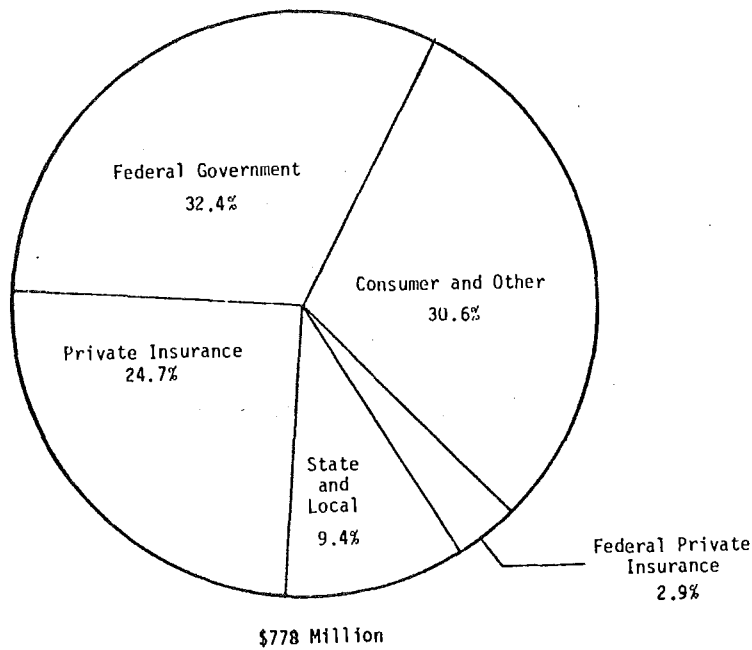


Figure 22  
 HEALTH EXPENDITURES, BY SOURCE OF FUNDS  
 Maine, 1978  
 (Percentage Distribution)



<sup>a</sup>Government Public Health Activities.

Source: Armstrong, B., Health Care Expenditures, Maine 1978  
 Augusta: Maine Department of Human Services, August, 1981.

Table 37

ESTIMATED PER CAPITA HEALTH EXPENDITURES FOR HOSPITALS,  
PHYSICIANS, NURSING HOMES AND DRUGS AND SUNDRIES  
Maine, 1974-1979

Year	Hospitals <sup>a</sup>		Physicians <sup>b</sup>		Nursing Homes		Drugs and Sundries	
	\$ Per Cap.	% Increase	\$ Per Cap.	% Increase	\$ Per Cap.	% Increase	\$ Per Cap.	% Increase
1974	173.84	--	71.85	--	41.36	--	41.76	--
1975	202.64	16.6	87.06	21.6	49.85	20.5	44.96	7.7
1976	237.32	17.1	96.17	10.5	59.55	19.5	46.95	4.4
1977	267.33	12.6	108.44	12.8	71.68	20.4	50.24	7.0
1978 <sup>c</sup>	296.52	10.9	120.24	10.9	80.86	12.8	54.12	7.7
1979 <sup>d</sup>	330.50	11.5	130.59	8.6	90.77	12.3	58.01	7.2

Note: This is a revised version of the preliminary estimates for 1974-1979 as given in a similar table in the preceding issue of this document.

<sup>a</sup>Estimates include hospital based physicians.

<sup>b</sup>Estimates exclude hospital based physicians.

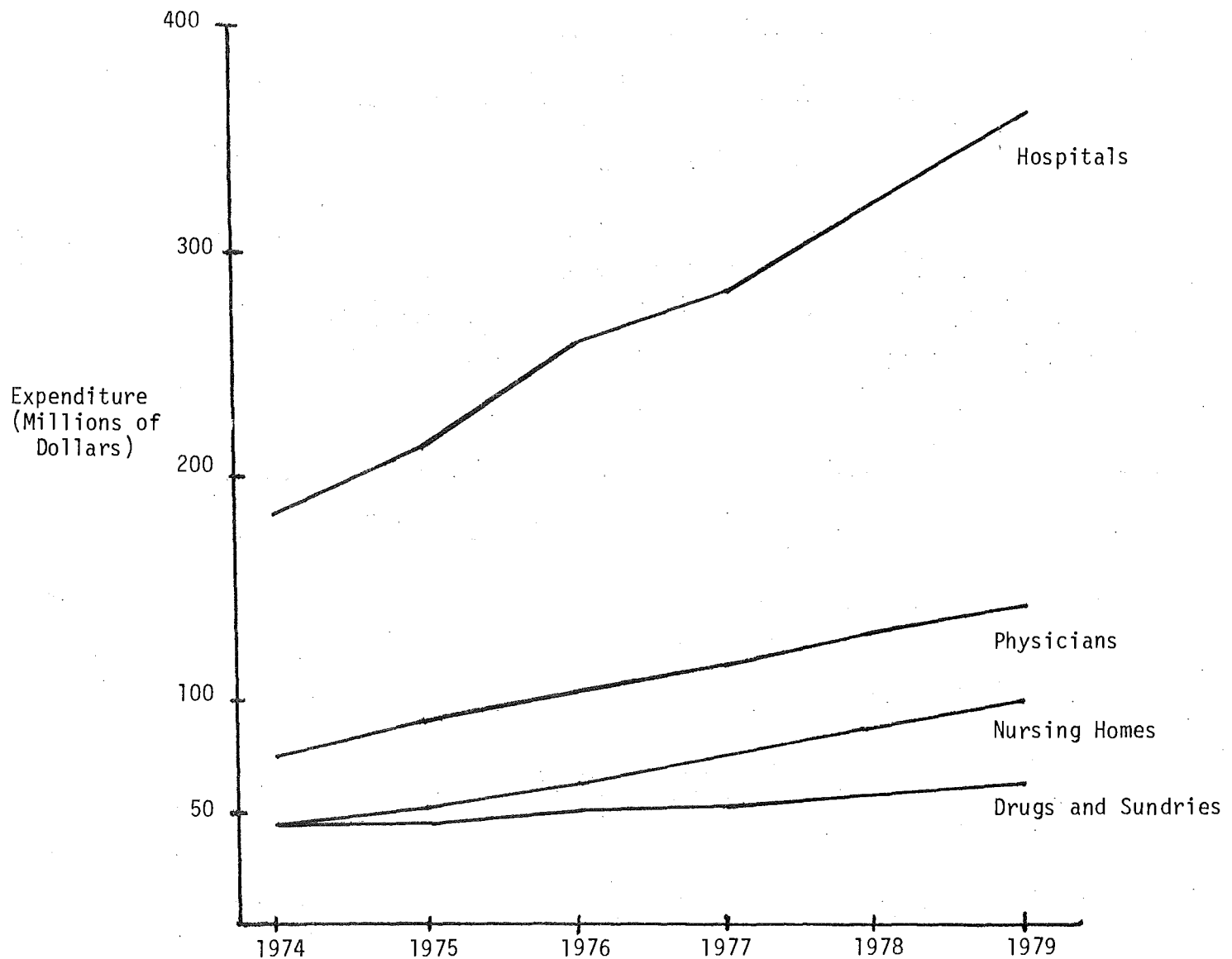
<sup>c</sup>Preliminary Estimates.

<sup>d</sup>Projections.

Source: Armstrong, B., Health Care Expenditures, 1974-79.  
Augusta; Maine Department of Human Services,  
December, 1980.

Figure 23

SELECTED HEALTH EXPENDITURES  
Maine, 1974-1979



Source: Armstrong, B., Health Care Expenditures, Maine 1974-79, Augusta: Maine Department of Human Services, December, 1980.

Figure 23 displays selected health expenditures in Maine. Expenditures for community hospital services amounted to \$365.2 million in 1979 and have experienced an average annual increase of almost 15% since 1974. Physician expenditures were \$144.3 million in 1979 and have averaged a 14% increase per year since 1974. Expenditures for nursing home care have increased at an average annual rate of 18% and amounted to 100.3 million in 1979.

Table 38 shows third party insurance coverage through public programs in Maine for 1980. These two programs protect nearly one-quarter of all Maine residents. These public insurance programs provide more uniform types of coverages, but the cost to the individual may vary due to income limitations and deductibles.

Table 39 displays third party private insurance coverage in Maine and the United States for persons under age sixty-five. These estimates represent persons with some form of coverage within the four basic categories. Both the premium cost and the extent of coverage may vary for each individual depending on the type of policies held.

Data for Maine's Medicaid Program are presented in Figure 24. Almost three-quarters of the eligibles have been qualified on the basis of the federally assisted welfare programs of "Aid to Families With Dependent Children" (AFDC) and "Supplementary Security Income" (SSI).

Since 1974, Medicaid expenditures have increased at an average annual rate of 18%. Medicaid Program recipients received \$135.2 million in benefit payments in FY 1980. Of this, nearly one half (\$63.1 million) was for nursing home care. Inpatient hospital benefits accounted for the second largest amount at \$31.0 million or 23%.

Table 38  
PUBLIC INSURANCE PROGRAM COVERAGE  
Maine, 1980

Program	People Enrolled or Eligible	% of Population
Medicaid	109,611	9.8%
Medicare - Part A	156,926	14.1%
Part B	155,244	13.9%

Source: Office of Statistics and Data Management,  
Health Care Financing Administration,  
July, 1981.

Table 39  
PRIVATE INSURANCE COVERAGE  
FOR PERSONS UNDER AGE 65  
Maine, 1979

Expense	Maine		U.S.
	People Protected	% Population	% Population <sup>a</sup>
Hospital	749,000	77.3%	85.9%
Surgical	725,000	74.8%	83.0%
Physician	709,000	73.2%	78.4%
Major Medical*	283,000	29.2%	52.6%

\*Note: Major Medical expense coverage does not include  
Blue Cross and Blue Shield.

<sup>a</sup>These are revised figures and supersede all data previously  
published.

Source: Health Insurance Institute, Source Book of Health Insurance.  
1980-1981 Edition.

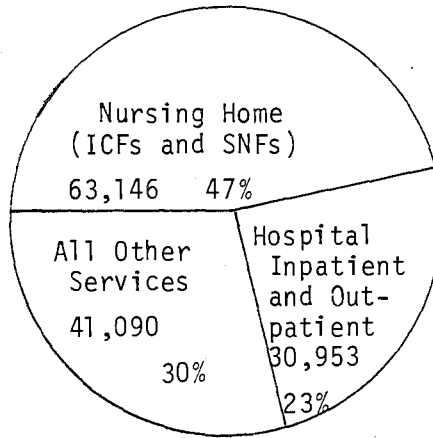
Figure 24

MAINE MEDICAID PROGRAM  
June 1978 - July 1980

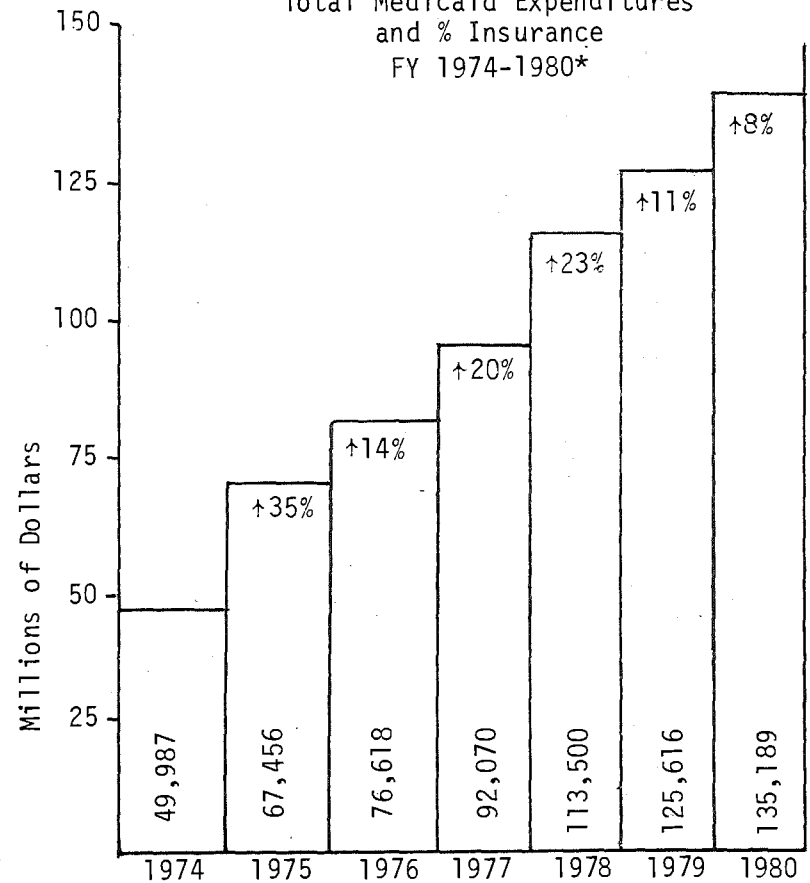
Medicaid Eligibles  
by Category  
FY 1980

Aid to Families with Dependent Children (AFDC)	58,388	53%
Supplemental Social Security Income (SSI)	21,847	20%
Medically Needy	19,970	18%
All Other	9,406	9%

Medicaid Expenditures by  
Type of Service FY 1980  
(in \$1,000's of dollars)



Total Medicaid Expenditures  
and % Insurance  
FY 1974-1980\*



\*These are revised figures and supersede all data previously published.

Source: Bureau of Health Planning and Development,  
Maine Department of Human Services,  
February, 1982.



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(See note on next page)

III. State Policy Analysis	<u>Page</u>
Introduction -----	101
A. Inventory of Existing State and Federal Health Policies and Programs -----	107
1. Department of Human Services -----	107
2. Department of Mental Health and Corrections -----	142
3. Other State Policies/Programs -----	145
B. Review of Emergent Policies and Programs -----	158
1. Department of Human Services -----	158
2. Department of Mental Health and Corrections -----	167
3. Other State Policies/Programs -----	168
C. Goals and Objectives (Refer to Chapter IV, Section A, p. 190.)	
1. Department of Human Services	
2. Department of Mental Health and Corrections	
3. Other State Policies/Programs	
D. Forecast of Demand or Need -----	168
1. Department of Human Services -----	168
2. Department of Mental Health and Corrections -----	173
3. Other State Policies/Programs -----	173
E. Cost Impact Analysis/Expenditures -----	176
1. Department of Human Services -----	176
2. Department of Mental Health and Corrections -----	183
3. Other State Policies/Programs -----	184

#### NOTE

The reader should be aware that several of the State agencies responsible for delivering or regulating health services have been reorganized since this section was written in 1980. Consequently, the information contained in Chapter III should be considered only as a general guide to programs. For more current information, the reader should contact the specific agency or the Bureau of Health Planning and Development.

## Introduction

This section of the State Health Plan for Maine is written in part to satisfy the requirement of the federal guidelines which calls for a "State Policy Analysis." According to the guidelines,

State level policy analysis should contain (1) an inventory of existing state and federal health policies and programs, (2) a review of planned, proposed, or emergent policies and programs, (3) an articulation of goals and objectives reflected in the plans of other health and health related programs, (4) an analysis of state-wide forecasts of demand and need for health services and their supportive resources; (5) a cost impact analysis of current and proposed policies, health care financing methods, regulatory activities, and programs in the health field, on the performance of the health delivery system, and health status.

In addition, the guidelines state that the examination performed by the SHPDA of state and federal programs operating in the state "should include a review and analysis of population coverage, expenditures, utilization, goals and objectives of these state and federal programs."

Accordingly, the following sections of this chapter of the State Health Plan will employ a format which addresses each of the subjects mentioned above.

Thus, Section A (p.107) below corresponds to (1) above - an inventory of policies and programs. Section A includes: a description of each program, including the pertinent legislation and regulations; the health problems addressed by each program; the population in need of each program's services and the number of people being served by each program; and a description of the services rendered by each program.



Section B (p.158) corresponds to (2) in the federal guidelines quoted above -- a review of planned or emergent policies identified for each of the programs described in Section A.

Section C (p.168) corresponds to (3) in the federal guidelines quoted above. This section references Chapter IV, Section A (p.190) which contains the goals and objectives for the programs described in Section A.

Section D (p.168) corresponds to (4) in the federal guidelines quoted above -- an analysis of state-wide forecasts of demand and need for the services of the programs described in Section A. Often, these have already been described in Section A and, if so, Section A is duly referenced.

Section E (p.176) below corresponds to (5) in the federal guidelines quoted above -- a cost impact analysis of the programs described in Section A. Due to the difficulty of conducting such an analysis, it is frequently not possible to link program activities to indicators of system performance and health status. However, at a minimum, the expenditures for the programs have been identified.

The programs identified in the following sections are primarily located within the Department of Human Services. The Department is the principal agency of State government in Maine for developing, implementing or administering State and federal health programs and policies. It is the department charged with conducting the public health activities of the State. It is also the department which administers the Medicaid program and other elements of the Social Security Act. It conducts the health regulatory activities of the State.

The remaining programs are located within the Maine Department of Mental Health and Corrections, the entity of State government responsible for mental health programs. The Department is charged with developing a system of services to promote mental health, prevent mental illness, and provide effective treatment and rehabilitation services.

Policy directions underlying the programs described in Sections A through E were, in many cases, initiated by the administration of the former Governor of Maine. Health policy has become a major priority of the current Governor, Joseph Brennan and his administration. Governor Brennan assumed office in January, 1979, and subsequently appointed Michael Petit to the position of Commissioner of the Department of Human Services. Since becoming Commissioner, Mr. Petit has established several priority health policy directions for the new administration. These are reflected in policy statements and speeches that Mr. Petit has made in the last eighteen months.

Mr. Petit delivered what he termed his "inaugural health address as the new Commissioner of the Department" on May 23, 1979. Mr. Petit stated that "the major goal of this administration will be the development and implementation" of "a positive health strategy, one which emphasizes the promotion of health and the prevention of disease as an equal partner to the development of more sophisticated ways to diagnose and treat our afflictions." Among the initiatives identified by Mr. Petit was the development of a state-wide Governor's Task Force on Maternal and Child Health "to examine the problems of adolescent pregnancy and the other problems associated with prenatal care and the health care of young children. Our goal will be to develop a comprehensive state-wide system of maternal and child health services available to all who need and want them."

In addition, Mr. Petit convened "a Governor's Task Force on Long Term Care to examine the health and social needs of adults unable to function independently. Its primary purpose is to help shape the State's future actions for aiding, at a cost we can afford, those persons, most elderly, who are temporarily or permanently unable to assume total responsibility for their own health care." The administration will "actively pursue" the development of alternatives to institutional long term care.

Further, Mr. Petit stated that the administration would "develop and promote

a state-wide health education effort," both in school health education programs and programs to assist people with chronic diseases such as diabetes and hypertension.

Mr. Petit stated that the development of needed primary care services was also important, especially in areas where they presently do not exist.

Finally, Mr. Petit said that "development of a comprehensive State health plan which identifies not only the primary care services we want to be available to all Maine people, but also the hospital and long term care services we need" is an important step "toward development of an improved health care system."

In remarks prepared for the Maine Health Care Association on September 19, 1979, Mr. Petit defined the role of the nursing home in the care of the elderly and the disabled. "We must move to establish a better balance between home based and community based services and institutional care." He went on to add that "the nursing home must become one part... of a system of social and health services," including congregate housing, personal care services, homemaker and home health services, day care and boarding care facilities.

Turning his attention to cost containment in a September 22, 1979 address, Mr. Petit urged that "we commit ourselves to restraining increases in the costs of health care services." He described the State's Health Information Disclosure Act and the creation of the Voluntary Budget Review Organization of Maine emphasizing that "it is now possible for Maine's hospitals to join together in an attempt to voluntarily limit the rate of increases in their charges and expenses to reasonable levels."

Mr. Petit went on to state that he views the regulation of new investment in the health care system through the Maine Certificate of Need Program as critically important. The Department would review proposals carefully and approve only those proven to be absolutely necessary. "We may well decide that other proposals, including some which may be desirable, must be set aside."

In a speech to the Maine Dietetic Association on November 8, 1979, Mr. Petit announced that a new Risk Reduction Program would "expand the Department of Human Service's ability to meet its broad mandate of prioritizing, preserving and promoting the public's health through influencing personal lifestyles in Maine." The Risk Reduction Program assesses personal behavior which is detrimental to good health and attempts to modify such behavior (smoking, drug and alcohol abuse, overeating, etc.) through health education.

While addressing the Portland Journal Club on January 16, 1980, Mr. Petit described the Department's major thrust as "working to promote and implement in Maine many of the basic goals contained in the Department of Health, Education and Welfare's recent major paper on preventing disease and promoting health." He indicated that this involves "individuals assuming greater personal responsibility for their health."

Mr. Petit went on to announce that an Environmental Health Hazard bill had been prepared for the Legislature. He pointed out that "no single State agency is charged with or equipped to detect, evaluate and respond to environmental factors posing a threat to our health" and proposed the establishment of an environmental health unit within the Department of Human Services.

Mr. Petit also discussed with the Portland Journal Club the Department's plans to assume a larger role in the federally funded diabetes and hypertension control projects and in the Emergency Medical Services Project. And, finally, he referred to the need to improve the management of the Department's health programs and services.

These are the administration's priorities for the health care of the people of Maine. The Governor's Task Forces on Long Term Care and Maternal and Child Health were convened in September 1979. Their recommendations were delivered to the Governor in September 1980. The administration is currently reviewing these

recommendations to establish priorities for legislation and/or implementation.

With respect to the Department's environmental health initiatives, the administration's Environmental Health Hazards bill was not passed in the last legislative session. This bill will be resubmitted for legislative consideration in January, 1981.

The development of the State Health Plan has been another important vehicle for pursuing many of this administration's policies and priorities for the State's health care system. These policies are gradually being reflected in plans for the programs described in the following sections of this "State Policy Analysis."

A. Inventory of Existing State and Federal Health Policies and Programs

1. Department of Human Services

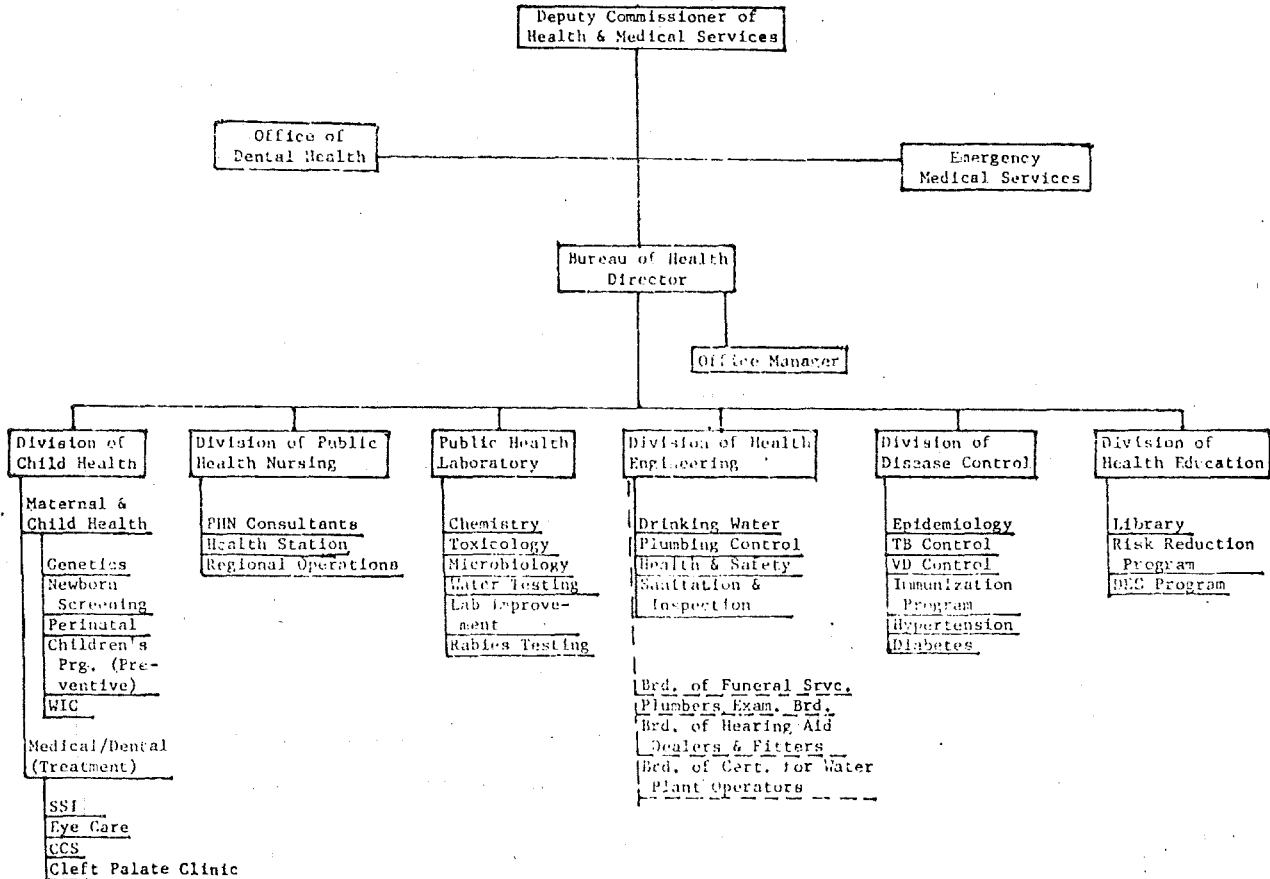
a. Bureau of Health

(1) Description

Departmental

As indicated in the following Organization Chart the Bureau of Health is one of three Bureaus in the Office of the Deputy Commissioner for Health and Medical Services of the Department of Human Services (the other two: Bureau of Medical Services and Bureau of Health Planning and Development).

Figure 1



The Deputy Commissioner also manages the Offices of Dental Health and Emergency Medical Services and, in cooperation with Medical Care Development, Inc., the Hypertension and Diabetes Control Projects. Ongoing

relationships between the Bureau of Health and the other entities in the Office of Health and Medical Services are indicated by broken lines in the Chart. The internal management of the Bureau of Health is the responsibility of the Director, who also functions as State Health Officer, representing Maine's public health interests with the federal government.

#### Functional

Of the five Divisions in the Bureau of Health, three programmatic Divisions (Child Health, Disease Control and Health Engineering) are responsible for program planning, management and evaluation. The other two Divisions (Public Health Laboratory and Public Health Nursing) provide support services to, and on behalf of, the Programs managed by the programmatic Divisions. The Programs of the Bureau of Health are also supported by the activities of the State Epidemiologist and the Health Educator.

In addition to the services provided by its staff directly to the people of Maine, the Bureau of Health awards a number of grants and contracts to community health agencies and other organizations for the provision of public health services, or for the performance of education and research tasks considered vital to the accomplishment of the Bureau's objectives.

#### Pertinent Federal and State Laws, Regulations and Guidelines

Although the Bureau of Health is established by State Statute, its internal structure and functions are subject to definition by the Commissioner of Human Services. A substantial number of state and federal laws, regulations, and guidelines relate to the operation of programs encompassed by the Bureau, and are listed in the nineteen

Program and Project Plans prepared for the development of the State Plan for Public Health.\*

(2) Current Status

The following charts (pp. 110-115) describe the Bureau of Health Programs according to the following key inter-related dimensions:

1. public health problems addressed;
2. population served (estimated);
3. services rendered;
4. expenditures (estimated);
5. principal sources of funds.

Special projects sponsored by the Divisions are described in terms of purpose, expenditures and sources of funds. The supporting Divisions, Public Health Laboratory and Public Health Nursing, are described in terms of their activities in support of Programs.

(Expenditures incurred by these Divisions on behalf of the Programs have been included in the Programs' expenditure estimates.) The information in the charts reflects the status of the Divisions and Programs in State Fiscal Year 1980.

b. Bureau of Medical Services

(1) Maine Medicaid Program

(a) Description

Departmental

The Maine Medicaid Program is administered through the Bureau of Medical Services, Department of Human Services.

Functional

Medicaid is designed to pay the medical expenses of those categories of people who are eligible to receive cash payments under one of the existing welfare programs. Established under

\*The nineteen Five-year Program and Project Plans are available at the Bureau of Health Library, 157 Capitol Street, Augusta, Maine.



Table 1

## Bureau of Health Program Information by Divisions (FY 1980.)

## Division of Child Health Programs

Programs	Public Health Problems Addressed	Population Served (estimated)	Services Rendered	Expenditures (estimated)	Principal Sources of Funds (%)
Children's	Vision Impairments Hearing Impairments Anemia Overweight Underweight Other	Children ages 0 - 20 throughout the State with pre-schoolers in the majority  children served: 39,000	Health Screening Counseling Health Education Laboratory Diagnosis Treatment Provision of Drugs Transportation School Nursing	\$ 2,552,000	Fed. Title XIX (EPSDT) - 53%  Fed. Title V - 31%  State - 13%  Other - 3%
Genetic Diseases -011-	Inborn Errors of Metabolism Neural Tube Defects Retinitis Pigmentosa Other	Families or individuals at risk of producing offspring with Genetic Dis.; newborn infants with inborn errors of metabolism  persons served: 22,000	Genetic counseling Health education & training Laboratory Diagnostic Family History	\$ 384,000	Fed. Title V - 63% Fed. Other - 23% Fees - 10% State - 3% Other - 1%
Medical/Dental	Chronic handicapping conditions of children Visual Impairments Dental Conditions Other	Children with chronic handicapping conditions Persons (all ages) with visual impairments  persons served (eye care): 6,000 children served (all handicaps): 3,500	Counseling Health Education Laboratory Diagnosis Surgical Treatment Radiology Transportation Dental	\$ 1,357,000	State - 49%  Fed. Title V - 39%  Other - 12%
Perinatal	Birth defects Birth injuries Low birth weight Respiratory Distress Syndrome Toxemia Other	Pregnant women throughout the State  Women served: 1,320	Health screening Counseling Health education Laboratory Diagnosis Treatment Provision of Drugs Transportation Family planning	\$ 405,000	Fed. Title V - 84%  State - 14%  Other - 2%

Source: Maine State Plan for Public Health, Department of Human Services, Office of Health and Medical Services, Bureau of Health, October 1980.



Table 3

## Bureau of Health Program Information by Divisions (FY 1980)

## Division of Disease Control

Programs	Public Health Problems Addressed	Population Served (estimated)	Services Rendered	Expenditures (Estimated)	Principal Source of Funds (%)
Immunization	Diphtheria Measles Mumps Pertussis Polio Rubella Tetanus	Children to age 14 years who are not immunized by private physicians  277,000 children served:	Immunization Epidemiology Recruitment Disease surveillance Case investigation Provider education Disease Control	\$ 567,000	State - 41% Fed. Title V - 13% Fed. CDC Grant - 44% Other - 2%
Tuberculosis Control	Tuberculosis	Persons with active Tuberculosis, suspects, contacts of cases & suspects, and Tuberculin reactors  persons served: 19,900	Epidemiology Health screening Health education Laboratory Diagnostic Treatment Provision of Drugs Radiology	\$ 281,000	State - 67% Fed. 314-d - 23% Other - 10%
-112- Venereal Disease Control	Gonorrhea Non-gonococcal Urethritis Early Syphilis Other	Persons with, or exposed to, venereal disease. Women age 15-35 (gonorrhea screening)  persons served: 60,000	Epidemiology Health screening Counseling Health education Laboratory Diagnostic Provision of drugs	\$ 184,000	Fed. 314-d - 37% Fed. CDC Grant - 46% State - 16% Other - 1%
Other Division Responsibilities	Public Health Problems Addressed	Activities		Expenditures (Approximate)	Principal Source of Funds (%)
General Epidemiology	Communicable diseases other than the above for which a potential for epidemics exists	Disease surveillance, case investigation, provider education, disease control, laboratory services		\$ 17,000	Fed. 314-d. -100% State - 0 Fees - 0 Other - 0
Infectious Disease Activity (P.H. Lab.)	Communicable diseases other than the above.	Bacteriology, virology, serology, parasitology, mycology-screening, diagnosis & test of cure for private sector		\$ 224,000	State - 27% Other - 26% Federal - 47%

Total Estimated Division Expenditures: \$ 1,273,000

Principal Sources of Funds:

State	- 40%
Fed. 314d	- 12%
CDC Grants	- 26%
Fees	- 6%
Fed. Other	- 16%

Source: Maine State Plan for Public Health, Department of Human Services,  
Office of Health and Medical Services, Bureau of Health, October 1980.

Table 4

## Bureau of Health Program Information by Division (FY1980)

## Division of Health Engineering

Programs	Health Hazards Addressed	Targets for Activities	Activities Conducted	Expenditures (estimated)	Principal Sources of Funds (%)
Community Environmental Health	Bacteria, Fungi, parasites Natural chemicals Non-ionizing radiation	Food & lodging provided by recreational industry School lunch programs vending machines, boys & girls camps Scuba compressors, dwellings with lead-based paint General sanitation	Plan & facility review Promulgation/laws & rules Enforcement Licensing & training Laboratory Investigation Public Info. & educ. Planning	\$ 326,000	Fees - 85% State - 10% Other - 4% Fed. 314d - 1%
Drinking Water	Bacteria, giardia lamblia Natural, complex chemicals Pesticides, chloride & fluoride comp. Ionizing radiation Chlorine gas Multiple water pollution	Community & non-community drinking water supplies (regulation) Water-treatment-plant operations (training, examination/certification)	Plan & facility review Promulgation/laws & rules Enforcement Licensing & training Laboratory Investigation Public info. & educ. Planning	\$ 505,000	Fees - 28% EPA - 55% State - 15% Other - 2%
Radiological/Occupational Health	Viruses, bacteria, fungi, parasites Allergens, natural & complex chemicals Pesticides Accidental injury, noise, light, thermal Ionizing and non-ionizing radiation	X-ray equipment, medical radio-isotopes, industrial use of ionizing radiation, atomic reactor monitoring Industrial health & safety (on-site consultation)	Plan & facility review Enforcement Licensing & training Laboratory Investigation Planning	\$ 250,000	Fed. 314-d - 32% Fed. Other - 22% State - 31% Fees - 15%
Waste Water	Viruses, bacteria, parasites Natural & complex chemicals Pesticides & herbicides Phosphate, nitrates and hydrocarbon Water & land pollution	Municipal plumbing control (technical assistance & record keeping) All municipal plumbing inspectors & sub-surface wastewater disposal system designers (exam./cert./licensure)	Plan & facility review Promulgation/laws & rules Enforcement Licensing & training Investigation Public info. & educ.	\$ 244,000	Fees - 53% State - 34% 314-d - 8% Other - 5%

Source: Maine State Plan for Public Health, Department of Human Services, Office of Health and Medical Services, Bureau of Health, October 1980.

Total Estimated Division Expenditures: \$1,325,000

Principal Sources of Funds: Fees - 4%  
State -

Table 5

## Division of Public Health Laboratory

Programs Supported	Support Activities	Expenditures on Behalf of Programs*	% of Total Division Expenditures
Children's	Screening and diagnosis; erythrotoporphrine; lead analysis.	\$ 29,000	4%
Community Environmental Health	Bacteriological, chemical and parasitological testing.	\$ 29,000	4%
Drinking Water	Bacteriological & chemical testing; testing for trihalo methanes, herbicides & pesticides; certification of water-testing labs under Fed. Act.	\$ 162,000	24%
General Epidemiology	Bacteriology, virology, serology, parasitology, mycology-screening, diagnosis & test of cure.	\$ 224,000	35%
Genetic Diseases	Tests for PKU, maple sugar urine disease, homocystinuria, galactosemia, hypothyroidism.	\$ 48,000	7%
Immunization	Rubella screening & immunization tests; distribution of biologicals for all immunizable diseases.	\$ 14,000	2%
Radiological/Occupational Health	Wiscasset reactor environment testing (food, seaweed, milk, etc.); wipe testing; tests for organic solvents and atmospheric gases & dusts.	\$ 49,000	7%
Tuberculosis Control	Sputum smear for A.P.B.; sputum culture for TB and other mycobacteria; sensitivity testing/six chemotherapeutic agents.	\$ 54,000	8%
Venereal Disease Control	Gonorrhea screening, diagnosis & test of cure; syphilis screening, diagnosis & test of cure	\$ 57,000	9%
<u>Total Division Expenditures on behalf of Programs*</u>		\$ 666,000	

\* These estimated expenditures of the Division of Public Health Laboratory on behalf of Programs have been included in the Program expenditure estimates which appear in the preceding charts.

Source: Maine State Plan for Public Health, Department of Human Services, Office of Health and Medical Services, Bureau of Health, October 1980.

Table 6

FY 1980

Bureau of Health Support ActivitiesDivision of Public Health Nursing

Programs Supported	Support Activities	Expenditures on * Behalf of Programs	% of Total Division Expenditures on Be- half of Programs
Children's	Assessment, referral, follow-up & counseling; clinics; services management & standards; consultation; case registries; health education; staff development.	(estimated) \$ 452,000	35%
Genetic Diseases	Assessment, referral, follow-up & counseling; services management & standards; consultation; staff development.	\$ 13,000	1%
Hypertension	Assessment, referral, follow-up & counseling; services management & standards; consultation; health education; staff development.	\$ 142,000	11%
Immunization	Assessment, referral, follow-up & counseling; clinics; services management & standards; consultation; health education; staff development.	\$ 310,000	24%
Medical/Dental	Assessment, referral, follow-up & counseling; clinics; services management & standards; consultation; case registries; health education.	\$ 116,000	9%
Perinatal	Assessment, referral, follow-up & counseling; services management & standards; consultation; case registries; health education; staff development.	\$ 77,000	6%
Tuberculosis Control	Clinics; testing of school employees; patient & family management; services management & standards; consultation; case registries; health education; staff development.	\$ 116,000	9%
Epidemiology	Disease investigations and/or surveys; routine or required disease reporting; other-records, screening	\$ 65,000	5%

Total Division Expenditures on Behalf of Programs\*

\$1,291,000

\* These estimated expenditures of the Division of Public Health Nursing on behalf of Programs have been included in the Program expenditure estimates which appear in the preceding charts.

Source: Maine State Plan for Public Health, Department of Human Services, Office of Health and Medical Services, Bureau of Health, October 1980.

the Social Security Act, these programs include Title IV, the program of Aid to Families with Dependent Children (AFDC), and Title XVI, the Supplemental Security Income (SSI) program for the aged, blind and disabled. In general, receipt of a welfare payment under one of these programs means automatic eligibility for Medicaid. States may also provide Medicaid benefits to the "medically needy" who meet all requirements for the AFDC or SSI programs except the income criterion. These people generally have enough money to meet their daily living expenses (and so are not welfare recipients), but family income is insufficient to meet medical expenses.

The Medicaid Program is administered through a vendor payment mechanism. This means that payments are made directly to the provider of service (e.g. physician, hospital, dentist) for care rendered to an eligible individual. Providers must accept the Medicaid reimbursement amount, determined through a fee schedule, as payment in full.

#### Pertinent Federal and State Laws, Regulations and Guidelines

- Title XIX of the Social Security Act, Public Law 89-97 provided for a program of medical assistance (Medicaid) for low-income individuals and families.
- The State of Maine, through 22 MRSA, §3272, recognized that many people would still be in financial need after a more restrictive federal SSI program replaced the State administered Aid to Aged, Blind, and Disabled Program on January 1, 1974. State funds were appropriated to administer an "optional settlement" to augment the income of this group, mostly residents of boarding homes.

This group was also provided with Medicaid coverage on the theory that an income too inadequate to meet basic needs would certainly not meet medical expenses.

- The Catastrophic Illness Program (22 MRSA §3185) which was implemented on July 1, 1974, actually encompasses two programs: the Medically Needy Program and the Catastrophic Illness Program. The Medically Needy Program provides for an expansion of the Medicaid Program to include borderline AFDC, SSI and Optional State Supplement eligibles. The Medically Needy Program is approximately 70% federally funded. It is intended to provide medical care for families who were thought to have enough income to meet their basic needs, but unable to handle medical expenses. The Medically Needy Program is essentially an expansion of the Medicaid Program to provide coverage for slightly higher income people. Approximately thirty (30) states in the country have a similar program for the Medically Needy.

The Catastrophic Illness Program is designed to help moderate to high income people with large medical bills which are beyond the financial capability of the individual or family. The CI Program is not a Medicaid program and is totally State financed through an increased cigarette tax.

(b) Health Problems Addressed

The Medical Assistance and Medically Needy Programs under Medicaid provide reimbursement to physicians, hospitals, nursing homes and other health care providers for certain types of



medical services rendered to those who are financially or otherwise eligible for assistance. In general, the Medicaid program provides access to a broad range of health and medical services for people with many health and medical needs or problems. However, certain types of health problems for certain populations (e.g., hearing loss in elderly) are not covered under Medicaid because of state discretion in determining which "optional" services it will provide.

(c) Population Served

Medicaid eligibility is linked to the federally assisted welfare programs of "Aid to Families with Dependent Children" (AFDC) and "Supplemental Security Income" (SSI) which provides financial assistance for the aged, blind and disabled. Approximately 10% of Maine's population, or about 108,000 people, are currently eligible under the Medicaid Program.

Aid to Families with Dependent Children (AFDC) provides a cash payment to a parent or other person caring for one or more eligible children. The eligible child, usually up to age 18, has been deprived of a parent through absence, illness, or incapacity. Families receiving AFDC payments are automatically eligible for Medicaid benefits.

The Supplemental Security Income (SSI) Program provides additional income for some persons who are 65 and over, legally blind, physically disabled, or retarded. In order to receive payments under this Program, the applicant's Social Security payments must be determined inadequate to meet his financial needs. Persons receiving SSI are eligible for Medicaid.

The federal government requires that some groups or categories of people must be covered under the State Medicaid Program. Children under the AFDC Program, for example, are guaranteed coverage under Medicaid. This guarantee is mandated by federal law. On the other hand, certain groups of people may be declared eligible to receive services at the discretion of the State. These groups of people are referred to as optional categories.

States exercise a great deal of control over eligibility for Medicaid as they generally determine the income criterion for AFDC and the State supplements to persons under SSI - together the majority of medical assistance recipients. It is important to point out, however, that Medicaid does not pay for medical assistance for all of Maine's poor. Income is only one test of eligibility. Resources are also tested. Most importantly, a person must belong to one of the groups designated for welfare eligibility in order to be covered.

(d) Services Rendered

Medicaid is the largest program within the Maine Department of Human Services and generates more than \$85 million a year in federal monies for services. Federal Medicaid regulations require that certain basic services must be offered in any State Medicaid Program. These include inpatient and outpatient hospital services, laboratory and X-ray services, skilled nursing facility (SNF) services for individuals 21 years and older, home health care services, physician services, family planning services, rural health clinic services and early and periodic screening, diagnosis and treatment (EPSDT) services for individuals under the age of 21 years.

In addition, states may choose to pay for a number of other optional services including drugs, eyeglasses, private duty nursing, intermediate care facility (nursing home) services, inpatient psychiatric care for the aged and persons under 21 years, physical therapy, dental care, and others.

(2) Catastrophic Illness Program

(a) Description

Departmental

Maine's Catastrophic Illness (CI) Program, although not a Medicaid program (as no federal funds are used) is administered through the Bureau of Medical Services, Department of Human Services.

Functional

The Catastrophic Illness Program functions with a purpose similar to Medicaid, that is, to pay for medical services that are beyond the financial capacity of a particular individual or family. The CI Program, which was implemented July 1, 1974, is designed to help moderate to high income people with medical bills.

(b) Health Problems Addressed

Provides payment under certain circumstances for medical services that are beyond the financial capacity of a particular individual.

(c) Population Served

In January of 1980 there were 655 persons receiving benefits under the Catastrophic Illness Program. This is about two times the number covered in July of 1977, two and one-half years earlier. Expenditures for this Program increased from \$1,418,000 in FY 1978 to \$1,821,000 in FY 1979, or by about 28%.

A person remains eligible for Catastrophic Illness benefits for a period of one year. Benefits may also be retroactive for a period of one year. A person may reapply for benefits beyond one year.

(d) Services Rendered

No services are rendered. The Program is designed to provide payment for medical debt beyond the capacity of an individual or family to pay.

c. Bureau of Rehabilitation

(1) Office of Alcoholism and Drug Abuse Prevention

(a) Description

Departmental

Alcohol and Drug Abuse Services Programs are developed and administered by the Office of Alcoholism and Drug Abuse Prevention, one of several offices under the Bureau of Rehabilitation, Department of Human Services.

Functional

As a planning agency, OADAP delivers only a limited number of direct services to substance abusers. OADAP employs three counselors. One provides services for State employees through the State's Employment Assistance Program, one provides court counseling services, and one, general counseling. The Driver Education and Evaluation Program (DEEP) section of OADAP provides DEEP instruction and evaluation courses to persons convicted of Operating Under the Influence. Although approximately 3,500 persons take these courses, the majority are served by agencies or individuals operating under contract to DEEP. Services are provided to employers seeking to establish occupational prog-

rams by the Occupational Program Consultant. Materials and presentations are provided to organizations and schools conducting prevention and education activities. Technical assistance is provided to persons or agencies initiating involuntary commitment proceedings for alcoholism. The bulk of OADAP's activities involve setting policy, planning for services, and monitoring the performance of agencies funded to provide those services.

#### Pertinent Federal and State Laws, Regulations and Guidelines

- In 1970, Congress enacted Public Law 91-616. This law established the federal alcohol formula grant program of allotments to the states, and the alcoholism prevention and treatment grants and contracts program. States participating in the formula grant program must submit a state plan for alcoholism services. This plan must designate a single state agency with the sole responsibility for administering the plan. The plan must also designate a state advisory council to consult with the single state agency on the plan.

- In 1972, Congress enacted Public Law 93-255 establishing a Federal Special Action Office for Drug Abuse Prevention. This Act also created the formula grant program of allotments to the states for drug abuse prevention and treatment activities. In order to receive formula grant money, a state must submit a state plan. The plan must designate a single state agency for administering the plan.

- The Office of Alcoholism and Drug Abuse Prevention was created in 1973 by combining the existing Division of Alcoholism Services and the Governor's Council on Drug Abuse. Under MRSA §7101 et. seq., OADAP is empowered to establish Maine's overall planning policy, objectives and priorities for all alcohol and drug abuse functions except prevention of drug traffic. OADAP is the designated agency for both the alcohol and the drug abuse services state plans.

(b) Health Problems Addressed

There are numerous health problems associated with substance abuse. At one level are the possible underlying psychological, emotional, or physiological difficulties which predispose individuals to substance abuse. A separate level of problems involves the actual acute toxic effects of substances on the body and psyche of the abusers. The most dramatic of these is the life-threatening overdose. Related to this are the acute behavioral consequences of these effects.

Yet another level of problems is that of the long-term consequences of continual excessive substance use. Long-term use of alcohol can lead to damage to the liver, brain, and digestive system. Long-term use of amphetamines can lead to excitability, malnutrition, psychosis and skin disorders.

In addition to the physical and psychological effects of the substance on the abuser, substance abuse is implicated in a wide range of social, economic, legal, and other problems, both for the abuser and for others in society.

(c) Population Served

The Alcoholism and Drug Abuse Program, through its central office and affiliated regional offices, serves an estimated 94,000 substance

abusers state-wide. Characteristics of persons entering Alcoholism Treatment Programs in 1978 are described in the following table:

Table 7  
CHARACTERISTICS OF PERSONS ENTERING ALCOHOLISM  
TREATMENT PROGRAMS IN MAINE (1978)\*

<u>Sex</u>	<u>%</u>	<u>Occupation</u>	<u>%</u>
Male	79.9	Professional	6.6
Female	20.1	Sales & Clerical	6.1
		Craftsman	27.4
		Laborer	19.5
		Service Worker	11.3
		Student	1.1
		Homemaker	4.6
		None	23.4
<u>Marital Status</u>	<u>%</u>	<u>Ethnicity</u>	<u>%</u>
Married	34.6	White	96.7
Divorced	38.5	Indian	2.8
Widowed/Never Married	26.9	Black	.3
		Other/Unknown	.2
Mean annual household income	\$6,321	Mean years heavy/frequent drinking	13.3
% Employed in labor force	78.6	Mean ounces of alcohol consumed/day	6.6
% With prior alcoholism treatment	47.1		

\*Includes shelter. Excludes family members of person with primary alcohol problem. Based on a virtually unduplicated count of 2,654 individuals, representing over 5,000 admissions.

Source: Maine State Plan for Alcohol and Drug Abuse Services for FY 1979/80, Office of Alcoholism and Drug Abuse Prevention, Maine Department of Human Services

(d) Services Rendered

Services rendered within the substance abuse treatment system are centralized assessment, extended care, halfway house, inpatient care, outpatient care, outreach, residential rehabilitation, and shelter.

d. Bureau of Health Planning and Development

(1) Certificate of Need Program

(a) Description

The Maine Department of Human Services assigned administrative responsibility for the Certificate of Need Program to the Bureau of Health Planning and Development.

A certificate of need from the Department of Human Services is required for:

Any new health service proposed to be offered or developed within the State. "New health service" shall include only the following:

- The construction, development or other establishment of a new health care facility;
- Any expenditure by or on behalf of a health care facility in excess of \$150,000 which, under generally accepted accounting principles consistently applied, is a capital expenditure. When a person makes an acquisition by or on behalf of a health care facility under lease or comparable arrangement or through donation, which would have required review if the acquisition had been by purchase, the acquisition shall be deemed a capital expenditure subject to review;
- Any change in the existing bed complement of a health care facility which:
  - Increases or decreases the licensed bed capacity of the health care facility by more than 10% or more than 5 beds, whichever is less;
  - Increases or decreases the number of beds licensed by the department to provide a particular level of care by more than 10% of that number or more than 5 beds, whichever is less; or
  - Relocates more than 10% of the health care facility's licensed beds or more than 5 beds, whichever is less, from one physical plant to another; and
- Health services which are offered in or through a health care facility or health maintenance organization and which were not offered on a regular basis in or through the health care facility within the 12-month period prior to the time the services would be offered; and

Predevelopment activities. Any expenditure of \$150,000 or more for predevelopment activities proposed to be undertaken in preparation for any project which would itself require a certificate of need.

No person shall enter into any commitment for financing a project which requires a certificate of need or incur an obligation for the project without having sought and received a certificate of need, except that this prohibition shall not apply to commitments



for financing conditioned upon the receipt of a certificate of need or to obligations for predevelopment activities of less than \$150,000.

#### Pertinent Federal and State Laws and Regulations

- P.L. 93-641 (the National Health Planning and Resources Development Act of 1974) calls for each state to establish a certificate of need program. Such a program is to be administered by the State Health Planning and Development Agency. [See Section 1523(a)-(4)(B)]
- The One Hundred and Eighth Legislature found that unnecessary construction or modification of health care facilities and duplication of health services are significant factors in the cost of health care and the ability of the public to obtain necessary medical services.

Accordingly, the Legislature passed the "Maine Certificate of Need Act of 1978," 22 MRSA § 301 et. seq., which became law on March 30, 1978, and was amended June 8, 1979. Full implementation occurred September 1, 1978.

The purposes of the Act are to:

- Promote effective health planning;
- Assist in providing quality health care at the lowest possible cost;
- Avoid unnecessary duplication in health facilities and health services and ensure that only those facilities that are needed will be built or modified;
- Assure that state funds are not used to support unnecessary capital expenditures made by or on behalf of health care facilities;
- Provide an orderly method of resolving questions concerning the need for health care facilities and health services which are proposed to be developed;
- Permit consumers of health services to participate in the process of determining the distribution, quantity, quality and cost of these services, and

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- The construction, development or other establishment of a new health care facility;
- Any expenditure by or on behalf of a health care facility in excess of \$150,000 which, under generally accepted accounting principles consistently applied, is a capital expenditure. When a person makes an acquisition by or on behalf of a health care facility under lease or comparable arrangement or through donation, which would have required review if the acquisition had been by purchase, the acquisition shall be deemed a capital expenditure subject to review;
- Any change in the existing bed complement of a health care facility which:
  - Increases or decreases the licensed bed capacity of the health care facility by more than 10% or more than 5 beds, whichever is less;
  - Increases or decreases the number of beds licensed by the department to provide a particular level of care by more than 10% of that number or more than 5 beds, whichever is less; or
  - Relocates more than 10% of the health care facility's licensed beds or more than 5 beds, whichever is less, from one physical plant to another; and
- Health services which are offered in or through a health care facility or health maintenance organization and which were not offered on a regular basis in or through the health care facility within the 12-month period prior to the time the services would be offered; and

Predevelopment activities. Any expenditure of \$150,000 or more for predevelopment activities proposed to be undertaken in preparation for any project which would itself require a certificate of need.

No person shall enter into any commitment for financing a project which requires a certificate of need or incur an obligation for the project without having sought and received a certificate of need, except that this prohibition shall not apply to commitments

for financing conditioned upon the receipt of a certificate of need or to obligations for predevelopment activities of less than \$150,000.

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- Assure that state funds are not used to support unnecessary capital expenditures made by or on behalf of health care facilities;
- Provide an orderly method of resolving questions concerning the need for health care facilities and health services which are proposed to be developed;
- Permit consumers of health services to participate in the process of determining the distribution, quantity, quality and cost of these services, and

-Provide for a certificate of need program which meets the requirements of the National Health Planning and Resources Development Act of 1974, Public Law 93-641 and its accompanying regulations.

To accomplish these purposes, the Act establishes a review program whereby certificates of need may be issued for proposals falling within clearly defined limits. The Maine Department of Human Services and the Maine Health Systems Agency, Inc. are assigned key roles in this program.

(b) Health Problem Addressed

No specific health problem is addressed. This is strictly a regulatory program.

(c) Population Served

Decisions made in Maine's Certificate of Need Program ultimately affect the entire population of the State in terms of health care costs and ability to obtain health care services.

(d) Services Rendered

See Section A.1.d(1)(p. 124).

(e) Standards Used in Regulatory Decisions

- Health Systems Plan
- HSA Annual Implementation Plan
- State Health Plan
- National Guidelines for Health Planning
- Research of pertinent literature
- State CON law and criteria [Section 309(1)(a)]

e. Office of Dental Health

(1) Dental Health Program

(a) Description

The Office of Dental Health is a part of the Office of Health and Medical Services in the Maine Department of Human Services. The office has a director and a secretary. It is advised by the Maine Dental Health Council, made up of dentists and consumers.

### Pertinent Federal and State Laws and Regulations

- 22 MRSA § 2091 et. seq., the 1975 Dental Health Act, created the Office of Dental Health and the Maine Dental Health Council. The intent of the law is to create a coordinated, comprehensive approach to resolving the problems of dental disease in Maine.

The bill instructs the Office of Dental Health to develop a comprehensive State dental plan, to review funding sources, to provide technical assistance and consultation to agencies, schools, and health professions. It requires the Office to conduct studies, annual reviews and provide coordination among parties involved in dental health. The Office administers funds related to dental health.

This law also created the Maine Dental Health Council. The Council advises, consults and assists the Executive and Legislative Branches of the State Government on activities related to dental health. It serves as an advocate for dental health and provides public forums for dental issues.

- 22 MRSA § 2121 et. seq., "Administration of School Dental Health Programs" - this 1979 law specifies that the Office of Dental Health, Department of Human Services, administer a program to provide financial reimbursement for the costs of providing dental health education to children in any public or private educational system.

### (b) Health Problems Addressed

Conditions associated with dental disease include dental caries, periodontal disease, malocclusion, cancers, and other diseases of the oral cavity.

(c) Population Served

Virtually all of Maine's population will need dental care at some time in their lives. The Office of Dental Health has been active in promoting the fluoridation of public and school water supplies, the use of dental health education programs in schools, and the provision of dental care to Medicaid recipients under the age of 21. Approximately forty percent of Maine's population, or 435,000 people, lives in communities with fluoridated public water supplies. Approximately the same number of Maine's people live in communities with public water supplies which are not fluoridated. Under Maine law, school systems which meet certain conditions may install machines which fluoridate school water supplies. In 1978, twelve schools with approximately 1,000 students had such water systems.

There are approximately 120,000 children enrolled in grades kindergarten through six. About 40,000 of those students are participants in dental health education programs of which fluoride tablets and rinses are a component.

Additionally, a law passed by the 108th Legislature provides financial reimbursement for the costs of providing dental health education to children in any public or private educational system. The Office of Dental Health will administer the program.

(d) Services Rendered

These are described under the legal responsibilities of the Office and Council (p.128).

f. Other Programs

(1) Emergency Medical Services (Office of)

(a) Description

The Office of Emergency Medical Services is a part of the Office of Health and Medical Services in the Maine Department of Human Services.

The Office has a Director, 2 part-time Medical Directors, a Training Coordinator, Regional Coordinators and a data staff. Federal Department of Health and Human Services grants have been awarded to the Maine Department of Human Services since 1975. Current annual funds total \$1.2 million.

The Emergency Medical Services (EMS) Project consists of a central management unit in Augusta, regional units for coordination and education, a State-wide advisory board, and regional advisory councils.

#### Pertinent Federal and State Laws and Regulations

- In 1966, Congress passed the National Highway Safety Act. The Act authorized the United States Department of Transportation (DOT) to set guidelines for emergency medical services. Under Standard II of the Law, DOT has provided funds for the purchase of ambulances, equipment, installation of communication systems, the development and support of Emergency Medical Technician (EMT) programs, and the development of Emergency Medical Services (EMS) Systems Plans.
- Emergency Medical Services Act, P.L. 93-154 of 1973, as amended by P.L. 94-573 in 1976 - the Emergency Medical Services Act established a federal program to assist communities in the development of a comprehensive emergency medical services program.
- Evaluation Guidelines, issued by the Department of Health and Human Services have identified critical care areas which are used to evaluate the program's success. Emergency medical services programs utilize these critical areas as standards for planning, manpower training, facility and equipment development.

- 32 MRSA § 71-76, Chapter 2-A. In general, this law provides requirements for licensure for delivering emergency care and ambulance services. The law authorizes the establishment of an advisory board to the Governor and the Department of Human Services. The Board is to advise on: standards and procedures for the licensing of the operation of ambulance services, experience and qualifications of ambulance and air ambulance personnel and procedures for the licensing of such personnel, standards and procedures for the licensing of ambulance vehicles and air ambulance aircraft, revocation, refusal to renew and suspension of licenses. The Department of Human Services is required to adopt regulations to fulfill the purposes of the Chapter and has done so effective October 1, 1978.
- 22 MRSA § 6 c.143 - Requires the Advisory Board for the Licensure of ambulance services or vehicles and personnel to hold hearings in all counties before any changes may be made in existing rules.
- 22 MRSA § 73, Sub. § 6 - Establishes by statute minimum standards for ambulance personnel and removes that authority to set standards from the Department of Human Services. The Advisory Board must also review the EMS budget to ensure an equitable distribution of funds between urban and rural areas.

(b) Health Problems Addressed

Major conditions for which emergency medical services are designed include conditions resulting from accidents, heart attacks, newborn illness, poisoning, and behavioral problems.



(c) Population Served

Maine's total population of 1,123,670 has a potential need for emergency medical care, although a much smaller number of people demands services in a given year. (See Section D.1.f.(1), p.171).

(d) Services Rendered

The EMS Project supports a systems approach to emergency care including: manpower, training, and continuing education; communications; transportation; facilities; and public sector activities. The organization of project staff and agency priorities have allowed for emphasis on each component. In the area of manpower, training and continuing education, a basic life support system including trained emergency medical technicians is in place statewide. Prehospital advanced cardiac life support is available in Portland, Waterville, and Skowhegan. Citizen cardio-pulmonary resuscitation courses are jointly sponsored by the EMS Project and the Maine Chapter of the Heart Association. Training programs are coordinated and often taught by EMS regional coordinators. The project is responsible for testing individuals for certification and licensure where applicable.

Categorization of hospitals, developed jointly by the EMS Project and Maine hospitals, has been designed to assure that the most appropriate level of care is provided to individuals in need. The Joint Commission of Accreditation of Hospitals suggests that categorization be implemented. In conjunction with categorization, there has been a development of transfer agreements and transfer, triage, and treatment protocols.

A VHF radio communications system is available state-wide and UHF is available in Portland and Waterville. The EMS Project provides technical assistance to hospitals, ambulance services, and towns and cities to design access, dispatch, and communication systems. The Department of Transportation, which funds equipment purchases, works closely with the EMS Project and makes its work-plan compatible with EMS goals.

The EMS Project also has major responsibility for coordinating EMS education and information programs. The agency works closely with the Maine Heart Association, local chapters of the American Red Cross, Maine Emergency Medical Technical Association, Maine Safety Council, and the Health Education Resource Center. Methods used include training programs in CPR, public safety agency involvement in EMS planning and implementation, development of disaster plans and exercises and technical assistance to communities regarding utilization of media resources for EMS education.

(2) Long Term Care

(a) Description

There is currently no single agency administering the provision of rehabilitative and maintenance long term care services. Within the Department of Human Services, the Bureau of Medical Services is responsible for administering the Medicaid Program which provides reimbursement for certain health and long-term care services provided to persons eligible for medical assistance. The Bureau of Resource Development, which administers the federal-state Title XX programs, administers a variety of homemaker and other social support services. The Bureau of Maine's Elderly is the third major state agency with responsibilities for long-term care

services and programs. BME is the state agency responsible for administering funds provided under the Older Americans Act for social services, nutrition and multi-purpose senior centers.

#### Pertinent Federal and State Laws and Regulations

- Medicare, Social Security Act, as amended, Title XVIII (42 U.S.C. 1385 et. seq.) - Medicare is a federally administered, federally funded health insurance program aimed primarily at the elderly. It covers persons eligible for Social Security without regard to their income. Benefits are generally limited to contributors. Despite significant variations in contributions, which are based on personal income, recipients receive equal benefits. Two programs exist under the Medicare umbrella. Part A coverage provides insurance protection against the costs of inpatient hospitalization, post-hospital extended care, and medically necessary post-hospital home health visits. Part B, the Supplemental Insurance Program, focuses primarily on payments to physicians. Home health visits are also reimbursable under Part B.
- Medical Assistance Program, Social Security Act, as amended. Title XIX (P.L. 89-97) - The Medical Assistance Program, more commonly known as Medicaid, is a state administered program providing medical assistance for low income individuals. While a number of categories of persons are eligible to receive benefits, the present description of Medicaid will be limited to and focus on the services most relevant to the rehabilitation and maintenance needs of the elderly.

To qualify for federal matching funds, State Medicaid programs must offer certain specified services. Skilled nursing and home health care are two of these mandatory services. The State may also offer optional services.

The largest optional program currently offered to the elderly by Maine's Medicaid program is intermediate level nursing home care. This is provided in facilities designated as ICFs (intermediate care facilities). (Also see Section A.1.b.(1) p. 109).

- Title XX Social Security Act (P.L. 93-647) - The Title XX program provides grants to states for a variety of social services. Two of the Title XX goals are relevant here:

- To prevent or reduce inappropriate institutional care by providing for community or home based care, or other forms of less intensive care.

- To secure referral or admission for institutional care when other forms of care are not appropriate or provide services to individuals in institutions.

In Maine these services are offered either directly through the Bureau of Resource Development or purchased from local provider agencies. Of tangential interest is the Homemaker Service Program which is designed in part to aid older and/or handicapped persons to remain in their homes rather than being placed in institutions.

- Housing and Related Facilities for Elderly or Handicapped Families. 12 U.S.C.A. §1701q. The Section 202 congregate housing program specifies that HUD provide direct long-term loans for the construction or rehabilitation of multi-family housing projects for the elderly or handicapped. Development of a wide range

of services for project residents is encouraged. These include health, homemaker, welfare, and recreational services. Section 202 projects are permitted to establish congregate dining rooms, community rooms, infirmaries, and inpatient and outpatient health facilities for use by project residents.

- Comprehensive Older Americans Act Amendments of 1978. (P.L. 95-478). The Older Americans Act was enacted in 1965 and has been amended frequently since then, most recently in 1978. The Act provides funds to States to provide social and nutritional services, to develop multi-purpose senior centers and to plan for comprehensive and coordinated systems for the delivery of services to older persons.

The 1978 Amendments to the Older Americans Act (Title III) established the following goals relevant to long-term care for the elderly:

- "1. secure and maintain maximum independence and dignity in a home environment for older individuals capable of self care with appropriate supportive services;
2. remove individual and social barriers to economic and personal independence for older individuals; and
3. provide a continuum of care for the vulnerable elderly."

The 1978 Amendments also empowered the state agency to develop an Ombudsman Program to:

- "1. investigate and resolve complaints made by or on behalf of older individuals who are residents of long-term care facilities relating to administrative action which may adversely affect the health, safety, welfare, and rights of such residents;

2. monitor the development and implementation of federal, state, and local laws, regulations, and policies with respect to long term care facilities;
3. provide information as appropriate to public agencies regarding the problems of older individuals residing in long-term care facilities.

Section 3030(d) of the 1978 amendments authorizes funding to the states to assist the elderly in avoiding institutionalization. Services such as adequate and available pre-institutional screening, home health, homemaker chore services, nutrition services, and counseling services are specified as means to effect this.

(b) Health Problems Addressed

There are a number of ways in which health problems affecting the elderly can be examined. Measures of functional disability (activities of daily living) are one commonly accepted indicator of health status. Unfortunately there are no data in Maine describing functional disability among the elderly in Maine. A study by the General Accounting Office in Cleveland, Ohio, provides some information in this regard. In their survey of a sample of the elderly population in Cleveland, the GAO found that 40 percent of the elderly surveyed were either unimpaired or slightly impaired. They found 34% of the elderly were mildly or moderately impaired. Sixteen percent were generally or greatly impaired and 10 percent were extremely impaired.

National data show that arthritis or rheumatism (34.3 percent of the nursing home population) and heart trouble (33.5 percent of the nursing home population) are the chronic conditions most frequently afflicting nursing home patients. An estimated

2,740 of Maine's nursing home patients have arthritis or rheumatism; an estimated 2,675 suffer from heart trouble.

The two leading primary diagnoses for nursing home residents are hardening of the arteries (22.5 percent) and stroke (10.5 percent). An estimated 1,795 nursing home patients are afflicted with hardening of the arteries in Maine; an estimated 840 nursing home patients have a primary diagnosis of stroke.

(c) Population Served

Table 8 displays estimates of the numbers and percentages of persons 65 and over and 75 and over in the United States and Maine for the years 1970 to 1985. For both age groups, the proportion of elderly in the total population is expected to increase in this 15 year period. Increases in Maine are anticipated to be slightly higher than in the United States. By 1985, Maine's elderly will account for 13.2 percent of the total population.

Table 8

Elderly Populations of the United States and Maine, Number and Percent of General Population for Age Groups 65+, 75+, 1970 - 1985

Year	United States		Maine	
	Age 65+	Age 75+	Age 65+	Age 75+
Number of Persons				
1970	20,085,000	7,598,000	114,500	45,800
1975	22,400,000	8,527,000	125,400	52,100
1980	24,523,000	9,112,000	140,600	60,400
1985	28,933,000	11,402,000	154,200	67,400
Percent of General Population				
1970	9.8	3.7	11.5	4.6
1975	10.5	4.0	11.9	4.9
1980	11.0	4.1	12.6	5.4
1985	12.4	4.9	13.2	5.8

Source: U.S.: Series II, "Projection Demographic Aspects of the Aging and the Older Population in the United States," Bureau of the Census, 1976.  
Maine: Population Projection Series, PPS-3, Maine State Planning Office 1979.

(d) Services Provided

- Home Health Services: As the name implies, home health agencies provide health care to persons in their homes, in boarding care facilities, or in other domiciliary or quasi-domiciliary facilities (e.g. congregate housing, adult day care).
- Homemaker/Chore Services: These services are designed to support the functionally disabled person, who though medically stable, still requires assistance in personal care or household management. Although these services cannot be construed to be health condition oriented, they are important in that they may forestall or prevent institutionalization.
- Adult Day Care: These programs provide medical and social services to functionally disabled adults who require supportive and intermediate level care. If family or friends are available (and willing) to provide care during the evenings and weekends, but unable to do so during working



hours, adult day care can serve as a useful alternative to institutionalization. Day Care Centers provide "group care during the day in a safe, comfortable environment in which selected therapeutic and personal care services, food and social opportunities are offered by professional and para-professional staff.

- Congregate Housing: This is defined as: "a residential environment which includes services such as meals, housekeeping, health, personal hygiene, and transportation, which are required to assist impaired, but not ill, elderly tenants to maintain or return to a semi-independent lifestyle and avoid institutionalization as they grow older."
- Boarding Care: Boarding care facilities can serve as alternatives to nursing homes by providing a supervised environment for ambulatory persons who need some assistance but not the total care provided in institutions.
- Intermediate Level Nursing Care: Intermediate level care must be authorized by a physician and provided under the direction of a registered nurse or licensed practical nurse who is required to be on duty not less than (40) hours per week.

Intermediate nursing services include: provision of medications not requiring 24 hour skilled nursing observation; implanted tubes required for maintenance of a fairly stable condition; tube feedings not requiring 24 hour observation; aspiration not requiring skilled observation; routine care and dressing changes for patients with temporary casts, braces, splints,

restorative procedures where assistance or training for self-care is enhanced; physical and mental limitation where protective restraints are needed; unstable physical and mental conditions not requiring 24 hour skilled care; in short, care for general degenerative conditions.

- Skilled Level Nursing Care: In SNFs, patient care must be authorized by a physician and furnished by/or under the direct supervision of a registered nurse or licensed practical nurse on duty 24 hours a day.

Skilled nursing services include: the provision of medication which requires observation over a 24-hour period; implanted tubes ordered by a physician which are necessary for the promotion of rehabilitation, training or treatment; tube feedings; aspiration; aseptic bandages requiring skilled nursing observation or teaching; restorative nursing procedures requiring direct service or supervision on a 24 hour basis; dietary services requiring teaching of a new dietary regimen; care of physical and mental limitations resulting in instability.

## 2. Department of Mental Health and Corrections

### a. Bureau of Mental Health

#### (1) Description

##### Departmental

The Bureau of Mental Health is one of three Bureaus within the Department of Mental Health and Corrections (the other two are the Bureau of Mental Retardation and the Bureau of Corrections).

##### Functional

The Bureau of Mental Health is the entity within the Department of Mental Health and Corrections responsible for developing a system of mental health services to promote mental health, prevent mental illness, and provide effective treatment and rehabilitation services in the most natural setting appropriate to the needs and capabilities of mentally ill clients and their families.

The Bureau has adopted a balanced service system model for delivery of care. This system encourages utilizing a full spectrum of locations and providers from family oriented services to care in an institutional setting.

The Department of Mental Health and Corrections administers the two State institutions for the mentally ill, located in Augusta and Bangor. An office of advocacy exists to receive client complaints. Other offices provide nutritional, public information and volunteer services to the Department and the public.

## Pertinent Federal and State Laws, Regulations and Guidelines

- Public Law 94-63 the Community Mental Health Centers Act, provides the main focus for development and delivery of mental health services.
- Title XVIII (Medicare), Title XIX (Medicaid) and Title XX (Social Services) of the Social Security Act provide the major sources of funding for mental health services.
- Public Law 93-641, the National Health Planning and Resources Development Act, delegates certain mental health planning responsibilities to health systems agencies and state planning entities established by the Act. Also under P.L. 93-641, health systems agencies will soon have review and approval authority of local applications for certain federal monies for the development of mental health resources.
- MRSAs Title 34, Chapter 181 authorizes the operation of the Department of Mental Health and Corrections. Under the Statute, the Department is responsible for "ensuring the provision of certain mental health services, and provides for a system to coordinate the planning, development and provision of those services." The Department is also authorized to license services.
- MRSAs Title 13, Chapter 31, authorizes the Maine Council of Community Mental Health Centers, a private not-for-profit corporation.

### (2) Health Problems Addressed

Mental disorders generally fall under one of two major classifications, neuroses and psychoses. Affective problems, such as depression, constitute a third category of mental disorders. A neurosis does not manifest itself in severe personality changes. A psychosis is a severe mental disorder manifested by abnormal behavior, reactions, and ideas.

(3) Population Served

There are no uniform data available which describe the population utilizing mental health services. Nationwide, the 1978 report of the Presidential Commission on Mental Health states that 15% of the population is in need of mental health services. Applying this percentage to Maine, an estimated 150,000 people are experiencing emotional problems severe enough to need support or help.

The Department of Mental Health and Corrections has developed the following utilization figures for a single point in time in Maine in 1977. This estimate does not include patients in general hospitals or outpatient units for primary psychaitric diagnosis.

CMHC's	17,192
Private practice	4,700
Institutions (State)	644
VA Hospital	320
	<u>22,856</u>

(4) Services Provided

The Department of Mental Health and Corrections provides direct services to the chronically mentally ill at the two State institutions. The Department also seeks to assure that the following mental health services are available throughout Maine in the community setting; outpatient; emergency inpatient; day activity and partial hospitalization; community residential; community support; consultation and education, and services to courts and other agencies.

b. Office of Children's Services

(1) Description

Departmental

The Office of Children's Services is one of several Divisions, Offices and Bureaus located within the Department of Mental Health and Corrections. The Office was established administratively in late 1977.

## Functional

The Office of Children's Services functions as a separate Bureau, although it does not have a separate statutory authorization in Title 34. Although this function was originally provided through the Bureau of Mental Health, it became necessary to give the area divisional status.

The purpose of the Office is to provide and assure the provision of services to children falling within the Department's jurisdiction. This is done primarily through placement review services and contracts with a number of residential treatment centers throughout the State.

## Pertinent Federal and State Laws, Regulations and Guidelines

( See Section A.2.a.(1) (p. 143)).

### (2) Health Problems Addressed

The Division makes provisions for care and treatment of severely emotionally or behaviorally handicapped children as well as the mentally retarded or developmentally delayed.

### (3) Population Served

( See Section A.2.a.(3), (p.144)).

### (4) Services Provided

The Division provides access to six private day and residential treatment centers for children as well as group homes and outpatient counseling. (Also see Section A.2.a.(4), (p.144)).

## 3. Other State Policies/Programs

### a. Health Facilities Cost Review Board/Voluntary Budget Review Organization

In 1978 the Legislature enacted Sec. 1, 22 MRSA, C. 105 entitled "The Health Facilities Information Disclosure Act."

The Legislature found that the rising costs of health care and services provided by health care facilities were matters of vital concern to the

people of this State and had a direct relationship to the ability of the people to obtain necessary health care. It was determined that the informed development of public policy relating to health care required that the State regularly assemble and analyze information pertaining to health care costs.

The law requires that uniform systems of reporting health care information be established in such a way as to not violate the privacy rights of patients and health care practitioners. All health care facilities will be required to file reports in a manner consistent with these systems.

Proposed budgets of any hospital must be reviewed and commented on by either the Health Facilities Cost Review Board or an approved voluntary budget review organization. The Health Facilities Cost Review Board approved the Voluntary Budget Review Organization of Maine in 1979.

The Hospital Budget Review Panel of the Voluntary Budget Review Organization of Maine reviewed and commented upon the budget submissions received from 35 short-term acute care hospitals in Maine from May 24 to December 19, 1979. These hospitals represent 79% of the acute care, non-governmental hospital beds in Maine and approximately 82% of the total operating expense. Overall, total operating expenses are projected to increase by 11.8% during 1980 compared to the current national forecast of 13.5% (Rate Controls, November, 1979).

The Health Facilities Cost Review Board has adopted rules for submission of budgets and issuing decisions; established policies for providing public access to budget information filed with the Board or the VBRO; and has begun work on a uniform system of reporting financial, scope of service and discharge data from hospitals and nursing homes.

The Health Facilities Cost Review Board also reports to the Legislature and the Governor annually on the status of the cost of services rendered by health facilities and recommends, if appropriate, mechanisms to control these costs.

b. Other Dental Health Programs or Policies

(1) Description

There are several other State laws and regulations which establish policies and programs relating to dental health. These are described below.

Pertinent Laws and Regulations

- 32 MRSA § 1061 et. seq., Laws Relating to the Practice of Dentistry and Dental Hygiene. This law governs the practice of dentistry by dentists and several auxiliary specialists. The law authorizes a Board of Dental Examiners and defines its administrative procedures and functions. It defines the practice of dentistry and the methods for qualifying and obtaining a license. It also defines the unlawful practice of dentistry and establishes penalties for such practice. Specific duties are enumerated which can be performed by specific dental auxiliaries and specialists.

The 108th Legislature legalized the practice of denturism. It created a licensing process for the specialty of denture technology and authorized the Board of Dental Examiners to define educational standards for the new profession. Since passage of the law, the Board has held hearings and defined rules and regulations for the practice of denture technology in Maine.

- 22 MRSA §2271 et. seq., "Postgraduate Education in the Field of Medicine, Dentistry, Optometry, and Veterinary Medicine." This law



was created to compensate for Maine's lack of postgraduate schools for the four health sciences described in its title. It defines the eligibility requirements for students participating in the program and establishes a contractual relationship between the student and the State.

It also created an Advisory Committee on Medical Education. Through a legislative appropriation, the bill guarantees seats for Maine residents in several graduate schools of health sciences in the northeastern United States.

- 22 MRSA § 2652, et. seq., "Water for Human Consumption." The law specifies that no community shall fluoridate its water system without the written consent of the Department of Human Services. It also requires that before fluoridation can begin, the citizens of the municipality must vote to approve it.

There is a special provision for water systems that serve multiple municipalities. "Authorization by municipalities representing 80% of the customers served by such public water system shall be sufficient." The Public Utilities Commission is granted the authority to allocate the costs of installing and maintaining fluoridation equipment among the customers of a public water system.

- "The Dental Component of the Maine Medicaid Assistance Manual" - Chapter II, Section 25, of this manual, entitled "Dental Services", defines the policy of the Department of Human Services as it relates to the provision of dental care through the Medicaid program.

The dental policy defines eligibility for care, covered services for both Early and Periodic Screening, Diagnosis, and Treatment clients (EPSDT) and Medicaid recipients not covered under EPSDT. It

defines administrative policy and procedures including requests for prior authorization. It also contains billing information and explains the Department's reimbursement policies.

A table of maximum allowances for dental procedures is included in this manual.

● 22 M RSA § 2651, et. seq., "Fluoridation of Public Water Supplies"-

The Department's Division of Health Engineering has established regulations concerning public water fluoridation. These regulations define the term "public water system" and the method for obtaining approval of fluoridation systems.

They also describe the types of approved equipment to feed fluoride into water systems and define safety precautions, water sampling and reporting procedures.

(2) Health Problem Addressed

Dental disease as described under A.1.e. (p. 128) is the health problem addressed.

(3) Population Served

The population served through most of these laws and regulations is described in Section A.1.e. (p. 129). Additional discussions are found under Section B.1.e below.

(4) Services Rendered

These are discussed under Section A.1.e. (p. 129).

c. Primary Care

As noted in the introduction to this chapter, primary care is a high priority for Governor Brennan and for the Commissioner of the Department of Human Services. Currently no agency of state government has formal responsibility for primary care. There are, however, numerous federal and state statutes related to primary medical care which state agencies administer.

(1) Description

Primary medical care is the health care most people seek most of the time. Primary care usually provides the patient with his first contact with the health care system. The primary care provider assumes continuing responsibility for the patient's care. The care is ordinarily for minor illnesses and injuries or for health maintenance, although a significant part of a primary care physician's practice will include caring for patients with serious chronic and debilitating diseases and conditions. The primary care provider refers patients to appropriate specialists for more serious or complicated health problems.

There are several providers of primary medical care in Maine, including physicians, new health practitioners, and ambulatory care centers. The primary care physician is the principal source of primary medical care in Maine. In 1978, there were 902 primary care physicians (those whose first specialty is general practice, family practice, obstetrics and gynecology, internal medicine, or pediatrics) practicing in Maine. The primary care physician to population ratio was 1:1,213 for that year. (See also Chap. II, Sec. F, p.58 ).

About 21% of Maine's primary care physicians are in group practices. Although the number of group practices has grown substantially in New England in recent years, the percentage of Maine's primary care physicians in group practice is smaller than the national average.

Rural sections of thirteen of Maine's sixteen counties have been designated "health manpower shortage areas". As of October, 1978, there were fifteen National Health Service Corps physicians in Maine.

A variety of new health practitioners represent another important source of primary care in Maine. As of June, 1980, 76 physician assistants and 195 nurse practitioners were licensed to practice in the state. They practice in a variety of settings, including hospitals, physicians offices, and ambulatory care centers.

Many people in Maine receive primary medical care from ambulatory care centers. There are more than thirty such centers in the state providing primary care services to approximately half the towns in Maine. More than 25% of Maine's population live in these towns.

Maine encourages Maine students to attend medical school, study primary medicine, and return to Maine through the "purchase" of seats in schools and a loan program with provisions for forgiving the loans. These arrangements are contained in legislation passed by the Legislature.

Maine also has an increased capacity to train primary care physicians, although there is only one medical school in Maine -- the New England College of Osteopathic Medicine. There are six Family Residency Programs in Maine. Two of these are osteopathic, four are allopathic. Their purpose is to provide training, education, and job-related experience to physicians intending to practice family medicine. Their goal is to encourage graduates to remain in the State subsequent to completing their training

Also, fourteen schools of nursing are located in Maine. Nine train registered nurses (R.N.'s) and five others train licensed practical nurses (L.P.N.'s). Two of the R.N. programs offer Baccalaureate degrees, three programs offer an Associate degree, and in four, a Hospital Diploma is awarded. There is presently one nurse practitioner program in Maine.

#### Pertinent Federal and State Laws and Regulations

- National Health Priorities, National Health Planning and Resources Development Act. (P.L. 93-641, § 1502)

This law provides ten health priorities which should be given consideration in the development of federal, State, and area health planning and resources development programs. Among these health priorities, the following relate to primary care:

- The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas.
  - The development of medical group practices (especially those whose services are appropriately coordinated or integrated with institutional health services), health maintenance organizations, and other organized systems for the provision of health care.
  - The training and increased utilization of physician assistants, especially nurse clinicians.
- National Health Planning Goals [P.L. 93-641, §1401(6)(2)]

Regulations have been proposed for a statement of National Health Planning Goals which constitute the second set of National Guidelines for Health Planning and which supplement the statement of resource standards for certain acute inpatient resources and services issued March 28, 1978. The proposed guidelines consist of national health planning goals with respect to institutional and personnel resources and systems of care and goals with respect to disease prevention, health promotion and health status.

Among the goals, the following relate to primary care:

- The supply of primary care health personnel in a community should be no less than the equivalent of one physician per 2,000 population. This ratio can be achieved by fostering the use of nurse practitioners and physician assistants;
- To the extent that shortages of primary care personnel and/or excesses of other medical specialities exist and are documented, these imbalances should be corrected; and

- The integration of mental health services in general health care delivery programs should be increased through in-service mental health training of primary care providers and placement of mental health professionals in primary care programs.

- National Health Services Corps (42 USCA § 254b and 254d, etc. seq., 42 C.F.R. § 23)

This law provided for placement of Corps physicians and physician extenders in areas with critical health manpower shortage.

- Community Health Centers (42 U.S.C.A. § 254c; 42 C.F.R. § 51c)

These sections of the code and regulations provide funds for the development of community health centers whose primary purpose is to provide primary care services to medically underserved populations. In Maine, these centers are funded through the federal Health Underserved Rural Areas and Rural Health Initiative programs.

- Grants for Family Medicine, Training, Traineeships and Fellowships (42 U.S.C.A. § 295; 42 C.F.R. § 57)

Funds are made available by this legislation for the development of family medicine training programs including continuing education and family practice residency programs. There are also funds available for student financial assistance.

- Health Maintenance Organizations (42 U.S.C.A. § 300 e; 42 C.F.R. § 110)

These sections of the code and regulations define health maintenance organizations and regulate their establishment and operation. Under Maine law, three licensing boards exist, one each for nurses, allopathic physicians, and osteopathic physicians.

- Nurses and Nursing (32 MRSA Title 32, Chapter 31, § 2101 et. seq.)

This legislation governs the practice of nursing, both LPN's and RN's. The law authorizes the State Board of Nursing and defines

its administrative procedures, functions and composition.

Differences between LPN's and RN's are defined and procedures for qualifying for a license are established.

- Osteopathic Physicians and Surgeons (32 MRSA, Title 32, Chapter 36, § 2561, et. seq.)

This law governs the practice of osteopathic medicine in Maine. It authorizes the Board and specifies procedures, functions, and composition. Requirements and regulations for certification are stipulated in this law, as are grounds for suspension and revocation of a license. It also defines the use of physicians assistants by D.O.'s and outlines their regulation.

- Physicians and Surgeons (Me. Rev. Stat. Ann. Tit. 32, Chapter 48, § 3263 et. seq.)

Legislation governing physicians and surgeons resembles the legislation governing osteopathic physicians and nurses. The law defines the practice of allopathic medicine, delineates the composition, functions, and procedures of the governing board, specifies requirements for registration and licensure, defines the use of physicians assistants and their regulation, and sets out the grounds on which license suspension and revocation proceedings may be initiated.

Maine law also contains provisions for health maintenance organizations.

- Health Maintenance Organizations (Me. Rev. Stat. Ann. Tit. 24-A, Chapter 56, § 4201 et. seq.)

This law outlines procedures for establishing, operating, and maintaining HMO's. The law specifies the duties, functions, obligations, operating procedures and administrative organization of the HMO; among these, evidence of coverage and availability of information to the enrollees are required.

(2) Health Problems Addressed

Primary medical care treats common illnesses and injuries, such as respiratory illnesses, aches and pains of unknown origin, general fatigue and malaise, minor injuries and infections, and gastrointestinal disorders. Primary care providers also treat and manage more serious conditions.

(3) Population Served

There are no general state-wide data available to describe the proportion of the Maine population that receives primary medical care. There is some limited information available from two surveys conducted in Maine during the past seven years. Over 94% of the respondents to a survey in Cumberland County in 1973 who wanted to see a doctor during the year prior to the survey indicated that they had no trouble in seeing a doctor. Approximately 83% of the respondents to a survey of the elderly in 1975 had seen a physician in the year preceding that survey.

A national survey conducted in 1976 found that 80% of the population of the Northeast region visited a physician in the year prior to the survey. This percentage applied to Maine's population would mean 800,000 Maine people would have visited a physician in 1976. It also found that those people in the Northeast that visited a physician averaged about five visits for the year.

(4) Services Provided

Primary care providers render basic preventive, diagnostic, and treatment services.



State Department - Motor Vehicle Division - Medical Advisory Committee

(1) Description

The Motor Vehicle Division is empowered to issue and control the Maine driver's license and registration of motor vehicles. Maintaining a Maine driver's license is a privilege and is based on the observance of laws established by and for the Secretary of State. The Department maintains a Medical Advisory Committee which is authorized by statute to advise the Department on medical criteria and vision standards to be used in licensing drivers. Another major function of the Committee is to evaluate the capabilities of drivers operating under medical restrictions.

Pertinent Federal and State Laws and Regulations

- In 1967 the Federal Highway Safety Program Standard #5 required each state to have "a system providing for medical evaluation of persons whom a driving agency has reason to believe may have mental or physical conditions which might impair their driving ability." Further, Standard #5 stipulates the creation of a "Medical Advisory Board" to advise driver agency personnel on medical criteria and vision standards. Maine's Medical Advisory Board was established in 1971.
- The Department's responsibilities and authority for establishing medical and vision criteria for licensing drivers are found in 29 MRSA § 51, 547, 581, 2241, & 2241A.

(2) Health Problem Addressed

Motor vehicle related trauma is the number one cause of death in Maine for people between the ages of 16 and 24.

The national societal cost of motor vehicle injuries, exclusive of property damage, has been estimated at about \$18,000,000,000 (18 billion) annually and constitutes the number one public health problem. National

studies show that persons with a particular medical condition are over represented in accident causation. Waller documented that impairment to driver and pedestrians from chronic medical conditions, other than alcoholism, is a contributing factor in 15% to 25% of all automobile accidents. Waller also found that errors in crashes increased proportionately with the severity of the driver's illness.<sup>1</sup>

Maine has 670,000 licensed drivers and preliminary data collected from autopsies involving fatal accidents, substantiate Wallers' correlations that chronic medical conditions contribute to accident causation.

The identification and control of high risk medically impaired drivers is of utmost importance. Perhaps the greatest challenge to motor vehicle administrators is to predict the emotional behavior of an individual; behavior in terms of specific actions, particularly misbehavior - functional, psychological, or emotional failure. Ranking somewhere behind these types of medical predictions are the physiological failure for individuals; more precisely the failure of an organ, such as the heart, brain, etc.

(3) Population Served

Currently Maine has approximately 670,000 licensed drivers in the private and commercial categories.

(4) Services Rendered

The Medical Advisory Committee establishes medical criteria and vision standards for licensing drivers in Maine. It also evaluates the capabilities of drivers operating with medical restrictions.

<sup>1</sup>Waller, Julian A., "Medical Impairment and Highway Crashes." J.A.M.A. 208: 2293-2296, June 23, 1969.

## Review of Emergent Policies and Programs

### 1. Department of Human Services

#### a. Bureau of Health

The following changes in strategy are designed to overcome existing constraints in the prevention and reduction of public health problems.

#### (1) Program Planning and Evaluation

- (a) Constraint - Increasing scarcity of funding and a concern for effective and efficient use of those funds require periodic reevaluation and prioritizing of health problems.

Strategy - The Bureau Director will evaluate and prioritize programs annually for planning purposes, with the aid of technical advisory panels when necessary.

- (b) Constraints - The availability of discretionary federal funds is decreasing and restrictions on their use are increasing. Evaluation of Bureau programs in meeting objectives is hampered by the lack of valid and reliable management information.

Strategy - The Bureau of Health Program Management Information System initiated in 1978-79 will be revised, improved and activated on an ongoing basis.

- (c) Constraint It is not possible to discern a clear relationship between the work carried out by the Division of Health Engineering and the public health programs addressed by the Bureau.

Strategy - The Bureau Director will study this relationship. Decisions will be made as to the proper locus of program planning, management and evaluation responsibilities for the elimination or control of environmental agents of disease.

(2) Organizational and Legal

- (a) Constraints - Bureau organizational structure reflects neither the Bureau's "public health problem" orientation, nor its prevention, early detection and subsequent care approach. The organizational structure does not allow for a clear distinction between the responsibilities of the Bureau's Divisions for setting program objectives, designing attainment strategies, and evaluating results and the responsibilities of other entities which provide support services to them (e.g. laboratory, health education).
- Strategies - The Deputy Commissioner of Health and Medical Services and the Bureau Director will design and implement a reorganization of the Bureau to define areas of responsibility for addressing public health problems, attaining disease prevention and control objectives and implementing the concomitant strategies; and to specify the authorities, responsibilities and interactions of (a) the divisions in charge of program planning, management and evaluation, and of (b) the divisions and other entities which are responsible for rendering support to the former.
- (b) Constraint - The grants and contracts awarded by the Bureau to community agencies and organizations state-wide are not managed or monitored uniformly. The objectives and strategies of the supported projects are generally not coordinated with the Bureau's overall priorities. (The Division of Child Health began to address this constraint in FY 1979.)
- Strategy - Within the Maternal and Child Health Division, an objective system has been devised for scoring and awarding grants and contracts. Other grants received by the Bureau should be awarded and administered using a similar model.

(c) Constraint - The payment system of the Medical/Dental Services Program may be duplicating other DHS payment systems. Although this program has separate funding sources and is operationally different than other DHS third party payers, Medicaid (EPSDT), etc.), it may be possible for these payers to all share a common billing-payment mechanism.

Strategy - The Bureau Director and Deputy Commissioner of Health and Medical Services will conduct a study to determine whether Medical/Dental services can merge its payment system with other existing systems.

(d) Constraint - Obsolete or otherwise inappropriate federal and state laws and regulations occasionally mandate that the Bureau of Health staff address low priority health problems or carry out inappropriate strategies.

Strategy - The Bureau of Health Director will carry out a yearly review of all federal and state laws which are related to the attainment of Bureau of Health objectives; identify those laws and regulations which act as constraints and (a) ask the involved federal agencies for relief; (b) take appropriate steps to alter constraining state legislation. (See strategy 5, p. 162).

### (3) Financial

(a) Constraint - Bureau of Health Divisions and Programs have no direct responsibility for the fiscal management of their programs and support units. Decisions as to their funding sources for program expenditures are made at higher levels. Attempts to link programs with expenditures and develop unit costs for services for planning and evaluation purposes are difficult.

Strategy - The Deputy Commissioner for Health and Medical Services will take steps to alter the State fiscal system so that the Bureau Directors and Managers: participate in the budgeting process; are given the responsibility for their own budgets; and receive quarterly and year-end financial reports indicating program income by source and expenditures by line item.

- (b) Constraint - The Divisions of Public Health Nursing and the Public Health Laboratory provide support services for Bureau programs. In addition to responsibility for their own budgets, the program managers must be enabled to exercise control over expenditures incurred on behalf of their programs by the supporting Divisions.

Strategy - The Bureau Director will ensure that support divisions provide service cost estimates to program managers, that these costs are negotiated, and that program managers give final approval for all supportive expenditures. Quarterly and year-end reports of expenditures by units of service and source of funds should be prepared by the supportive divisions for the program managers.

- (c) Constraint - The Bureau lacks the capacity to monitor and to respond in timely and effective fashion to new federal funding initiatives.

Strategy - The Bureau Director will establish a mechanism for monitoring new federal funding initiatives and will direct the timely preparation of grant requests and contract proposals.

(See Strategy 2(c)).

(4) Public and Professional Communications

(a) Constraint - No continuous effort is made within the Bureau to inform and educate the public and the Legislature as to the public health problems addressed through the Bureau's programs; nor is there an avenue of communication with the private health care sector and other State governmental agencies to permit the systematic transmittal of important public health information.

Strategy - The Bureau Director will design an ongoing system to provide appropriate information about the public health problems addressed by the Bureau to the public and Legislature (this system should allow for timely correction of public misconceptions about public health matters). The Director will also establish regular communication with other state governmental agencies and the private health care sector.

(5) Health Status and Program Performance Data

(a) Constraint - The paucity of Maine-specific health status data for use in health problem definition and prioritization is a deterrent to rational program planning and evaluation. The need for a comprehensive health survey in Maine, which would serve to determine the existence of health problems, their magnitude and their distribution, is well documented. Information about the magnitude and distribution of health problems is a crucial factor in the determination of their status as public health problems and in the quantification of objectives.

Strategy - The Deputy Commissioner for Health and Medical Services, with the help of the Directors of the Bureaus of Health and Health Planning and Development, will investigate the feasibility, and initiate at the earliest opportunity, a State health survey to

ascertain the existence, magnitude and distribution of health problems in Maine.

- (b) Constraint - Bureau staff use existing health status data in their planning, management and evaluation activities. Such data are obtained from the Department's Division of Research and Vital Records, the Data and Research Division of the Bureau of Health Planning and Development and a variety of other sources. To avoid misinterpretation and misuse of data obtained from such varied sources, staff should have access to professional assistance in identifying data sources, evaluating the quality of data provided, and interpreting the relevance and usefulness of the data.

Strategy - The Deputy Commissioner for Health and Medical Services, in consultation with the Directors of the Bureau of Health Planning and Development and the Division of Research and Vital Records, will assure that the Bureau staff are provided with ongoing assistance in the identification of health status data sources, the evaluation of data quality and the interpretation of their relevance for program planning and evaluation.

- (c) Constraint - A substantial amount of program performance data is collected by the Bureau's Divisions and Programs staffs, resulting in uncoordinated data systems. The usefulness of these data systems for general program planning and evaluation is demonstrably limited. The lack of coordination promotes inefficiencies in the acquisition of computer software and hardware as well as the development and use of surveys and other data-gathering mechanisms.

Strategy - The Deputy Commissioner for Health and Medical Services will conduct a study of Bureau performance data requirements and existing Bureau data systems, comparing these requirements and



systems to those of other Bureaus in the Office of Health and Medical Services. In line with resulting recommended actions, Bureau performance data systems will be streamlined and coordinated.

b. Bureau of Medical Services

(1) Maine Medicaid Program

During the 109th Legislative (1979) session, an act was passed to aid in the recovery of Medicaid funds. Its intent is as follows:

The Department of Human Services frequently pays for medical care under its Medicaid program for accident victims who later recover compensation from a party at fault. This bill allows the Commissioner of Human Services to recover the cost of the Medicaid expenditure from the party at fault or from the recipient and to require the recipient to assign the right to make such recovery from a third party as a condition of Medicaid eligibility.

(2) Catastrophic Illness Program

There are presently no new policies proposed or planned.

c. Bureau of Rehabilitation

(1) Office of Alcoholism and Drug Abuse Prevention

The Office of Alcoholism and Drug Abuse Prevention is responsible for planning and coordinating two basic types of activities related to drug and alcohol abuse - treatment and prevention. The Office has recently committed itself to an increased emphasis on the prevention of substance abuse, planning programs designed to slow the increase of this abuse, and ultimately, to reduce its prevalence.

The programs will be focused on education: to help individuals develop basic skills for handling life choices and problems; providing information about legal and illegal drugs and the effects of their use and abuse; and early intervention to assist persons in coping with problems related to substance abuse.

d. Bureau of Health Planning and Development

(1) Maine Certificate of Need Program

The following changes enacted by the 109th Legislature, 1979:

● 22 MRSA § 304, sub § 1, ¶ C, as enacted by P.L. 1977, c. 687, § 1, is repealed and the following enacted in its place:

C. Any change in the existing bed complement of a health care facility which:

- (1) Increases or decreases the licensed bed capacity of the health care facility by more than 10% or more than 5 beds, whichever is less;
- (2) Increases or decreases the number of beds licensed by the Department to provide a particular level of care by more than 10% of that number or more than 5 beds, whichever is less; or
- (3) Relocates more than 10% of the health care facility's licensed beds or more than 5 beds, whichever is less, from one physical plant to another; and

● "An Act to conform the Health Maintenance Organization Act of 1975 to the Maine Certificate of Need Act of 1978," Chapter 216 Public Law. Following enactment of the Health Maintenance Organization Act of 1975, the Legislature enacted the Maine Certificate of Need Act of 1978. This has created a conflict in legislation, with regard to whether or not a health maintenance organization requires a certificate of need before the superintendent can issue a certificate of authority, which this law seeks to resolve. The law also seeks to replace the special procedure for consultation with the Commissioner of Human Services with the simpler requirement that the applicant obtain a certificate of need prior to, and as a condition for, receipt of a certificate of authority from the Superintendent of Insurance.

e. Office of Dental Health

In 1979, the Legislature passed a law which requires the Department of Human Services to provide reimbursement to public and private school systems for the costs of providing dental health education to children.

The Office of Dental Health, which will administer the program, will develop rules and regulations outlining procedures for prior approval before dental health education materials are purchased. Dental health education

reimbursement may cover expenditures for printed curricula, audio-visual aids, toothbrushes, floss, disclosing tablets, topical and systemic fluorides and necessary permanent equipment to maintain oral hygiene.

f. Other Programs

(1) Emergency Medical Services

It is the intent of the Department of Human Services to encourage decentralization of the Emergency Medical Services Project. Due to the declining nature of federal funds, such a policy is desirable. Guidelines are currently being developed for use by Regional Councils in assuming responsibility for emergency medical services at such time that federal funds are no longer available.

(2) Long Term Care

The goals and objectives in the Long Term Care Plan delineate the basis of new policy. The imposition of a 60 ICF bed per 1,000 aged 65+ standard has two policy implications.

- It will limit the building of new nursing homes to those few areas of the state which currently are below the state average. To assure appropriate distribution, as a general rule, no more than 100 additional beds will be approved for construction in a service area at any one time.

- Limiting facility development will enable the State to divert Medicaid and State funds to noninstitutional service alternatives. Establishment of these alternatives will necessitate the development of a methodology to ensure appropriate patient placement. A screening mechanism, integrated into a case monitoring system, could help achieve this.

## 2. Department of Mental Health and Corrections

### a. Bureau of Mental Health

A selection of areas to receive highest priority and immediate action was made by the Department of Mental Health and Corrections in consultation with both the Mental Health Plan Task Force and the Mental Health Advisory Council. The five problem areas in mental health on which the Department will focus during the next few years, in order of priority, are:

- (1) Establishing a stable funding base for mental health services, especially for the development of alternative community services, but also for appropriate program development for priority issues.
- (2) Assuring and improving community support services for the chronically mentally ill, especially for clients discharged from the institutions or other protective settings.
- (3) Continuing and strengthening the current efforts for establishing a coordinated and comprehensive service delivery system for emotionally handicapped children, assuming statutory authority to assure services, and participating in the Joint Memorandum of Understanding between the Department of Mental Health and Corrections, Department of Education and Cultural Services, and the Department of Human Services.
- (4) Supporting the development of a broad spectrum of housing for clients in the community, including single and shared apartments, group homes, halfway houses, and boarding homes.
- (5) Increasing and improving interagency cooperation at both the State and local levels in order that services may be better coordinated and linked for clients.

### b. Office of Children's Services

See Section A.2.a. (p.142).

### 3. Other State Policies/Programs

#### a. Other Dental Health Programs or Policies

There are no clear planned or emergent policies in dental health which differ from present direction other than those defined in Section B.1.e. (p. 165).

#### b. Primary Care

As indicated in the introduction to this chapter, Commissioner Michael Petit of the Maine Department of Human Services has stated that the provision of primary care to Maine people who are underserved is a high priority for the Department. It is not presently known what specific steps will be taken to achieve that goal.

#### c. State Department - Motor Vehicle Division - Medical Advisory Committee

Secretary of State Rodney Quinn recently issued a public statement in which he appointed a new Medical Advisory Committee and described a greater emphasis and reliance on the Medical Advisory Committee in the Department's efforts to address highway safety problems. Quinn stated that alcoholism and driving was a major problem that would be addressed by the Committee.

### Goals and Objectives

See Chapter IV (pp. 187-447) ("State Level Planning") for goals and objectives relating to State health policy and programs.

### Forecast of Demand or Need

#### 1. Department of Human Services

##### a. Bureau of Health (See Section A.1.a., (p. 107 )).

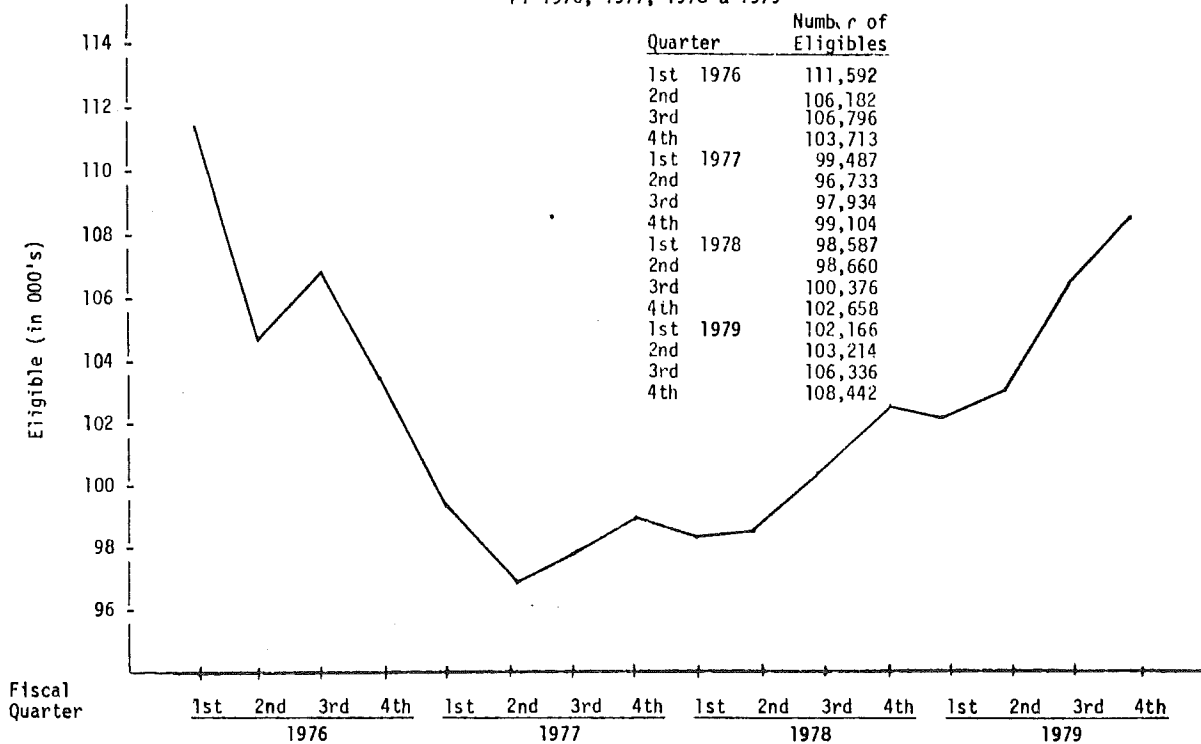
b. Bureau of Medical Services

(1) Maine Medicaid Program

The number of Medicaid eligibles over the past four fiscal years is plotted in Graph 1 below. The principal reason for the decline in the number of eligibles since 1975 was a decrease in the number of families receiving AFDC. This lower number resulted from a change in AFDC eligibility policy implemented by the Department in October, 1975. A "ratable reduction" standard was applied to all families of equal size, from which any income was deducted to determine the amount of need. The purpose was to assure that the limited dollars available reached the most needy families. About 800 of the less needy families were found to be ineligible for AFDC as a result of this policy change.

Graph 1

Medicaid Eligibles FY Fiscal Quarter  
FY 1976, 1977, 1978 & 1979



Source: Maine Department of Human Services  
February, 1980

(2) Catastrophic Illness

See (1), above).

c. Bureau of Rehabilitation

(1) Office of Alcoholism and Drug Abuse Prevention

See Section A.1.c.(1), (p. 121)).

d. Bureau of Health Planning and Development

(1) Maine Certificate of Need Program

The "Forecast of Demand and Need" terminology does not apply to this program. It is possible, however, to measure the number of applications and the amount of health care expenditures involved in them. The following table illustrates the review activity of the Bureau:

Table 9  
Projects Processed

<u>Dates</u>	<u>Proposals Determined Not Subject to Review</u>		<u>Application Proposals Processed</u>		<u>Total</u>	
	#	\$	#	\$	#	\$
76-12/76	1	49,000	50	16,782,542	51	16,831,542
77-12/77	16	502,058	53	21,892,015	69	22,394,073
78-12/78	32	905,216	31	16,928,060	63	17,833,276
79-12/79	38	3,945,974	35	32,744,215	73	36,690,189
80-12/80	49	2,905,670	71	63,641,027	120	66,546,697

e. Office of Dental Health

During fiscal 1979, the Office of Dental Health continued to administer the School Dental Health Education Program for students in participating schools in grades kindergarten through six. A bill to provide funds in 1979-80 and 1980-81 for school dental health education programs was approved by the Legislature during the 1979 session. In addition, the Office continued its efforts to provide simplified school water fluoridation systems.

f. Other Programs

(1) Emergency Medical Services

Table 10 contains an estimate of actual need for EMS services for medical and behavioral conditions. This estimate is an under-representation of the true total because of the unavailability of data for several categories. However, even as a partial documentation of need, the estimate of 123,478 emergency situations indicates the magnitude of the problem. Demand is also under-represented because of protocol in smaller hospitals where critical lifesaving procedures such as cardiorespiratory support and administration of intravenous fluids are initially provided in the critical care units. These life-threatening emergencies bypass the emergency department to be admitted directly to the critical care unit. Patients cared for in this manner are not entered into the emergency department data base.

(2) Long Term Care

In both Maine and the United States the proportion of elderly requiring some form of long-term support services is expected to increase during the next decade. This can be attributed both to increases in the number of persons over 65 years of age and to the fact that the elderly are living longer, thereby developing a greater probability for becoming frail and disabled.

As of the 1980 population projections (U.S. Census Bureau, Series IIB), 12.4 percent of Maine's population (136,800) was over 65 years of age. The 1980 census data is not yet in a form which allows projections to be made for 1985. This information will be available by the end of the summer. At that time, it should be possible to more accurately estimate the number of nursing home beds that will be needed.



Estimated Population in Need of Emergency Medical Services, Maine, 1977

Category	Base Number	Estimated No. in Need	Justification for Estimate
1. Hospital Out-patient Emergency Visits	508,364	101,673	An estimated 20% of all emergency department visits considered emergent or urgent.
2. Total Deaths in Maine	10,055	10,055	In theory 100% of those who die may need emergency services. As some of the deaths may have received emergency services this number may represent some duplication of Category 1.
3. Total Births in Maine	16,252	488	Three percent in need of emergency services.
4. Total Visits to Ambulatory Care <sup>1</sup>	211,884	4,238	Approximately 2% of all visits to ambulatory care centers are for what patient views as emergency.
5. Total Calls to Poison Control Ctr. <sup>2</sup>	3,406	1,022	Approximately 30% estimated to be serious. May represent some duplication of 1.
6. Total Contacts at Mental Health Centers	5,896 <sup>3</sup>	2,984	Referring to problem section-behavioral, 40% of walk-ins and 20% of telephone contacts at one mental health center considered true emergencies. Overall estimate for all emergency visits which are true emergencies is 50%.
7. Total Calls to Children's Protective Svcs.	4,024 <sup>4</sup>	3,080	Approximately 75% are emergencies.
8. Total Visits to Physicians Offices	N.A.	N.A.	
9. Total Calls to Emergency/hot lines Services in Maine	N.A.	N.A.	
Total # known	759,881	123,478	

Table 10

1. At least two ambulatory care centers had recently opened at time of survey. For this reason, estimate may be low.
2. Calls to Poison Control Center should not be used to estimate total poisonings. Awareness of this facility is increasing, resulting in continued greater use of the facility.
3. 1,474 reported for a 90-day period multiplied by 4.
4. In some instances, more than one call is received per referral.

Source: Maine Department of Human Services, Bureau of Health Planning and Development

## 2. Department of Mental Health and Corrections

### a. Bureau of Mental Health

The 1978 Report of the President's Commission on Mental Health states that 15% of the citizens in this country are in need of mental health services. Applying this percentage to Maine, an estimated 150,000 people are experiencing emotional problems severe enough to need support or help. The eight community mental health centers in Maine currently serve about 30,000 Maine citizens a year.

The prevalence of poverty, single-parent families and other family structures and demographic indicators can be used to estimate the prevalence of mental disorders. Consideration of these indicators in Maine suggests that Maine's mental health needs are greater than the national average. Maine's overall per capita income is among the lowest in the country. The number of divorces and the number of people who rely on the government for help are higher than the national average. The current mental health system is insufficient to meet the demands and needs of a large number of citizens in Maine. (Also see Sec. A.2.a(3), (p. 144).

### b. Office of Children's Services

(See a. above).

## 3. Other State Policies/Programs

### a. Other Dental Health Programs or Policies

For some information on need, utilization, and demand for care, see Section A.1.e., (p. 127). In addition, information is available from a survey conducted by the Maine Dental Association and the American Dental Association during July, 1976.

The survey was sent out to 468 dentists and 347 responses (71 percent) were received. The survey attempted to establish a more accurate estimate of supply and demand in dentistry than can be derived from dentist to population ratios. Indicators utilized in the study included detailed measures of manpower system demands, needs and utilization, and dental productivity. On the basis of the survey, it is estimated that Maine experienced 1,325,505 dental visits in 1976 and that forty-five percent of the population visited a dentist in that year.

If this percentage (45%) were applied to Maine's population of 1,088,100, approximately 489,605 Maine people would have visited a dentist in 1978.

b. Primary Care

Although it is impossible to define precisely the population in need of primary medical care, it appears that virtually the entire population would experience the common illnesses and injuries which cause people to seek such care.

The demand for primary care is also not known. The ambulatory care centers described in A.3.c.(1) (p. 150), served about 21,000 patients per month in 1978. There is some limited survey information available for Maine which suggests that people who make demands on the system for primary care are generally successful in getting care.

Over 94 percent of the respondents in one survey who wanted to see a doctor during the year before the survey was conducted indicated that they had no trouble in seeing a doctor. Over 78 percent of the respondents in another survey said it was not difficult for them and their families to see a doctor. Approximately 83 percent of the respondents to another survey had seen a physician in the year preceding the survey, and only 5 percent of them indicated that they had problems getting medical care. Of those

who had not seen a doctor for at least three years, almost all (92 percent) said that they have no problem getting enough medical care.

However, two of the surveys found that the respondents did not think there was enough medical care available. One found that 76 percent of the respondents thought there were too few doctors in the area. Another found that over 95 percent of the respondents thought that there was medical care available, but less than half thought that it was adequate. Both of these surveys were conducted in rural areas.

Information collected in surveys of physicians in Maine show that the primary care physicians in Maine generally have longer work weeks than do such physicians nationally. This would suggest that demand for services relative to supply is somewhat greater in Maine than in the rest of the United States.

In general, it appears that there is an acceptable level of primary medical care in Maine. Unmet need for services appears to be limited to certain sparsely populated areas of the State. It is also possible that need among certain population groups, such as the poor and the handicapped, is not being adequately met.

## Cost Impact Analysis/Expenditures

For a general discussion of health care expenditures in Maine, see Chapter II, Section G above entitled "Health Expenditures" (p.89 ).

### 1. Department of Human Services

a. Bureau of Health (See Section A.1.a.(2), (p. 109).

b. Bureau of Medical Services

#### (1) Maine Medicaid Program

Table 11 shows an average annual percentage change of 23% for both mandatory and optional services over the past five years. Significant increases over the five year period have occurred in the ICF service category which grew 162% from \$18.7 million in FY 1974 to \$52.7 million in FY 1978 and expenditures for hospital inpatient services in the Medicaid program increased 88% from \$11.5 million in FY 1974 to \$21.5 million in FY 1978.

Table 12 shows the percentage distribution of various expenditures for both mandatory and optional services over the past five years. The mandatory services continue to decrease as a percentage of the whole from 52% in FY 1974 to 39% in FY 1978 while the optional services increased over the same period. The principal reason for the increase in optional services is the continuing growth in the expenditures for ICF services.

Figure 1 illustrates the fact that ICF services and Inpatient Hospital Services together account for more than 65% of the entire Medicaid costs for FY 1979. All other Medicaid services combined account for the remaining 34.6% of the total expenditures. The graphed ICF data for FY 1974 to FY 1978 clearly show a rapid average increase of 36% annually. FY 1979 data, however, reflect only a 3.6% increase over the previous fiscal year.

Medicaid Expenditures by Type of Service  
and Percentage Change  
FY74 through FY78  
(nearest \$1,000)

	FY74	FY75	% Change	FY76	% Change	FY77	% Change	FY78	% Change	% Change From FY74	Average annual percent age change
@Detail not available. Included in "Professional Services."											
TOTAL	\$49,987	\$67,456	35%	\$76,681	14%	\$92,070	20%	\$113,500	23%	127%	23%
MANDATORY	\$26,100	\$33,702	29%	\$33,986	1%	\$39,259	16%	\$44,232	13%	69%	16%
Hospital Inpatient	11,468	14,585	27%	16,992	17%	19,656	16%	21,509	9%	88%	17%
Hospital Outpatient	2,227	3,029	36%	3,420	13%	4,213	23%	4,393	4%	97%	19%
SNF	3,269	3,571	9%	1,428	(60%)	1,715	20%	2,904	69%	(11%)	10%
Home Health	413	515	25%	607	18%	642	6%	692	8%	68%	14%
Professional Services	6,996	8,288	22%	7,666	8%	9,200	20%	10,318	12%	52%	12%
EPSDT	430	505	17%	568	12%	716	26%	1,084	51%	152%	27%
Dental	1,057	1,867	77%	1,781	(5%)	1,496	(16%)	1,618	2%	53%	16%
Optometric	@	350		355	2%	377	6%	438	16%	25%	8%
Family Planning	439	550	25%	743	35%	765	3%	732	(4%)	67%	15%
Lab & X-ray	@	443		426	(4%)	479	12%	543	13%	23%	7%
OPTIONAL	\$23,887	\$33,297	39%	\$42,032	26%	\$52,004	24%	\$67,850	20%	184%	30%
ICF	18,704	24,567	31%	32,541	32%	40,644	25%	52,736	30%	162%	36%
Drugs	3,896	5,375	38%	5,452	1%	5,854	7%	7,026	20%	80%	17%
Mental Health	@	1,076		444	(59%)	441	(1%)	602	37%	(44%)	(8%)
Psychology	@	177		233	32%	288	23%	328	14%	85%	23%
Chiropractry	@	98		95	(3%)	112	18%	124	11%	27%	9%
Podiatry	@	52		51	(2%)	64	26%	69	2%	33%	11%
Ambulance	151	193	28%	269	39%	262	(2%)	280	7%	65%	18%
Medicare Part B	1,136	1,759	55%	1,676	(5%)	1,529	(9%)	1,694	11%	49%	13%
MN Medically Needy	-0-	-0-	0%	1,270	0%	2,810	121%	4,991	76%	293%	99%
CATASTROPHIC ILLNESS	\$ -0-	\$ 457	0%	\$ 663	45%	\$ 807	22%	\$ 1,418	75%	210%	48%

Source: Maine Department of Human Services  
Income and Expenditure Reports, FY 1974-FY 1978

Medicaid Expenditures by Type of Service  
With Percentage Distribution  
FY-74 through FY-78  
(nearest \$1,000)

@Detail not available  
Included in "Professional  
Services"

	FY74	% Distribution	FY75	% Distribution	FY76	% Distribution	FY77	% Distribution	FY78	% Distribution
TOTAL	\$49,987	100%	\$67,456	100%	\$76,681	100%	\$92,070	100%	\$113,500	100%
MANDATORY	\$26,100	52%	\$33,702	50%	\$33,986	44%	\$39,259	43%	\$44,232	39%
Hospital Inpatient	11,468	23%	14,585	22%	16,992	22%	19,656	21%	21,509	19%
Hospital Outpatient	2,227	4%	3,029	4%	3,420	4%	4,213	5%	4,393	4%
SNF	3,269	6%	3,571	5%	1,428	2%	1,715	2%	2,904	3%
Home Health	413	1%	515	1%	607	1%	642	1%	692	1%
Professional Services	6,996	14%	8,288	12%	7,666	10%	9,200	10%	10,318	9%
EPSDT	430	1%	505	1%	568	1%	716	1%	1,084	1%
Dental	1,057	2%	1,867	3%	1,781	2%	1,496	2%	1,618	1%
Optometric	@		350	0%	355	0%	377	0%	438	0%
Family Planning	439	1%	550	1%	743	1%	765	1%	732	1%
Lab & X-ray	@		443	1%	426	1%	479	0%	543	0%
OPTIONAL	\$23,887	48%	\$33,297	49%	\$42,032	55%	\$52,004	56%	\$67,850	60%
ICF	18,704	38%	24,567	36%	32,541	43%	40,644	44%	52,736	47%
Drugs	3,896	8%	5,375	8%	5,452	7%	5,854	6%	7,026	6%
Mental Health	@		1,076	2%	444	1%	441	1%	602	1%
Psychology	@		177	0%	233	0%	288	0%	328	0%
Chiropractry	@		98	0%	95	0%	112	0%	124	0%
Podiatry	@		52	0%	51	0%	64	0%	69	0%
Ambulance	151	0%	193	0%	269	0%	262	0%	280	0%
Medicare Part B	1,136	2%	1,759	3%	1,676	2%	1,529	2%	1,694	2%
MN/ Medically Needy	-0-	***	-0-		1,270	2%	2,810	3%	4,991	4%
CATASTROPHIC ILLNESS	\$ -0-	***	\$ 457	1%	\$ 663	1%	\$ 807	1%	\$1,418	1%

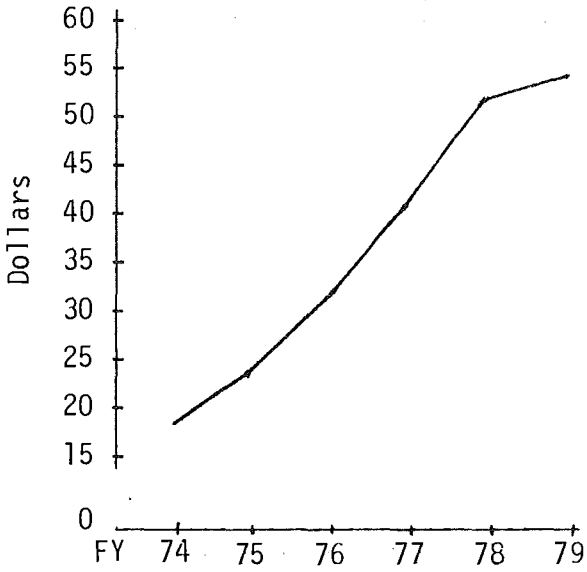
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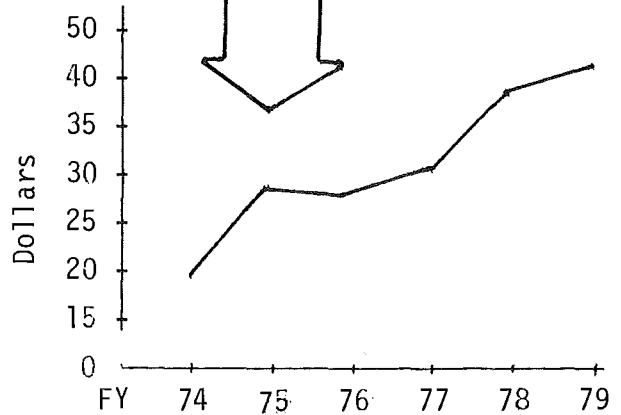
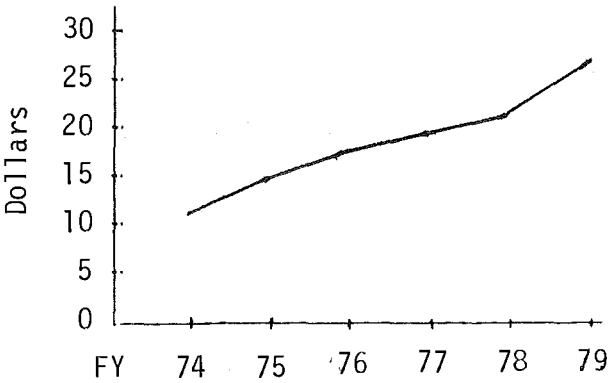
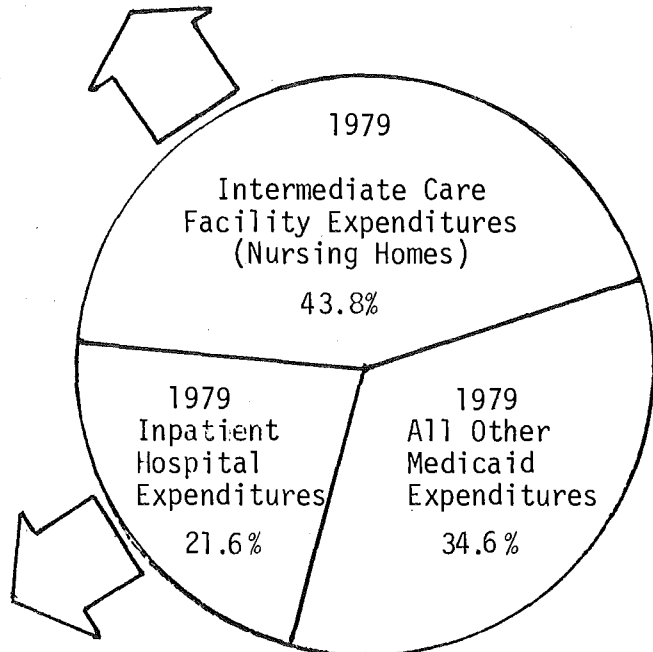
Source: Maine Department of Human Services  
Income Expenditure Reports, FY 1974-FY 1978

Figure 3

Medicaid Expenditures by  
Type of Service  
FY '74 - FY '79  
(Millions of Dollars)



Total Expenditures  
for FY 1979 -  
\$124,732,000





Hospital inpatient expenditures are also rising, but at a slower annual rate of 17% annually from FY 1974 - FY 1978. Data for FY 1979 show an increase over this rate to 21.7% from FY 1978. Large increases in the "All Other Medicaid Expenditures" category reflect the addition of optional programs over the years.

(2) Catastrophic Illness Program

(See Section E.1.b.(1), (p. 126)).

c. Bureau of Rehabilitation

(1) Office of Alcoholism and Drug Abuse Prevention

The following are the estimated expenditures for FY 1980 for the Office:

Administrative Services	\$ 153,492
Planning/Coordination	173,215
Management Information Services	39,935
Treatment, Rehabilitation and Intervention	3,242,360
Quality Assurance and Evaluation	70,340
Prevention and Education	73,686
Manpower and Training	64,126
Direct Office Overhead	117,059
	<u>\$3,934,213</u>

d. Bureau of Health Planning and Development

(1) Maine Certificate of Need Program

From January 1, 1980 to September 25, 1980, the Certificate of Need review program saved \$8,937,938 in capital costs and \$3,141,415 in first year operating costs.

The table below lists the projects that were reduced, withdrawn or disapproved and the resulting savings in capital and first year operating expenses.

<u>Applicant</u>	<u>Orig. Cap. Expend.</u>	<u>Approved Cap. Expend.</u>	<u>Capital Savings</u>	<u>1st year Oper. Savings</u>
EMMC	\$14,160,000	\$9,860,000	\$4,300,000	\$ 500,000
Portland Cty. Hosp.	5,413,000	4,977,000	436,000	214,000
Evergreen Manor	363,800	(withdrawn)	363,800	221,920
Veteran's Home	6,000,000	4,200,000	1,800,000	990,754
Wyman Mem. Manor	1,983,000	disapproved	1,983,138	1,214,741
Regional Mem. Hosp.	4,060,000	4,005,000	55,000	-
			<u>\$8,937,938</u>	<u>\$3,141,415</u>

The Certificate of Need review program, through disapprovals and agreed upon reductions of projects, cut capital costs of project applications by 19.3%. The program reviewed a total of 32 applications whose proposed capital costs were \$46,258,238 during the nine month period.

e. Office of Dental Health

The budget for the Office of Dental Health for fiscal year 1979 was \$40,016, which was used to accomplish the objectives of the Office.

f. Other Programs

(1) Emergency Medical Services

The Maine EMS Project has been funded through two federal programs: The National Highway Safety Act and the Emergency Medical Services Systems Act. In the period from July, 1975, through December, 1978, funds expended for the EMS Project totaled approximately \$2,800,000. The current annual budget is \$1.2 million. Program expenditures cover

central management, personnel training, communication and vehicle equipment, and the purchase of emergency vehicles.

(2) Long Term Care

There is no accurate estimate of total expenditures in Maine for long-term care services. Long-term care encompasses a broad range of health, social and nutritional services for which information on total expenditure is unavailable. The following table displays total expenditures by source of funds for one long-term care service - nursing home care.

Table 13

Nursing Home Care Expenditures by Sources of Funds  
Maine, 1977 (Calendar Year)  
(000's)

Total Expenditures	<u>\$74,061</u>
Private	
Consumer Out-of-Pocket	24,354
Third Party Private Insurance	340
Public	
Federal	
Medicare	2,909
Medicaid	32,170
Veterans Administration	294
State	
Medicaid	13,540
Local	
Municipal Government	454

Source: Bureau of Health Planning and Development  
Department of Human Services, August, 1979

2. Department of Mental Health and Corrections

a. Bureau of Mental Health

A summary of funds budgeted for mental health services within the Department of Mental Health and Corrections follows:

FY 1980

Augusta Mental Health Institute	\$ 8,900,000
Bangor Mental Health Institute	7,200,000
Grants-in-Aid to Community Mental Health Centers	<u>3,900,000</u>
Total	<u>\$20,000,000</u>

b. Office of Children's Services

(See a., above).

### 3. Other State Policies/Programs

#### a. Other Dental Health Programs or Policies

Approximately eighty percent of Maine's population is served by public water supplies. About half of that eighty percent (or 535,000 people is served by unfluoridated water supplies.

Many studies have suggested that fluoridated water supplies will produce large, long-term savings in dental care expenses. One such study has estimated that for each dollar spent on fluoridating public water supplies, \$35 in dental bills are saved for children under the age of 20.\* On this basis, it can be estimated that if those communities in Maine with public water supplies which are presently unfluoridated were to fluoridate their systems, in a few years approximately \$5,000,000 in dental bills would be saved annually. (This calculation is based on an estimated one-third of the 435,000 people in those towns being under the age of 20 and an annual cost of \$1 per person for fluoridating the water supplies. Fluoridation would not produce large savings immediately, but would require several years for the appearance of cumulative effects in the population.)

As noted in Section A.3.b.(1) (p. 147), the State has implemented a loan forgiveness program to encourage Maine students to go to dental school and to return to Maine on graduation. Under the system operating until 1977, nearly two-thirds of the "contract students" returned to practice in Maine, as shown in Table 14:

\*Dunning, J.M., Dental Care for Everyone: Problems and Proposals, Harvard University Press; Cambridge, 1976.

Table 14

1977 Location of Tufts Dental Contract Students  
by Type of Activity and Year of Graduation\*

	<u>1974</u>	<u>1975</u>	<u>1976</u>
Number of Students in Group (cumulative)	7	12	36
Found to be Practicing in the State of Maine	1 (14.2%)	7 (58.3%)	23 (63.9%)
Found to be Practicing Out- of-State	3 (42.9%)	2 (16.7%)	5 (13.9%)
In Military	3 (42.9%)	2 (16.7%)	5 (13.9%)
Inactive	-	1 (8.3%)	2 (2.8%)
Unknown (did not graduate)	-	-	1 (2.8%)
Total	7 (100%)	12 (100%)	36 (100%)

Source: Dental Health in Maine:  
Selected Characteristics, 1975,  
Maine Department of Human Services  
Bureau of Health Planning and Development  
May, 1978

b. Primary Care

Federal assistance in the establishment and operations of ambulatory care centers in Maine has been a factor in the attempt to improve accessibility to primary health care services. The basic program, Rural Health Initiative (RHI) of the Bureau of Community Health Services, has provided funding through three types of projects, the National Health Service Corps. (NHSC), Health Underserved Rural Areas (HURA), and Community Health Center grants.

The NHSC provides federally salaried health professionals for communities certified as health shortage areas. Seven of the ambulatory care centers utilize this program for the provision of medical services. HURA is designed to encourage existing self-sufficient health care providers to extend services to underserved rural areas. In fiscal year 1977, there was approximately \$459,000 made available through this program in Maine. Fourteen centers



have been established with aid from HURA grants. The Community Health Center grants funded centers in the amounts of \$4,882,000 in fiscal year 1976 and \$1,766,000 in fiscal 1977. These grants are designed to support the development and operation of primary health care centers in addition to expansion of services and population coverage.

Additional federal assistance is made available through Family Medicine Training Grants. These grants provide residency training in family practice as well as fulfilling a manpower need for the centers. Three centers, which are licensed parts of hospitals, receive this type of funding. In fiscal year 1977, \$585,800 was expended on this program. An additional \$353,000 was made available in 1977 through the Veteran's Administration that also supported residency training for family medicine.

In summary, the total federal assistance, except for the NHSC program, amounted to approximately \$3,163,800 in fiscal year 1977 under the various programs.

The Robert Wood Johnson Foundation has also been a source of funds for one center, and has made available a four year grant beginning in 1977 for \$468,000 in support of a primary care group practice.

c. State Department - Motor Vehicle Division - Medical Advisory Committee

Approximately \$30,000 in State funds are used to support the activities of the Medical Advisory Committee and the Social-Medical Coordinator of the Division of Motor Vehicles.









#### IV. State Level Planning

One of the components of a State health plan recommended by federal guidelines is "State Level Planning." This component should contain goals, objectives necessary to achieve the goals, recommended actions to implement the objectives, and resource requirements to accomplish the recommended actions.

The first section of this chapter of the State Health Plan for Maine contains the goals, objectives, dates for implementation, recommended actions, and resource requirements for health services. These services are generally not inpatient services.

The second section of this chapter contains standards for acute care facilities and services adopted in response to the National Guidelines for Health Planning. Those standards were originally based on work performed by the Maine Health Systems Agency, Inc. in 1980 to develop standards based on the needs of Maine people and the services available in our State. Since that time, the Council has reviewed and revised many of these standards to reflect new information provided through Council study. The National Guidelines were listed in the 1981 State Health Plan for Maine. They are not listed in this Plan.

The goals, objectives, and standards presented below reflect a commitment by the Maine State Health Coordinating Council to adopt courses of action which are realistic and achievable. The Council has tempered its desire to improve health and health care in Maine with recognition of the limited resources available for such improvement and the political, social, and legal obstacles to making sweeping changes. The goals and objectives below have been made quantifiable and measurable whenever there

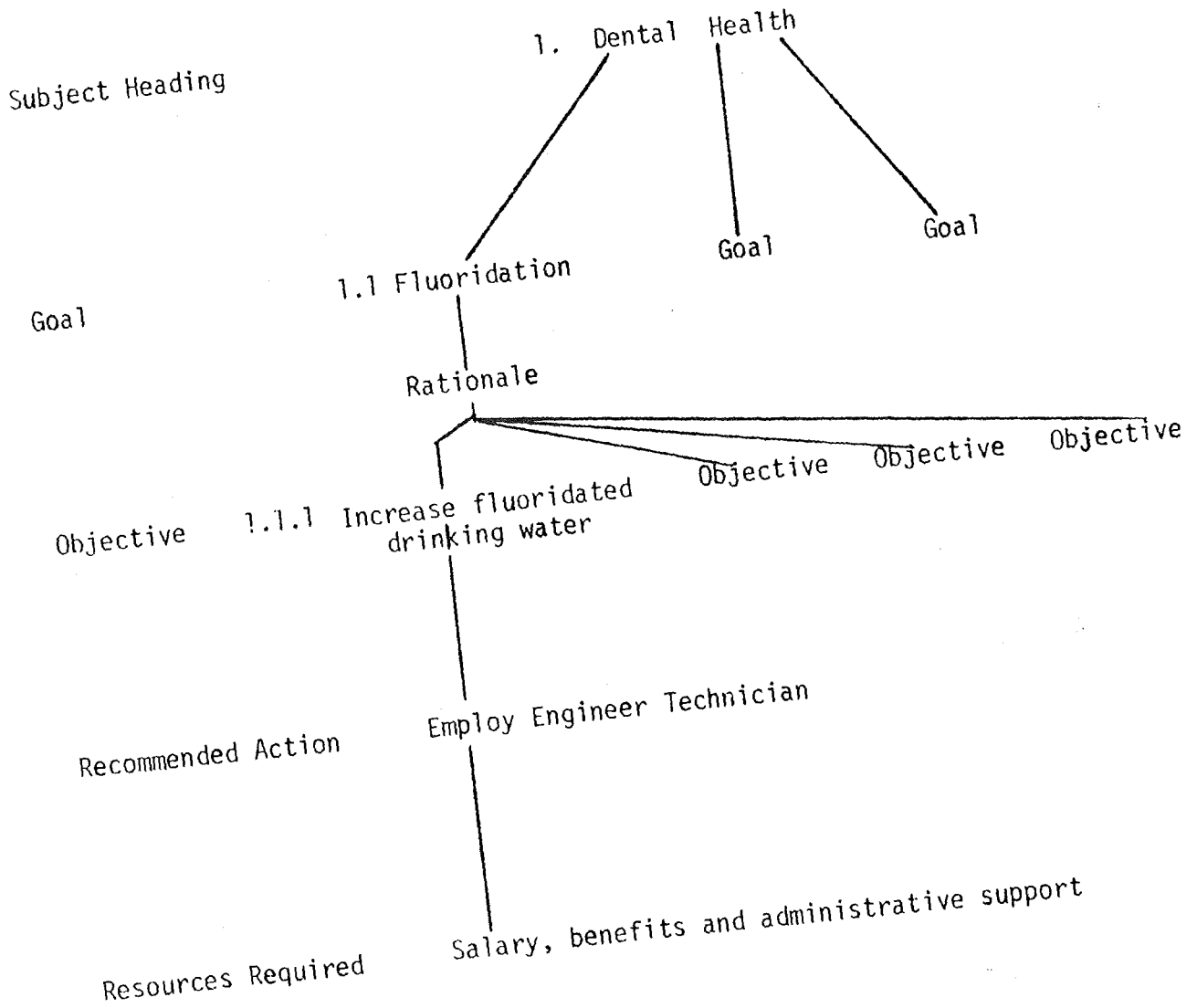
was sufficient information to do so. The care in developing the goals, objectives, recommended actions, and resource estimates is illustrated by the numerous organizations and groups which were involved in developing the State Health Plan for Maine. These are listed and their roles described in Chapter V, Inter-Agency Coordination.

Section A of this chapter is divided into ten subject headings. Each part represents a component of the health care system. For the purpose of analysis, this categorization is convenient, but there are multiple inter-relationships among them. Many of these interrelationships have been cross-referenced.

Within each subject heading, goals established by the SHCC are enumerated. Following each goal is a rationale which briefly summarizes the reasoning behind the goal.

Having established basic goals, the Council delineated specific objectives to achieve them. The objectives are stated and followed by two sub-headings, Recommended Action and Resources Required. Some objectives have specific dates of completion and others are of a continual nature which is indicated as "ongoing." Using Dental Health as an example, the chart on the following page illustrates the format.

Figure 1



## Health Status and Health Systems Goals

There are several points which should be noted with respect to Section A. First, the reimbursement policies of third party payers have important effects on medical practice. The procedures and tests for which there will be reimbursement and the settings in which care will be reimbursed will influence the choices of consumers and providers. Several objectives in Section A point to specific areas in which reimbursement policies should be studied for such effects. Second, the role of the community mental health centers in providing mental health services is not fully addressed in Section A.10 (p.360). These centers are important elements in the mental health care system in Maine and future versions of the State Health Plan will more fully discuss them. Third, comprehensive medical rehabilitation is an important rehabilitative service provided in Maine hospitals. It is not addressed in the rehabilitation and maintenance section below. This service should be addressed in future revisions of the State Health Plan.

### 1. Dental Health

#### GOAL 1.1 FLUORIDE

TO INCREASE THE PROPORTION OF MAINE'S POPULATION RECEIVING THE BENEFITS OF FLUORIDE.

#### Rationale

Dental disease is one of the most easily prevented health conditions, but it remains a serious problem in Maine, exacerbated by economic factors, the geography of the State, individual motivation, and the lack of adequately fluoridated water in many areas. Fluoride in various forms reduces tooth decay. The fluoridation of community water supplies is the most effective, least expensive method. At the present time, about half of the people residing in Maine towns served by public water systems do not have the benefits of fluoridated water.

### Objective 1.1.1

To increase the percentage of Maine's population on public water supplies which receives the benefits of optimally fluoridated drinking water from 50% to 67% by 1986.

### Recommended Action

Approximately 80% of the population in Maine is served by public water supplies; currently, half of these people are served by fluoridated water. Maine is one of a handful of states across the country in which the decision to fluoridate a public water supply must be made through a referendum process. The Department of Human Services views public water fluoridation as the safest, most effective, and least expensive way of preventing tooth decay in areas served by public water utilities. Therefore, the Department, through the Office of Dental Health's Fluoridation Program, actively supports and promotes this public health measure. A primary aim of this Program is to provide technical assistance to municipalities and school districts who indicate an interest in fluoridation, and financial assistance to communities and schools that decide to fluoridate. In addition to increasing the number of fluoridated schools and communities, Program staff are involved with a statewide surveillance and monitoring system. The purpose of this system is to assure that fluoride levels in community and/or school water systems are maintained at an optimum level.

### Resources Required

The Office of Dental Health received a project grant in 1980 from the Centers for Disease Control to establish the Maine Fluoridation Program. The Program received continuation funding in 1981. Late in 1981, this Program is slated to become part of the Preventive Services Block Grant. The objectives of the Program call for the fluoridation of at least one community and ten schools per year over a five-year time period. Communities and schools considered for fluoridation must conform to certain criteria



established by Program staff. Size (population) is a major consideration. The cost of fluoridating a rural school is approximately \$2,500; the cost of fluoridating a community varies considerably depending on the size of the community and the type of fluoride used. Annual costs to be incurred in the implementation of the Fluoridation Program are estimated at \$80,000, allocated by the State from Federal Block Grant funds.

#### Current Status

The Office of Dental Health is administering the federally funded Maine Fluoridation Program with a full-time project director and a fluoridation technician. These individuals' responsibility includes outreach and educating the general public about fluoridation and promoting fluoridation as a highly cost-effective public health measure. In addition, they provide technical and financial assistance to communities which have decided to fluoridate. The Town of Madison voted in March, 1981, to fluoridate its water district, the first positive fluoridation vote in Maine in 10 years.

#### Objective 1.1.2

To increase the percentage of Maine schools on independent water supplies which receive the benefits of optimally fluoridated drinking water from 10% to 30% by 1985.

#### Recommended Action

In areas not served by public water supplies, school water fluoridation provides a particularly viable means of assuring that school-aged children receive the benefits of optimally fluoridated drinking water. There are 200 schools in Maine on independent water supplies. Twenty schools in the State currently operate fluoridation units, under the close supervision of Fluoridation Program staff. Through this Program, schools have obtained all the necessary equipment, supplies, and reimbursement for installation costs related to school fluoridation. In addition to financial and technical assistance, Program staff routinely provide educational forums and materials

to community groups, school boards, and parent-teacher clubs.

#### Resources Required

Funds needed to continue school fluoridation efforts are included in the budget of the Fluoridation Program.

#### Current Status

In 1980-81, the Maine Fluoridation Program, with federal funds, replaced out-of-date fluoridation equipment at 10 schools throughout the State; 8 additional schools have decided to fluoridate and are in the process of installation; and the Program staff are currently providing information to a number of school boards, superintendents, principals, school nurses, and others in school districts across the State.

#### Objective 1.1.3

To provide topical and/or systemic fluoride supplements as part of State-funded, school-based dental health education programs, in public and private schools, grades K-6.

#### Recommended Action

In 1979, the 109th Legislature passed 22 MRSA § et seq., "Administration of School Dental Health Education Programs." It specified that the Office of Dental Health, Department of Human Services, was authorized to administer a program of dental health education to children in public and private school systems, grades kindergarten through six. Through the School Dental Health Education Program, annual grant awards are made to local educational agencies for purposes of carrying out dental health education activities. After two years of financial support attached to the statute cited, the School Dental Health Education Program was included in the Department of Human Services budget. The 110th Legislature authorized an additional request for funding in the Part II budget, allowing for considerable expansion of the Program. In 1981, over 40,000 children in 200 schools will participate in locally developed, State-funded school dental health education programs.

Through these programs, children are eligible to receive a daily fluoride tablet and/or a weekly fluoride rinse (with parental consent) in addition to classroom education. The type of program (tablet and/or rinse) depends on other factors, such as the fluoridation status of the water supplied to the school.

#### Resources Required

Expenditures are dependent on the number of children participating in the program. For school year 1981-82, \$80,000 (State funds) is available for direct grants to local educational agencies; an additional \$27,500 is available from Federal Title V funds, for a total of \$107,500 aimed at the implementation of this objective. It should be noted that grants to local entities are based on the number of participants, up to a maximum of \$2 per child per year. In 1980-81, the State allocated an average of \$1.59 per child. Given the documented effectiveness of self-applied fluorides in reducing tooth decay (up to about 50%), this particular program is viewed as a cost-effective public health measure to improve the dental health status of school-aged children.

#### Current Status

The Office of Dental Health currently receives \$40,000 a year (1980-81) from a State appropriation and \$20,000 a year from Title V (Maternal and Child Health) for school dental health programs. All of these funds are granted to local educational agencies for purposes of buying supplies needed for dental health programs (e.g., fluoride rinse, tablets, toothbrushes). Funding is anticipated to continue at a slightly increased level in 1981-82. Efforts are underway to increase adoption of school dental programs at the local level.

#### Objective 1.1.4

To promote the prescription and use of fluoride for children who have no source of systemic fluoride.

### Recommended Action

There is evidence that preschool children, who stand to benefit most from fluoride, are not receiving it. Even when physicians and dentists prescribe fluoride for these children, there are indications that many prescriptions are not filled or are not regularly administered to the children. Little change in this situation can be anticipated without active promotion of the benefit of fluoride.

Educational programs should be conducted with key professional groups statewide, such as the Maine Dental Association, the Maine Dental Hygienists' Association, the Maine Medical Association, the Maine Osteopathic Association, the Physicians Assistants Association, and the Maine State Nurses Association, and others to promote the use of supplemental fluorides. Particular efforts should be made to urge physicians to adopt a policy of prescribing fluoride drops for children under the age of six and to school-age children who both live in communities which do not have fluoridated public water supplies and attend schools without a systemic fluoride component in a dental education program.

### Resources Required

Funding for preschool dental health education activities (including the provision of supplemental fluorides) is provided through a Title V grant to the Office of Dental Health for 1981-82. The amount of funding available is \$9,500. Additional financial and other support for educational activities that are undertaken to meet this objective may be provided by a variety of voluntary health associations (the Maine Dental Health Council, Maine Dental Association, Maine Medical Association, etc.).

### Current Status

The Maine Dental Health Council routinely sponsors educational activities that promote the use of fluoride supplements for children in unfluoridated areas. Additionally, the Office of Dental Health and the Maine Dental Health Council conduct a variety of public and professional education activities related to fluoride supplementation.

### Objective 1.1.5

Establish a statewide coalition of health agencies and organizations to promote community and rural school fluoridation.

### Recommended Action

The Maine Dental Health Council issued a dental needs study report in 1981. Recommendations in the report call for the convening of a statewide group to promote the adoption of fluoridation by communities and rural schools. Although many health professional organizations, community groups, and individuals throughout the State support fluoridation, there has been no effort to date to coalesce and coordinate their activities. The proposed group would work to actively endorse fluoridation through public education.

### Resources Required

Implementation of this objective is expected to require little in the way of financial support. Coalition members would be expected to volunteer their time. Reimbursement would be provided, as it is to other groups convened by the Department, for automobile travel to and from meetings, according to State regulation.

### Current Status

The Maine Fluoridation Program is developing plans for a statewide coalition to be convened in late 1981. Coalition members will participate in training sessions and public education activities through their constituency groups and in their own communities.

## GOAL 1.2 EDUCATION

TO EDUCATE MAINE'S PEOPLE TO THEIR PERSONAL RESPONSIBILITY  
IN MAINTAINING THEIR DENTAL HEALTH.

### Rationale

It has already been stated that dental disease is one of the most preventable of health problems. While fluoride is a proven barrier to tooth decay, the most effective prevention program combines fluoride with good oral hygiene. Dental health education is the mechanism to instill conscientious and effective dental hygiene habits.

### Objective 1.2.1

To provide dental health education as part of school health education in Maine schools.

### Recommended Action

During 1980-81, the Office of Dental Health administered a statewide school dental health education program to approximately 30,000 children in grades K-6 through about 30 local program directors. Materials such as fluoride rinse, tablets, toothbrushes, curriculum guides, and other items can be purchased by local programs with State funds. The Office of Dental Health endorses school dental health education efforts that include a fluoride component (tablet and/or rinse) as well as classroom instruction and teacher inservice training. Program effectiveness is documented through periodic assessments of decayed, missing, and filled tooth surfaces (DMFS) among participating and non-participating children.

### Resources Required

As stated previously, funds are allocated for school dental health education programs on a per capita basis, annually, to local programs. Each local program desiring funding must submit a written proposal to the Office of Dental Health, according to Guidelines established by the Office and the Maine Dental Health Council. In 1981-82, approximately \$107,500 is available for local school dental health programs.

### Current Status

The number of State-funded school dental health education programs has increased dramatically in the past year. The number of students participating has grown from 19,000 (1979-80) to over 35,000 in 1980-81. The number of children who participate is dependent to a great extent on the existence of State funding.

### Objective 1.2.2

To encourage improved dental health through public and patient education.

### Recommended Action

Members of subcommittees involved in the Dental Needs Study undertaken in 1981 by the Maine Dental Health Council identified a need for public education, related to dental services, the State's Medicaid program, fluoridation, and nutrition. The Maine Dental Health Council should undertake or assist other organizations to design and carry out educational programs targeted to these issues. The Maine Dental Health Council, the Office of Dental Health, and other organizations should continue their efforts to increase the promotion of patient education, including letters, professional meetings, notices in newsletters, and printed materials such as posters.

### Resources Required

Funds to purchase educational materials and space in public media (such as radio) are required to implement this objective. The total cost of public education activities is dependent on the type and number of activities undertaken, and is therefore impossible to estimate at this time. Additionally, the voluntary participation of the State's professional health organizations would be necessary for implementation.

### Current Status

The Maine Dental Health Council plans to design and carry out a public education program as suggested in the Dental Needs Study Report. The Office of Dental Health plans to issue a quarterly newsletter, aimed at a wide variety of people throughout the State. The newsletter will report on local as well as State dental health issues.

### Objective 1.2.3

To encourage adherence to the "competitive foods" policy established by the Department of Educational and Cultural Services.

### Recommended Action

Members of the prevention and education subcommittee of the Dental Needs Study Committee identified a need for stricter adherence to the existing State policy regarding "competitive foods." These foods are items sold in competition with school prepared meals and are usually of minimal nutritional value, such as soda, gum, and candy bars. The State policy is:

Any food or beverage sold during the normal school day on school property of a school participating in the National School Lunch or School Breakfast Programs shall be a planned part of the total food service program of the school and shall include only those items which contribute both to the nutritional needs of children and the development of desirable food habits. Funds from all food and beverage sales during the normal school day on school property shall accrue to the benefit of the school's non-profit school food service program.

Although the policy is in existence, many parents and school officials do not know about it. Rather than attempt to change the regulations, the subcommittee recommended a variety of educational strategies.

### Resources Required

Funds are needed to prepare and print educational materials and to rent exhibit space at appropriate organizational meetings. The total cost is difficult to estimate at this time, but should not exceed \$1,000.



## Current Status

The Statewide Advisory Council of the Nutrition Education and Training Program convened an ad hoc Snack Foods Task Force in 1979. Although the Task Force made a good start toward educating school officials, much remains to be done.

## GOAL 1.3 MANPOWER

TO PROVIDE ADEQUATE DENTAL HEALTH PROVIDERS ON A PERMANENT BASIS TO AREAS THAT ARE UNDERSERVED.

### Rationale

In a State with distinctly urban and distinctly rural areas, the distribution of health providers and the population's access to health care vary greatly. Adequate health services and facilities must be distributed so that all Maine citizens have reasonable access to them.

Dental providers include dentists, hygienists, dental assistants and denturists. The objectives are limited to those providers who are licensed: dentists and hygienists. There is currently no source of data on dental assistants and denturists. It appears unlikely that information will be gathered on these groups because of budgetary constraints and the withdrawal of federal contracts to operate health manpower files.

### Objective 1.3.1

To continue maintaining a data base on the number and location of practicing dentists in Maine.

### Recommended Action

The Maine Health Manpower Inventory operated by the Bureau of Health Planning and Development, Department of Human Services, includes a computerized file of Maine dentists, based on a biennial survey conducted in cooperation with the Maine Board of Dental Examiners. This data base is used for manpower planning, resource planning, and shortage area determination. The Bureau of Health Planning and Development, Maine Board of Dental Examiners,

and the Office of Dental Health should continue to cooperate in the collection of these important data, maintaining their accuracy and easy accessibility.

The Bureau of Health Planning and Development has also surveyed dental hygienists as part of the Health Manpower Inventory. It is unlikely that this file will be updated in the future because of the withdrawal of Federal funding. Information on this group will continue to be available from the Maine Board of Dental Examiners which licenses dental hygienists.

#### Resources Required

The costs associated with collecting and maintaining this file have recently passed from the National Center for Health Statistics under the Cooperative Health Statistics System to the Bureau of Health Planning and Development. Estimated cost associated with this program during the fiscal year beginning July 1, 1981, is \$5,000.

#### Current Status

Ongoing.

#### Objective 1.3.2

To continue to evaluate information on the distribution of dentists in Maine as required to appropriately designate dental manpower shortage areas in Maine.

#### Recommended Action

The Bureau of Health Planning and Development, acting for the Governor, in cooperation with the Office of Dental Health, is required to review applications and submit recommendations for dental manpower shortage area designation to the Federal Bureau of Health Professions. The Maine Health Systems Agency, Inc. also functions under this requirement. This information results from the manpower survey described in Objective 1.3.1.

Once a shortage designation is made by the federal government, a community or sponsoring organization may seek to recruit a dentist from the National Health Service Corps. The information is also useful to dentists looking for a practice location in Maine.

#### Resources Required

This function is currently carried out by staff of the Bureau of Health Planning and Development and the Maine Health Systems Agency, Inc.

#### Current Status

Ongoing.

#### GOAL 1.4 DENTAL HEALTH OF "SPECIAL" GROUPS

TO IMPROVE THE DENTAL HEALTH OF "SPECIAL" POPULATIONS IN MAINE INCLUDING, BUT NOT LIMITED TO, THE VISUALLY HANDICAPPED, THE DEAF, PREGNANT AND POST-NATAL WOMEN, RESIDENTS OF NURSING HOMES, AND PRISONERS.

#### Objective 1.4.1

To conduct educational programs for long term care facility officials, staff, and patients that is aimed at maintaining the oral health of the patient.

#### Recommended Action

The Dental Needs Study Report, issued by the Maine Dental Health Council in 1981, contains several high priority recommendations aimed at improving dental care among long term care facility patients. Given pending federal budget cuts, a modification in the Medicaid or Medicare program guidelines (to permit reimbursement for dental services) seem unlikely. Therefore, the Council recommended an educational approach that is intended to provide nursing home personnel with the information and skills needed to implement a dental care program.

#### Resources Required

It is anticipated that a variety of professional organizations will be willing to share resources (e.g., personnel, printing, etc.) needed to attain this objective. If additional funding is required, the Council may apply to outside agencies for that assistance.

### Current Status

The Maine Dental Health Council, the Veterans Administration Center, the Maine Dental Association, the Maine Dental Hygienists' Association, the Maine Health Care Association, the Division of Licensing and Certification of the Department of Human Services, and the Office of Dental Health have developed a proposal for a one-year pilot project. Through this project, nursing home personnel would be trained to provide routine dental care to patients.

### GOAL 1.5 MAINTENANCE OF DENTAL SERVICES

TO MAINTAIN DENTAL SERVICES FOR THE STATE'S POPULATION.

#### Rationale

Professional treatment is a critical part of any comprehensive dental program, since once the disease process starts, proper care is essential or the disease process will continue. Currently, the State's Medicaid program covers dental services for eligible individuals up through age 21. These services may be curtailed based on planned federal cutbacks.

#### Objective 1.5.1

To develop and carry out activities that support continuation of dental services to the State's Medicaid-eligible population, age 21 and under.

#### Recommended Action

As outlined in the Dental Needs Study Report prepared by the Maine Dental Health Council, dental services should be provided to those who cannot afford care. The Maine Dental Health Council, Maine Dental Association, community organizations, communities, and others should work together to formulate methods of maintaining dental care for economically disadvantaged persons, if federal budget cuts curtail or eliminate this part of the Medicaid program.

### Resources Required

Funds are required to reimburse dentists participating in the Medicaid program for services provided to children of Medicaid-eligible parents. The Medicaid program is supported by a 70% federal match (to the 30% State share). It is estimated by the Bureau of Medical Services that over \$2 million will be needed to support the program in FY1981.

### Current Status

Ongoing.

## 2. Emergency Medical Care

### GOAL 2.1

HIGH QUALITY BASIC THROUGH ADVANCED LIFE SUPPORT SERVICES (DEPENDING ON AREA NEED AND SUFFICIENT DEMAND TO MAINTAIN SKILLS) SHOULD BE AVAILABLE TO MAINE'S POPULATION WITHIN A REASONABLE LENGTH OF TIME FOR THE AREA.

### Rationale

Life support services are those emergency services which are available to a person with an emergent condition before he reaches an emergency room or physician. Individuals responding to an emergency are trained at various levels of skills. Citizens may be trained in cardio-pulmonary resuscitation; police and fire personnel in crash injury management; ambulance personnel to the basic through advanced emergency medical technician (EMT) level. The goal and the first objective are qualified so that the level of training will be appropriate to meet the needs of the population and sufficient to maintain skills. A currently accepted standard identifies Military Anti-Shock Trousers (MAST) and Esophageal Obturator Airways (EOA) as skills which should be generally available; cardiac monitoring and Intravenous Insertion (I.V's) are skills which may not be appropriate in rural areas.

Section 5, Perinatal Care (Obstetrics and Newborn Care), and Section 10, Mental Health Services, also discuss emergency medical care as it relates to these areas.

### Objective 2.1.1

To train ambulance personnel to the EMT and EMT advanced level, as appropriate to area needs, with continuing education provided to maintain licensure. (ongoing).

### Objective 2.1.2

To train and provide continuing education for public safety personnel to first responder level. (ongoing).

### Recommended Action (Combined for Objectives 2.1.1 and 2.1.2)

The Department of Human Services, through the Office of Emergency Medical Services (OEMS), should continue organizing, coordinating, and monitoring training of all EMS personnel at all levels.

Coordination should be maintained by the OEMS, regional EMS Councils, professional societies, and voluntary health organizations.

Training to meet licensure should be centralized through Maine's Vocational Technical Institutes and resource hospitals. Continuing education should be offered, as appropriate, through hospitals, Vocational Technical Institutes and professional groups.

### Resources Required

Cost estimates for implementing these objectives are not presently available.

### Current Status for Objective 2.1.1

Training of ambulance personnel has continued over the last year. Between July 1980 and May 1981, 740 persons were trained to the EMT level and 91 EMT's were trained to the MAST/EOA level.

### Current Status for Objective 2.1.2

The first responder program is offered on a regular basis at the Maine Criminal Justice Academy. By State statute, municipal police officers must attend this course within one year of beginning work. The first responder course is also widely offered through the Vocational Technical Institute system for the training of ambulance personnel and the public.

### Objective 2.1.3

To continue efforts to train as many individuals in the general public as possible in cardiac pulmonary resuscitation (CPR). (ongoing).

#### Recommended Action

Under the EMS act, several hundred thousand dollars worth of CPR training equipment was purchased and turned over to the regional councils as part of their basic working equipment. This equipment can be used to support public CPR training; but it must also earn a return which will help support the regional councils. To achieve the full use of the equipment, there must also be support for the necessary administrative costs, both within the councils and within the Heart Association and Red Cross.

An effort was made in the first regular session of the 110th Legislature to make CPR a mandatory course for high school students. This effort was opposed by the Department of Educational and Cultural Services for lack of funds to support it.

A reasonable course of action would be for the SHCC and OEMS to support the wider teaching of the public in CPR employing the equipment of the EMS regional councils and the certification mechanisms of the Heart Association and Red Cross.

#### Resources Required

This course of action would be supported by charging each student a fee for taking the course. Present charges in such courses are about \$5.00 per student.

#### Current Status

Cardiac pulmonary resuscitation courses are offered by the American Heart Association and the American Red Cross. These courses are offered widely throughout Maine. The EMS program provides equipment to the American Heart Association instructors for use in this program. The regional EMS offices provide major administrative support to this program.



## GOAL 2.2

EMERGENCY MEDICAL CARE PROVIDED IN MAINE HOSPITALS WITH EMERGENCY ROOMS SHOULD BE OF HIGH QUALITY.

### Rationale

Highly specialized skills are necessary to treat effectively many emergency conditions. Personnel working in emergency rooms must work as a team, consequently it is important that each member of the team have the skills necessary to provide the level of care required. It is also important for emergency room personnel to have opportunities to maintain their skills at an accepted level.

### Objective 2.2.1

To have in each hospital's emergency room a pre-established, trained team to provide emergency care; and to insure that these teams are supported by programs of continued training and education. These teams should include physicians and nurses, and technicians, physicians assistants, respiratory therapists, and other specialists as are appropriate to the size of the hospital.

### Recommended Action

Refer to Recommended Action for Objectives 2.1.1 and 2.1.2.

### Resources Required

Refer to Resources Required for Objective 2.1.1 and 2.1.2.

### Current Status

Between July 1980 and May 1981, the following personnel have been trained through the State and Regional EMS programs.

- 16 physicians to the Advanced Trauma Life Support Level
- 452 physicians, nurses and EMT's to the Advanced Cardiac Life Support Level
- 220 nurses to the Emergency Department Nurse Association Curriculum

GOAL 2.3

AN EFFECTIVE, COORDINATED EMERGENCY MEDICAL CARE COMMUNICATIONS SYSTEM SHOULD BE AVAILABLE TO MAINE'S POPULATION FOR ACCESS, DISPATCH, AND MEDICAL CONTROL.

Rationale

Fully effective emergency medical care services require communications networks which can link the population in need of emergency services to providers of such services. This will allow providers to direct emergency care to those in need, and will establish appropriate medical direction for those providing emergency care. This goal and its objective are designed to improve each of these aspects of emergency medical communications in Maine.

Objective 2.3.1

To provide technical and/or financial assistance to communities, ambulance services, and hospitals to insure optimum access to the emergency medical services system either through seven digit or 911 telephone exchanges. (ongoing).

Objective 2.3.2

To provide a system of radio communication which will allow the control of field medical care by responsible emergency physicians. (ongoing).

Recommended Action (Combined for Objectives 2.3.1 and 2.3.2)

The Department of Human Services through the OEMS and the Department of Transportation should be responsible for completing the above goal in their respective areas. Regional requirements for communications needs are also provided on a consultant basis.

Resources Required for Objective 2.3.1 and 2.3.2

OEMS staff estimate that cost for equipment and manpower to expand the communication system, over the next 5 years, will be 1 to 1.5 million dollars.

Current Status for Objective 2.3.1

The effort to insure optimum access to the emergency medical service system either through seven digit or 911 telephone exchanges is being conducted on a region by region basis. Progress is being hampered because

telephone companies across the state are in a slow process of converting mechanical switching to touch tone systems. The companies are reluctant to equip the old systems with emergency exchanges, because the switchboard conversion means the emergency systems will have to be installed twice; once in the old and once in the new system. Because both changes will cost the user money, it is economically, technically and politically more feasible to add the emergency system once, when the mechanical switching systems are converted to touch tone systems.

#### Current Status for Objective 2.3.2

Two of the EMS Regional Councils are in the process of designing and purchasing communication systems. Tri-County has put out to bid their system which would connect the ambulance services and hospitals with each hospital in the Tri-County region.

The Aroostook Council is planning for a two-way communication system costing approximately \$150,000 which will soon be put out to bid. With the completion of these systems, the entire state will have a two-way communication system in place.

The FCC has recently changed its regulations to permit biomedical data to be transmitted on VHF. This applies to rural areas for which the entire State of Maine qualifies. Existing radio channels can be used to transmit biomedical data from ambulance to hospital. This opens up to Maine the possibility of telemetry without expensive radio equipment.

Both Portland and Kennebec Valley have on-line medical control via a two-way communication system in the prehospital setting. These systems provide biotelemetry of cardiac rhythm strips and voice communication between physician and technician. The system in Portland connects the three hospitals in the city, the state Poison Control Center, the Burn Center and the neonatal specialty unit with ambulances and with Coast Guard rescue units.

## GOAL 2.4

TO ASSURE ADEQUATE, SAFE, AND ACCESSIBLE EMERGENCY TRANSPORT TO MAINE'S POPULATION.

### Rationale

Emergency vehicles are very expensive, with the cost varying according to the sophistication of the life support equipment on them. The need for equipment is related to the kinds of emergent conditions most likely to be encountered. Communities find it difficult to purchase emergency vehicles which they need. Licensing of vehicles and personnel is an important means of maintaining the quality of emergency medical care. A vigorous licensing program can improve and maintain the quality of emergency medical care.

### Objective 2.4.1

To secure financial assistance for communities and organizations which wish to purchase essential transportation equipment and to encourage the establishment of advanced life support equipment in ambulances where feasible and appropriate. (ongoing).

### Objective 2.4.2

To increase the number and accessibility of the State's agents who license vehicles and personnel, so as to improve the quality control capability of the licensing system. (ongoing).

### Recommended Action (Combined for 2.4.1 and 2.4.2)

Ambulance vehicles are licensed by the Department of Human Services. On-site survey of equipment is necessary to meet licensure standards. Maine ambulance companies utilize vehicles which are generally in compliance with national standards.

Recent policy changes by the federal Department of Transportation have cut off funds which, for several years, have supported the purchase of ambulances and equipment by Maine communities. The Office of Emergency Medical Services should continue its efforts to reestablish federal support for this program.

Advanced life support capability should be encouraged in areas where there are sufficient resources and ambulance runs to maintain skill level. The Departments of Human Services and Transportation, along with the Regional Councils, should coordinate activities so that equipment will be placed in areas able to support the service.

#### Resources Required for Objective 2.4.1 and 2.4.2

The promotion of developing Advanced Life Support (ALS) capability does not require financing. The cost of obtaining ALS equipment is dependent on demand.

#### Current Status for Objective 2.4.1

The federal program under which equipment is purchased has been revised. Funds are no longer available for vehicles but remain available for training. Maine has an adequate training program and has not requested funds. The EMS program and the Department of Safety have asked for an exemption to cover the purchase of radio equipment.

#### Current Status for Objective 2.4.2

The Department of Human Services has approved this position and has completed specifications for the position with the State Department of Personnel. Funding for the position has not yet been secured.

#### GOAL 2.5

TO IDENTIFY STATEWIDE AND REGIONAL EMS FUNCTIONS AND THE MOST COST EFFECTIVE METHOD FOR IMPLEMENTING THEM.

#### Rationale

Maine has established an emergency medical care system which incorporates state-wide functions with regional responsibilities and activities. The system has recently been reorganized to place state-wide functions directly within the Maine Department of Human Services and to establish regional councils with coordination functions. Federal funding for the emergency medical care system is provided for each area for a maximum of

five years. Total funding in Maine will be declining in the early 1980's and alternate funds must be found if the system is to be maintained.

#### Objective 2.5.1

To support the growth of regional and state-wide EMS Councils charged with coordination and implementation of the EMS system.

#### Recommended Action

The Emergency Medical Services Program has been incorporated into the Preventive Health Services Block Grant. The Department of Human Services recognizes the importance of emergency medical services in reducing death and disability. Five regional emergency medical services councils have been formed by those engaged in the delivery of services. In cooperation with the Department's Office of Emergency Medical Services, the councils work to plan and bring about further improvements in the delivery of services within their respective regions. They have assumed a major role in the training and testing of personnel.

The Department of Human Services has proposed the allocation of block grant funds for Emergency Medical Services in federal fiscal year 1982. If the Department's proposal is approved by the Legislature, the Office of Emergency Medical Services will receive an allocation of \$150,000 to support its activities and each of the five regional Councils will receive \$25,000.

Should the categorical grant now supporting the completion of the development of a basic life support system in Aroostook County not be continued, additional funds will be made available from the block grant for that purpose.

#### Resources Required

The maintenance and refinement of the state-wide structure requires the continued commitment of the regional councils, hospitals and local pre-hospitals groups.

This commitment must include commitments of time, contributions of in-kind services, and hard dollars to support regional activities.

The expenditures required to maintain the regional council activities beyond those expected by contracts with DHS are impossible to estimate without knowledge of their anticipated work plan.

The state-wide Office of Emergency Medical Services requires \$300,000 for its coordination and regulatory activities.

#### Current Status

It is now anticipated the transition from diminishing categorical grants to a block grant will allow the Department to provide a firm financial underpinning for the EMS system.

#### GOAL 2.6

TO DEFINE EMERGENCY MEDICAL CARE IN MAINE AND EVALUATE THE INDIVIDUAL COMPONENTS, THEIR INTERRELATIONSHIPS, AND THEIR RELATIONSHIPS TO OTHER COMPONENTS OF THE HEALTH CARE SYSTEM.

#### Rationale

At present, there are many uncertainties about emergency medical care in Maine. It appears that third party reimbursement policies are a disincentive for improving ambulance services. It also appears that there may be a level beyond which life support capabilities are not cost-effective.

#### Objective 2.6.1

To determine the effects of present Medicaid and other third party reimbursement levels on ambulance services. (as soon as possible).

#### Objective 2.6.2

To determine the relative effectiveness and appropriateness of both basic and advanced life support capabilities and determine what effect the provision of these services has on Maine's population. (as soon as possible).

#### Objective 2.6.3

To determine the total costs of emergency medical care in Maine and the sources of funds used for emergency medical care. (as soon as possible).

### Recommended Action (Combined for Objectives 2.6.1 - 2.6.3)

The first objective is slightly different from the others in that it poses the question of whether current reimbursement levels affect accessibility to care and whether reimbursement serves as a distinctive to provide high quality ambulance service. Designated individuals from Medicare, Medicaid, and Blue Cross should study this issue together with EMS experts and representatives from the ambulance services.

The second objective involves EMS evaluation. Usable tools should be developed nationally and in Maine to aid proper evaluation. Agencies in Maine should include the Department of Human Services, Maine Health Systems Agency, Inc., Maine Hospital Association, Medical Care Development and the Maine Health Information Center.

### Resources Required

The cost of implementing these objectives is estimated to be \$45,000 for two years (\$90,000 total) for salaries, benefits, and overhead for two staff persons.

### Current Status for Objective 2.6.1

The Office of Emergency Medical Services has completed a memorandum of agreement with the Bureau of Medical Services. This memorandum acknowledges that:

1. The Bureau of Medical Services will use EMS inspections and licensing in their choice of participants for the program. The EMS Program will conduct field reviews.
2. The EMS Program will review the monthly report of ambulance services.
3. The EMS Program will assist the Division of Medical Surveillance and Utilization Review in monitoring the quality of ambulance services.
4. The EMS Program will assist in setting ambulance rates.



### Current Status for Objective 2.6.2

The Office of Emergency Medical Services is presently involved in a major research project with the University of Wisconsin to study the following questions:

- Does where a patient is treated make a difference in patient outcome?
- Is the categorization system associated with where a patient is treated?
- What categorization criteria are most associated with patient outcome?
- What characteristics of between-hospital transfer are most associated with patient outcome?
- What emergency department, hospital, and pre-hospital factors are most associated with outcome differences?

OEMS is also involved in a study to evaluate EMS effectiveness to determine the impact of ALS compared to BLS on outcomes of patients transported by ambulance. Data for these studies are collected and analyzed by the OEMS Data/Research Unit. The project with the University of Wisconsin will be completed in September, 1982.

### Current Status for Objective 2.6.3

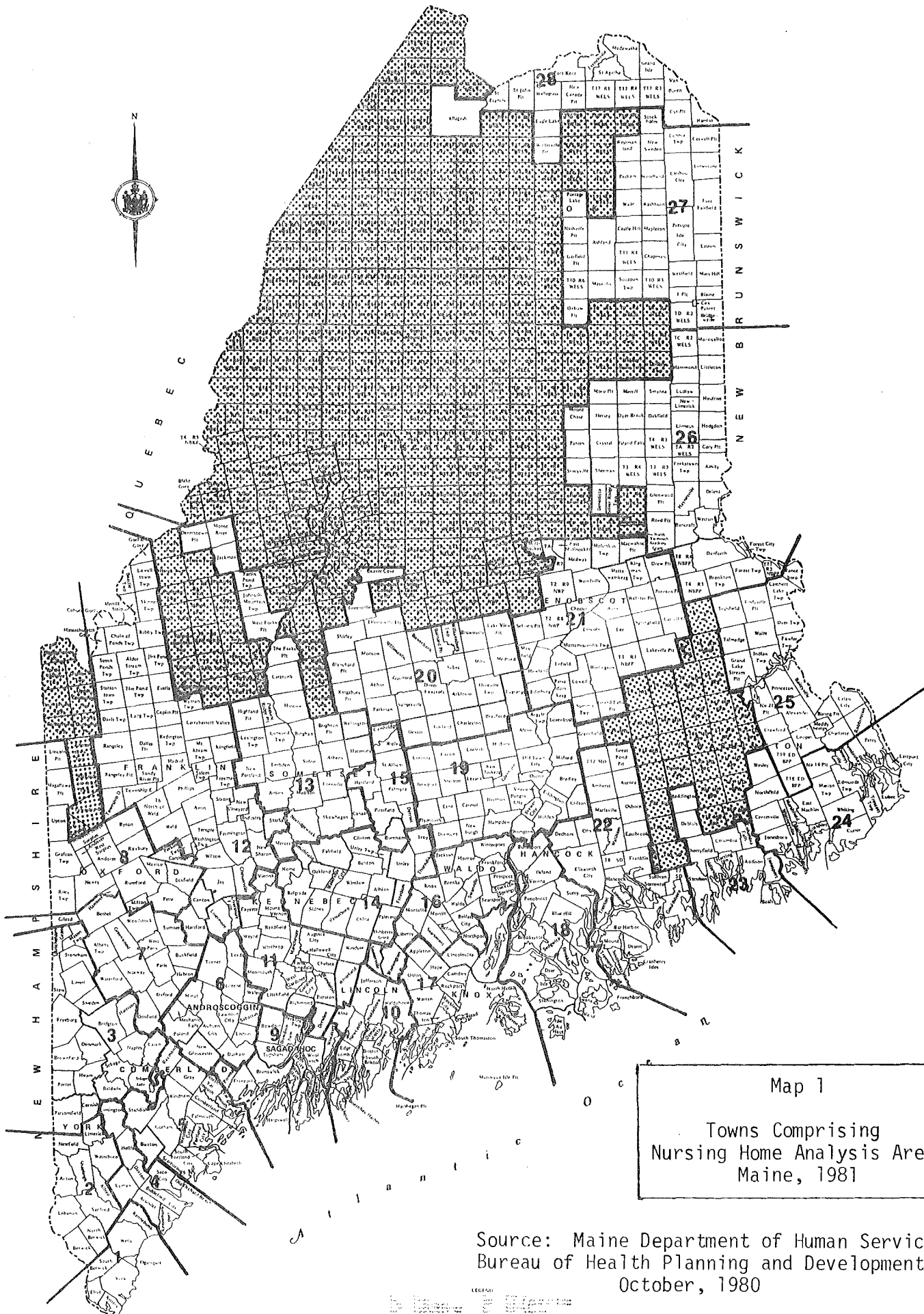
Study of the total costs of and sources of funds for emergency medical care in Maine is in the preliminary stage. The Office of Emergency Medical Services considers these financial data vital to future planning and will complete the study as soon as possible.

### 3. Rehabilitation and Maintenance (Long Term Care for the Elderly)

The Bureau and the HSA worked cooperatively to update the analysis areas for intermediate care facilities being used by both agencies. Patient origin data for 1978 were used. Criteria used in the development of these areas include:

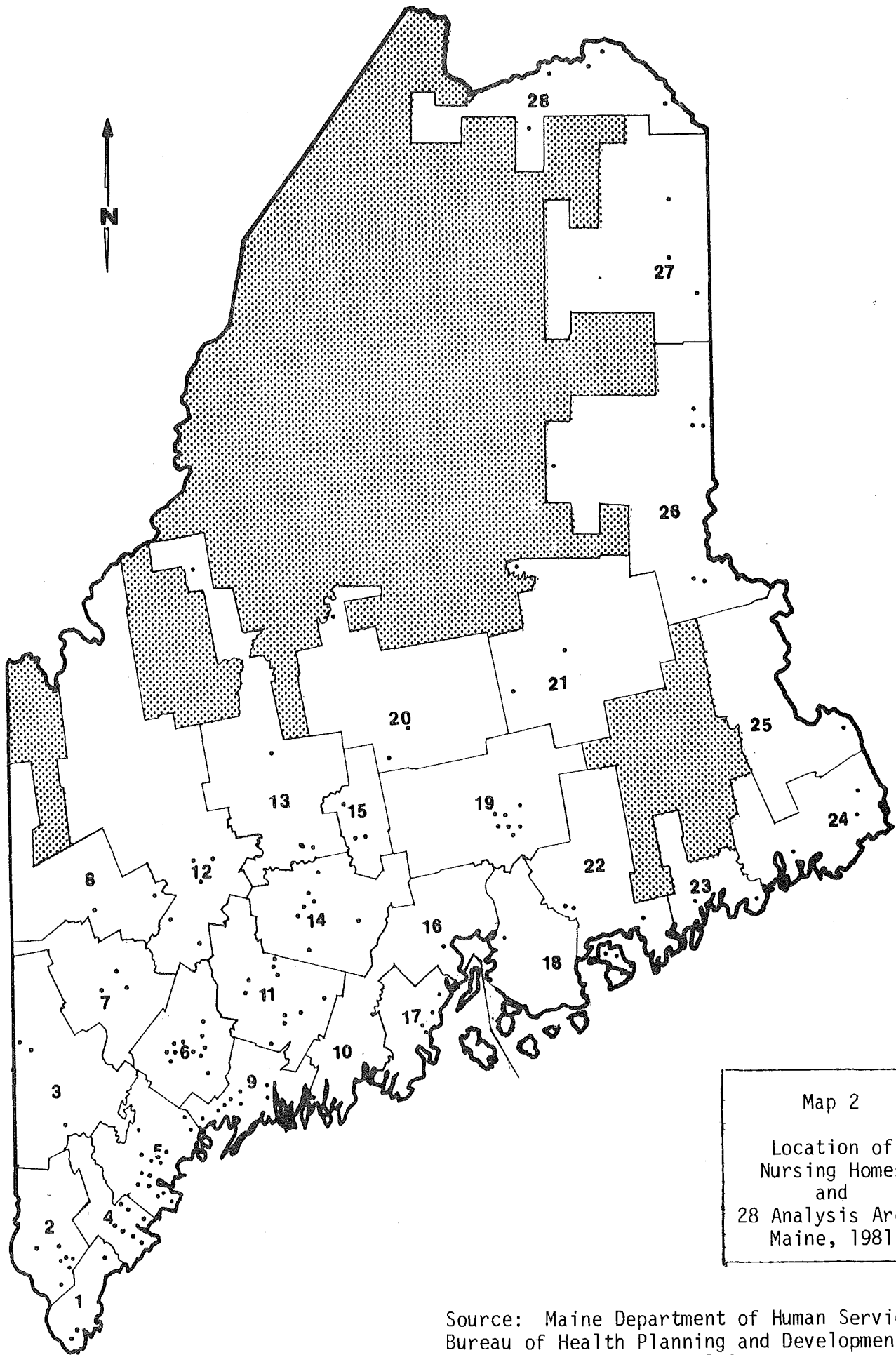
- . retail trade and service patterns;<sup>1</sup>
- . a minimum of 1,000 persons aged 65 and over and a total minimum population base of 10,000 persons;
- . conformance with Department of Human Services, Division of Medicaid Surveillance policy stipulating that the maximum distance between a patient's home town and the facility in which he/she is placed, be no greater than 50 miles (measured by highway distances);
- . service areas be composed of contiguous towns except where towns are separated from each other by the presence of unorganized territories (e.g., Jackman's inclusion in the Skowhegan service area).

Map 1 displays the nursing home analysis areas and the minor civil divisions which comprise them. Map 2 shows the locations of the nursing homes within each analysis area.



Map 1  
 Towns Comprising  
 Nursing Home Analysis Areas  
 Maine, 1981

Source: Maine Department of Human Services  
 Bureau of Health Planning and Development  
 October, 1980



Source: Maine Department of Human Services  
 Bureau of Health Planning and Development  
 October, 1980

Detailed data for each analysis area are available from the Bureau of Health Planning and Development. A summary of those data, additional information on approved but not yet constructed beds, and the beds that the Bureau and the MHSAs expect to approve by 1983 are displayed in Table 1. Table 2 shows the analysis areas ranked from the lowest to highest number of ICF beds per 1,000 population aged 65 and over. Bed to population ratios are also generated. These show that the Belfast, Waldoboro, Bridgton and York areas are particularly in need of additional ICF beds.

### GOAL 3.1 BED TO POPULATION RATIOS

TO HAVE A SUFFICIENT, BUT NOT EXCESSIVE, NUMBER OF SNF AND ICF BEDS TO MEET THE NEEDS OF MAINE'S ELDERLY AND OTHER POPULATIONS, GIVING DUE CONSIDERATION TO COST IMPLICATIONS.

#### Rationale

This goal embodies a "planned growth" approach to the construction of new facilities. Increases in both fixed and variable costs related to the support of nursing homes, as well as a desire for greater reliance on noninstitutional care and service options, support a conservative approach to bed expansion.

Additional support for this goal can be found in recent gerontological research. In an article published in the New England Journal of Medicine<sup>2</sup>, Dr. James Fries of Stanford University predicted that in the not-to-distant future, most of the elderly will enjoy good health almost to the end of their lives. A strong trend in this direction is already evident and "the medical and social task of eliminating premature death is largely accomplished." The age at onset of chronic disease is being pushed backwards and most people will live vigorous and active lives until the end, when rapid deterioration of the major human biological systems will occur. Should this prediction be even partially correct, the beds/1,000 ratio can be expected to remain stable or even decline in the coming decades.

Table 1  
Inventory of ICF Beds  
Bed to Population Ratios, 1983

Nursing Home Analysis Areas	Existing ICF Beds <sup>a</sup>	Net Changes in ICF Beds Approved Not Implemented <sup>b</sup>	Total ICF Beds March, 1983	Pop. Age 65+ 1983 <sup>c</sup>	Beds/1,000 65+	Beds Anticipated Approved by 1984 <sup>d</sup>	Tot. Beds/1,000 65+ by 1984
State	8,698	212	8,910	151,900	58.7	120	59.4
1. York	208	72	280	6,050	46.3		
2. Sanford	232	-	232	5,450	42.6		
3. Bridgton	109	70	179	3,350	53.4		
4. Biddeford	403	-	403	7,250	55.6		
5. Portland <sup>e</sup>	1,183	-	1,183	24,000	49.3		
6. Lewiston-Auburn <sup>f</sup>	1,104	-114	990	13,650	72.5		
7. Norway	295	-	295	3,150	93.7		
8. Rumford	112	-	112	2,550	43.9		
9. Bath-Brunswick	474	4	478	6,900	69.3		
10. Waldoboro	111	-	111	3,650	30.4		
11. Augusta <sup>g</sup>	730	-	610	9,550	63.9		
12. Farmington	196	80	276	4,500	61.3		
13. Skowhegan	210	-	210	4,100	51.2		
14. Waterville	456	-	456	7,400	61.6		
15. Pittsfield	141	-	141	2,200	64.1		
16. Belfast	60	70	130	2,650	49.1		
17. Camden-Rockland <sup>h</sup>	319	-	319	5,700	56.0		
18. Bucksport	111	30	141	2,750	51.3		
19. Bangor <sup>i</sup>	510	-	510	11,150	45.7		
20. Dover-Foxcroft	160	-	160	3,550	45.1		
21. Lincoln-Millinocket	166	-	166	2,750	60.4		
22. Ellsworth	338	-	338	4,150	81.4		
23. Jonesport	87	-	87	1,250	69.6		
24. Eastport	138	-	138	2,150	64.2		
25. Calais	100	-	100	1,400	71.4		
26. Danforth-Houlton	189	-	189	2,850	66.3		
27. Caribou-Presque Isle	254	-	254	5,400	47.0		
28. Madawaska	302	-	302	2,450	123.3		

<sup>a</sup>Maine Department of Human Services, Bureau of Health Planning and Development: Directory of Health Facilities by Nursing Home Analysis Area - December 31, 1982 updated through March 31, 1983.

<sup>b</sup>Maine Department of Human Services, Bureau of Health Planning and Development: 1982 Certificate of Need Report updated through March 31, 1983.

<sup>c</sup>Projections are for July 1, 1983. Maine Department of Human Services, Bureau of Health Planning and Development, May, 1983. Numbers are rounded to the nearest 50. Total may not add due to rounding.

<sup>d</sup>In recognition of the low bed per 1,000 population rates exhibited in these areas.

<sup>e</sup>Includes 6 SNF beds in the Jewish Home for the Aged routinely used as ICFs.

<sup>f</sup>Marcotte's new nursing home project has been approved for 250 ICF beds. This represents a net loss of 114 beds.

<sup>g</sup>Existing ICF beds includes 120 beds at the Maine Veterans' Home, a facility characterized by its developers as being a state-wide facility; thus, it has been excluded from area calculations but included in the State total (8,790+120=8,910).

<sup>h</sup>Camden Community Health Care Center has 42 ICF beds operational under an emergency Certificate of Need approval. This approval will terminate on June 30, 1984 unless the facility demonstrates a need for these beds to remain available.

<sup>i</sup>Includes 35 SNF beds in Bangor City Hospital routinely used as ICFs.

Source: Maine Department of Human Services, Bureau of Health Planning and Development, March, 1983.

Table 2  
 Ranking of Nursing Home Analysis Areas  
 By Bed to Population Ratios  
 March, 1983

Nursing Home Analysis Areas (Areas ranked from lowest to highest on bed: 1,000 pop. rate)	Total ICF Beds March, 1983 <sup>a</sup>	Population Aged 65+ 1983 <sup>b</sup>	Beds/1,000 65+
STATE	8,910	151,900	58.7
Waldoboro	111	3,650	30.4
York	208	6,050	34.4
Sanford	232	5,450	42.6
Rumford	112	2,550	43.9
Dover-Foxcroft	160	3,550	45.1
Bangor <sup>c</sup>	510	11,150	45.7
Caribou-Presque Isle	254	5,400	47.0
Belfast	130	2,650	49.1
Portland <sup>d</sup>	1,183	24,000	49.3
Skowhegan	210	4,100	51.2
Bucksport	141	2,750	51.3
Bridgton	179	3,350	53.4
Biddeford	403	7,250	55.6
Camden-Rockland <sup>e</sup>	319	5,700	56.0
Lincoln-Millinocket	166	2,750	60.4
Farmington	276	4,500	61.3
Waterville	456	7,400	61.6
Augusta	610	9,550	63.9
Pittsfield	141	2,200	64.1
Eastport	138	2,150	64.2
Danforth-Houlton	189	2,850	66.3
Bath-Brunswick	478	6,900	69.3
Jonesport	87	1,250	69.6
Calais	100	1,400	71.4
Lewiston-Auburn	990	13,650	72.5
Ellsworth	338	4,150	81.4
Norway	295	3,150	93.7
Madawaska	302	2,450	123.3

<sup>a</sup>These figures represent all licensed ICF beds and CON approved ICF beds not yet operational. Data are effective through March 31, 1983 and include 120 ICF beds operational at the Maine Veterans' Home characterized by its developers as a state-wide facility; thus, it has been excluded from area calculations but included in the State total (8,790+120=8,910).

<sup>b</sup>Projections are for July 1, 1983. Maine Department of Human Services, Bureau of Health Planning and Development, May, 1983. Numbers are rounded to the nearest 50. Total may not add due to rounding.

<sup>c</sup>Includes 35 SNF beds in Bangor City Hospital routinely used as ICFs.

<sup>d</sup>Includes 6 SNF beds in the Jewish Home for the Aged routinely used as ICFs.

<sup>e</sup>Camden Community Health Care Center has 42 ICF beds operational under an emergency Certificate of Need approval. This approval will terminate on June 30, 1984 unless the facility substantiates a need for these beds to remain available.

Source: Maine Department of Human Services, Bureau of Health Planning and Development, March, 1983.

### Objective 3.1.1

To maintain a statewide ICF bed inventory of 60 ICF beds per 1,000 population, age 65 and over. (Effective immediately).

#### Recommended Action

One method for determining future ICF bed need would have entailed a straight line population projection. Here, the percent of the elderly currently domiciled in nursing homes would have been projected onto the future elderly population and specific number of "needed" beds would have been determined. This action was not chosen, however, in recognition of the planned growth approach, discussed above.

At present, some nursing home analysis areas are below 60 beds/1,000 and some (especially when all CON approved beds are built) will be well above this. Bureau of Health Planning and Development and the Maine Health Systems Agency, Inc. should use this standard in the CON review process.

#### Resources Required

No additional resources will be required to implement this objective. Use of this objective in CON decisions will ensure more equitable state-wide distribution of ICF beds.

### Objective 3.1.2

To assure an appropriate distribution of new beds. As a general policy, no more than 100 additional beds should be approved for construction or be under development in any nursing home service area at one time. (effective immediately)

#### Recommended Action

The Bureau of Health Planning and Development and the Maine Health Systems Agency, Inc., will apply this standard in CON decisions.

#### Resources Required

No additional expenditures required to implement this objective.



## GOAL 3.2 PLANNING FOR ALTERNATIVES

TO HAVE AVAILABLE A USEABLE CONTINUUM OF LONG TERM CARE SERVICE OPTIONS AND TO ENSURE APPROPRIATE PATIENT PLACEMENT AMONG THEM.

### Rationale

Experts suggest that nationally many persons are inappropriately domiciled in nursing homes.<sup>3</sup> In Maine, many people are in nursing homes who might be elsewhere if non-institutional alternatives were available. This goal represents an initiative in providing less costly and more appropriate placements to persons who require some support, but not the total care of nursing homes.

### Objective 3.2.1

To implement a State policy on long-term care medical-social services which emphasizes the development of institutional and noninstitutional services concentrating on those noninstitutional modalities which are presently non-existent or underdeveloped.

### Recommended Action

One alternative to meet the anticipated needs would have entailed simply increasing the number of nursing home beds. A desire to allow people the opportunity to choose among various types of service led to the present recommendation (i.e., the establishment of a continuum of care options and ancillary placement mechanisms). It should be noted that implementation of this objective is underway. The 110th Maine Legislature responded affirmatively to Governor Joseph E. Brennan's request for \$1.25 million to support noninstitutional long term care services by enacting 22 MRSA, Subtitle 5, "AN ACT" to require the Department of Human Services to Provide Home-based Care as an Alternative to Nursing Home Care. The Legislative intent is as follows:

1. Findings. The Legislature finds that:

- A. In-home and community support services have not been sufficiently available to many adults with long-term care needs;

- B. Many adults with long-term care needs are at risk of being or already have been placed in institutional settings, because in-home and community support services or funds to pay for these services have not been available to them;
- C. In some instances, placement of adults with long-term care needs in institutional settings can result in emotional and social problems for these adults and their families; and
- D. For many adults with long-term care needs, it is less costly for the State to provide in-home and community support services than it is to provide care in institutional settings.

2. Policy. The Legislature declares that it is the policy of this State:

- A. To increase the availability of in-home and community support services for adults with long-term care needs;
- B. That the priority recipients of in-home and community support services, pursuant to this subtitle, shall be the elderly and disabled adults who are at the greatest risk of being, or who already have been, placed inappropriately in an institutional setting; and
- C. That a variety of agencies, facilities and individuals shall be encouraged to provide in-home and community support services.

It is expected that a beneficial impact on both health status and the health care system will result with the availability of a continuum of alternatives. This will allow for greater latitude in choosing service options. Nursing home care can be selected if the noninstitutional services are deemed unsuitable or undesirable. They would, however, be only one among several service options.

The Bureau of Health Planning and Development, the Maine Health Systems Agency, Inc., Maine Community Health Association, Maine Health Care Association, Health Care Providers, Inc., and other concerned agencies should begin to work to limit the building of additional ICF beds so that resources and efforts can be focused on the development of these alternatives. If coupled with revised

reimbursement policies, this could stimulate the creation of a wide range of service options. While home health is already available, its existing perimeters could be expanded by altering both eligibility requirements and the scope of available services.

Congregate housing is presently being developed as an alternative in Maine. Because of the availability of U.S. Department of Housing and Urban Development and Farmers Home Administration monies, it serves as an attractive alternative. Other types of housing alternatives exist. Shared living, housemate services, co-operative housing, renovations of large homes into shared living quarters, and eating and lodging facilities are under development both in Maine and the nation. As information on these become available, it will be possible to analyze the suitability of these options as alternative residential arrangements.

Adult foster care is under-utilized in Maine. Its usage could be expanded by encouraging family members to care for elderly relatives. Financial incentive (perhaps in the form of tax credits or family subsidies) could be offered as inducements.

Congregate housing projects are in the process of being developed in Maine. Regulations governing the administration of congregate housing services were completed in late 1980.

In early February of 1981, the Bureau of Maine's Elderly, Maine State Housing, and the Farmers Home Administration received proposals from prospective builders of congregate housing and providers of support services in competitive

bids for the development of one urban and one rural site. It is anticipated that by late spring the responsible agencies will have made their decision and the builders and providers will have been selected.

Nursing homes without walls is an entirely new concept in Maine. Careful scrutiny of the New York model, with particular attention to its pitfalls, could facilitate the development of such a program here.

#### Resources Required

Additional resources will be required to implement this objective. With the anticipated increases in the elderly, nursing home-eligible population, however, the costs of nursing home care will also be increasing. By directing to alternative care strategies some of the funds otherwise allocated to nursing homes, it may be possible to devise more appropriate and perhaps less expensive options. This will also permit persons not requiring the total care provided in institutions some flexibility in making other arrangements.

#### Objective 3.2.2

To coordinate a continuum of long term care options into a uniform system, coupled with a mechanism which provides for the early assessment of an individual's needs and coordinated case management.

#### Recommended Actions

Long-term care services, regardless of the method of payment, should be accessed through a system which provides for a multi-disciplinary assessment of the individual's needs. Such a system would need to be established in several geographic regions throughout the state and recognize that participation by private pay patients would be voluntary.

The Bureau of Health Planning and Development, Bureau of Maine's Elderly, Bureau of Medical Services, Bureau of Resource Development, Bureau of Mental

Retardation, Bureau of Mental Health, Maine Health Care Association, Maine Community Health Association, Maine Hospital Association, and other affected organizations should develop interagency agreements to assure coordination at the State level which will facilitate effective case management. The Bureau of Medical Services should designate appropriate Medical recipients. In conjunction with other appropriate agencies, the Bureau of Medical Services should coordinate or arrange for service provision through established relationships with certified home health agencies, area agencies on aging, and other appropriate agencies.

It is necessary to develop some way of matching service options and multiple methods of payment to individual needs. Each individual should be assessed uniformly as to conditions affecting his ability to live independently based on a multi-dimensional needs assessment. An individual case plan should be developed and implemented by a case management team which will perform coordination and monitoring functions.

#### Resources Required

Expenditures cannot be determined at this time.

#### Objective 3.2.3

To develop clear and unambiguous guidelines based on multidimensional needs assessment (medical, social, financial and other criteria) as aids in placement decision-making. Implementation can begin at once.

#### Recommended Action

To ensure that patients are placed in the most appropriate service alternative, the Bureau of Medicaid Surveillance, Bureau of Maine's Elderly, the Long Term Care Task Force, Maine Health Care Association, Maine Hospital Association and other interested agencies should develop a patient assessment form containing clearly specified guidelines. This would impose some uniformity in matching persons with service modalities.

An assessment would be provided both at the entry level and at regular intervals, thereafter, to ensure continued appropriateness of specific services.

#### Resources Required

The Bureau of Maine's Elderly successfully competed for and was awarded \$780,000 contract from the Department of Health and Human Services to undertake a "Channeling" Demonstration Project. This project will facilitate implementation of this objective by enabling the Bureau of Maine's Elderly and the project's advisory board to plan for the use of need assessment criteria in long term care placement decision-making. The assessment criteria will permit the best matching of recipients and services on the dimensions outlined in this objective.

#### Objective 3.2.4

To reduce interfacility transfer by encouraging the development of multi-level facilities which may include SNF, ICF, and boarding care as deemed appropriate. Although the development of congregate living and other less restrictive services in conjunction with hospitals, SNFs, ICFs, and boarding care facilities is not necessarily encouraged, such development is not discouraged where it is demonstrated that such development is the best available alternative consistent with local needs and circumstances.

#### Recommended Action

To aid in appropriate institutional placements it is useful to have a variety of service options located on a single site. The Bureau of Health Planning and Development, the Maine Health Systems Agency, Inc., and other interested bureaus in the Department of Human Services should encourage the development of multi-level facilities. This can be done using financial incentives and eliminating existing financial disincentives.

Transfer is often traumatic to a patient, severing ties to a known and familiar environment. The availability of diverse service capabilities within a single site will minimize trauma adding, thereby, to the overall quality of care.

SNFs, ICFs, boarding care, and even congregate units can be easily situated on a single campus or even in a single building. This can both reduce administrative costs and better accommodate patient needs. Modifications in existing cost allocation methods, used for Medicaid reimbursement, may be necessary to implement this objective.

#### Resources Required

No additional resources required to implement this objective.

#### Objective 3.2.5

To develop a community-based program where services could be provided using modified or improved funding mechanisms. Total implementation is expected to be in 1982.

#### Recommended Action

Maine Health Care Association, Health Care Providers, Inc., the Maine Community Health Association, the Bureau of Health Planning and Development, the Maine Health Systems Agency, Inc., the State Legislature, the Long Term Care Task Force, the Division of Medicaid Surveillance, the Bureau of Maine's Elderly, the Maine Hospital Association and other interested parties should explore ways in which existing funding mechanisms can be restructured to pay for community-based services. Of critical importance is the necessity of effecting changes in the State's Medicaid Plan. Otherwise, reimbursements for the new service may not be possible.

#### Resources Required

While Maine's cost savings cannot be established at this time, the program could save money in a number of ways. There will be no capital construction costs; persons who need long term but not total care may be served more efficiently; and more services can thus be delivered for less money.

### GOAL 3.3 CHANGES IN REIMBURSEMENT

TO EXPAND THE SCOPE OF REIMBURSABLE NONINSTITUTIONAL LONG TERM CARE SERVICES.

#### Rationale

The number of elderly in the population is growing. The elderly are also living longer. As a result more people will be needing support service. At the same time, financial resources are becoming increasingly scarce. To stretch available dollars, it will be necessary to provide services which are less costly than institutionalization, reserving this option solely for persons whose well-being requires it.

Expanding the scope of services reimbursed through Medicaid, to the extent practicable, will provide financial incentives for the provision of these services. In the long run, this could save money by restricting costly institutionalization to those persons actually needing a total care environment.

#### Objective 3.3.1

To implement changes in the State's Medicaid Plan to allow reimbursement for noninstitutional long term care services, as appropriate. Recommendations for specific changes should be completed and made available for the Commissioner's consideration by no later than December, 1981.

#### Recommended Action

The Bureau of Health Planning and Development, Bureau of Maine's Elderly, Committee on Aging, Medicaid Surveillance, Medicaid Audit, and other interested parties should work cooperatively to assess the costs of expanding coverage for noninstitutional services and methods for phasing it in. Currently, of all noninstitutional services, home health and in a very limited fashion, homemaker-chore, alone are reimbursable. Implementation of this goal will make the long term care health system more



responsive both to the needs of its clientele and to the impending fiscal constraints.

#### Resources Required

Because ultimately more services will be provided, increased fiscal resources will be necessary to implement this objective. If, however, building of nursing homes were to continue at its recent unbridled rate, considerably more resources would be required to support this service. The costs of implementing this objective cannot be estimated at this time.

### GOAL 3.4 RESEARCH NEEDS

TO DEVELOP DATA COLLECTION AND ANALYSIS CAPABILITIES FOR THE LONG TERM CARE SERVICE SYSTEM.

#### Rationale

Various agencies in Maine collect information on nursing homes and home health agencies. Little of it is computerized. There is no uniformity among the various forms on which information is maintained. Access is therefore difficult and making inferences to the service use patterns of the population impossible.

Development of useable data collection tools would facilitate a description of the current recipients of long term care, the services they receive, and their health conditions.

#### Objective 3.4.1

To develop a computer system to access Medicaid Utilization Review forms, integrate this with the Medicaid Management Information System (MMIS) and, if possible, with patients' medical, social and economic characteristics. Concurrently, to develop an identical form identifying these characteristics for home health agency clients. Implementation should begin immediately and proceed with the availability of the new alternatives.

### Recommended Action

The Bureau of Health Planning and Development, the Bureau of Maine's Elderly, The Bureau of Medical Services and the Divisions of Medicaid Surveillance and Licensing and Certification should cooperate in facilitating the computerization of the Medicaid Utilization Review forms. These contain patient disability information and could be expanded to include socio-demographic, cost, and disability data. This information could then be used, among other things, (1) to assess appropriateness of care, and (2) to develop standards for the different levels of care so that comparisons may be made among the different classes of recipients.

While such a tool would be of immediate utility in describing and comparing nursing home and home health recipients, its usefulness will increase markedly when there are many service alternatives from which to choose.

### Resources Required

Salary for a program coordinator/analyst would cost about \$17,000. The other major cost would be computer time. Because the quantity of the information cannot be accurately estimated at this time, it is not possible to determine the cost.

### GOAL 3.5 QUALITY OF CARE

TO IMPROVE THE QUALITY OF CARE FOR PERSONS IN NURSING HOMES AND OTHER LONG TERM CARE SETTINGS THROUGH INCREASED TRAINING OF PERSONNEL AND THE DEVELOPMENT OF INNOVATIVE PROGRAMS.

### Rationale

It is unusual for medical, nursing and administrative personnel to receive specialized training in gerontology and geriatrics. Those providing direct care must be well equipped to address not only the medical but, as importantly, the psycho-social needs of the elderly. While implementation of this goal cannot ensure high quality care, increased training will make prospective care givers more fully aware of the special needs of this population.

Innovative programs have the potential to improve the quality of care/ life in nursing homes. They may also function to alleviate overcrowding and shorten the waiting lists for nursing home beds. Creative use of existing administrative structures for the provision of respite care, adult day care, etc., can help to overcome some of the existing problems and to add to the quality of life of many elderly.

#### Objective 3.5.1

To require training in geriatrics and gerontology for personnel in nursing homes and other long term care settings to enable them to meet better the needs of elderly long term care recipients, thereby improving the overall quality of care.

#### Recommended Action

These programs must be consistent with the "state of the art" in long-term care and should reflect current thought and research in the field. They must acknowledge that personal growth and development continue throughout one's entire life, and do not cease when one enters old age.

#### 1. The Administrator

The administrator of any long term care facility is in a position to significantly influence both the philosophy of care and the program of services scheduled in support of that philosophy. The State Board of Licensure of Administrators of Medical Care Facilities Other Than Hospitals, the Maine Health Care Association, the Maine Hospital Association, Health Care Providers, Inc., the Division of Licensing and Certification and other interested parties should adopt a curriculum that requires each applicant for licensure to acquire and demonstrate an understanding of the current issues and recent developments in the management and treatment of the elderly. The curriculum should also be offered as a requirement for the continuing education program that must be completed annually in order for administrators to retain a Licensed Nursing Home Administrator license.

2. R.N.'s and L.P.N.'s

Licensed nursing professionals (RNs and LPNs) maintain a position of leadership in nursing homes and in other long term care settings. From this point, they can significantly and directly influence the philosophy, programs and quality of long-term care. The State Board of Nursing, the Division of Licensing and Certification, the Maine Health Care Association, Health Care Providers, Inc., the Maine Hospital Association, the Maine Community Health Association, the Maine State Nurses Association and other interested agencies and educational institutions should develop and implement continuing education curricula for nurses engaged in providing long-term care.

3. Aides

Aides currently provide most of the day-to-day care for long term care recipients. The State Board of Nursing, the agencies and organizations listed in (2) above, as well as other interested agencies and professional associations should develop a uniform curriculum for training aides in the unique needs of the elderly. Special training levels for aides could be included as a provision in the licensing regulations.

4. Hospital Administrators and Other Appropriate Staff

A substantial proportion of hospital patients are elderly. Many people are discharged from hospitals to nursing homes and many nursing home discharges are to hospitals. It is important for hospital administrators and other appropriate staff to be aware of the needs of the elderly and to manage the acute care delivered to the elderly in ways that meet those needs. Although there is no mechanism whereby hospital administrators and other appropriate staff can be required to be trained in geriatrics and gerontology, the Maine Hospital Association should encourage the administrators and other appropriate staff of its member hospitals to seek such training. The Association should also consider ways in which it can provide educational opportunities in these areas for the administrators and other appropriate staff.

## 5. Physicians

A substantial proportion of the patients of physicians are elderly. Many physicians provide care to residents of nursing homes. It is important for physicians to be aware of the needs of the elderly and to provide care to the elderly in ways that meet those needs. Although there is no mechanism for requiring physicians to be trained in geriatrics and gerontology, the Maine Medical Association and the Maine Osteopathic Association should encourage its members to seek such training. The associations should also consider ways in which continuing education in these areas can be provided. The New England College of Osteopathic Medicine and the various residency programs in Maine should also provide adequate training in these subjects.

### Objective 3.5.2

To support the development of innovative programs for the elderly as financial resources are available, and as need can be demonstrated.

### Recommended Action

It is likely that rigid and inflexible rules and regulations governing the provision and reimbursement of long-term care may, in certain circumstances, discourage the development of innovative care programs for the elderly. It is recommended that representatives from the Maine Hospital Association, the Maine Health Care Association, Health Care Providers, Inc., The Bureau of Medical Services, the Bureau of Health Planning and Development, the Bureau of Maine's Elderly, Maine Committee on Aging, and other interested parties meet to identify and discuss programmatic changes that may be facilitated by the relaxation of certain requirements. Based upon interest, past performance and written proposals, several nursing homes could be selected for a demonstration project. The State, through relaxation of existing requirements, would attempt to stimulate programmatic innovation, consistent with the current state of the art in long-term care. A project of this nature would provide all parties with

a better opportunity to assess potential demand and the cost implications of providing these other types of care. Such a project will dovetail with the Channeling Project which also seeks to provide care options to the elderly.

### GOAL 3.6 NEED DETERMINATION

TO DETERMINE THE REHABILITATION AND MAINTENANCE NEEDS OF MAINE'S ELDERLY POPULATION.

#### Rationale

Without some sort of survey there is no way of estimating the amount and/or types of services required by persons who might need some type of long term care. Many people may be unaware of the services currently offered or of their own eligibility.

#### Objective 3.6.1

To conduct a medical-social demographic long term care survey of Maine's elderly population in order to identify the unique needs of populations with different levels of functional abilities.

#### Recommended Action

The Channeling Demonstration Project, being carried out by the Bureau of Maine's Elderly and an advisory group, is required to maintain data on users of their services. Because the project aims to serve institutional and noninstitutional clients and to tailor plans of care for the unique needs of specific individuals, it will not be limited to one client class. Extensive data will be collected on approximately 400 clients selected from the project site which is located in Cumberland and York counties. Because of the anticipated diversity of the clientele, this will be useful to describe the needs of the elderly in Maine, generally. The data are expected to focus on various social-demographic characteristics such as age, living arrangements, income, proximity of immediate family members, and their willingness to provide care. Medical factors will also be considered. Of more importance than defining the actual health condition(s), however, is noting the degree to which the recipient's functional capabilities are limited by any chronic conditions. The results of this project will aid in future

planning for long term care services and will document the extent to which noninstitutional services can be appropriately used (i.e., the proportion of the population for whom noninstitutional services are suitable).

#### Resources Required

The data will be collected, analyzed, and paid for by the Channeling Project. To the extent that this is incomplete, the Bureau of Health Planning and Development and other interested agencies may sponsor a supplementary survey. The costs for such a survey cannot be anticipated at this time.

#### Footnotes

1. Taxable Retail Sales Areas, Maine State Planning Office ((M)SPO), Augusta, 1978. Clarification and additional information on trade and service areas was obtained from Richard Sherwood at the (M)SPO.
2. Fries, James, "Aging, National Death, and the Compression of Morbidity," New England Journal of Medicine, Vol. 303, No.3, July 17, 1980.
3. Rehabilitation and Maintenance Program Plan (Long Term Care for the Elderly), Bureau of Health Planning and Development, Maine Department of Human Services, February, 1980, pp. 102-106.

#### 4. Perinatal Care (Obstetrics and Newborn Care)

##### GOAL 4.1

TO REDUCE TO THE MINIMUM LEVEL POSSIBLE THE INCIDENCE OF BIRTHS UNDER 2,500 GRAMS (5.5 LBS.) IN MAINE.

##### Rationale

The potential margin for improvement in Maine's perinatal and neonatal mortality rates is very small due to the very small number of deaths that occur in the State each year. Recent declines in perinatal and neonatal mortality suggest that the emphasis of future development in perinatal care should be on (1) reducing the small number of "preventable" deaths each year, (2) reducing morbidity such as low birthweight, and (3) enhancing the quality of the birth experience for all Maine families. This goal is central to that long range effort.

The National Health Planning Guidelines contain standards which are related to Goals 4.1 through 4.13. The second part of this chapter analyzes the standards. (See Section B-2 (p. 403).

##### Objective 4.1.1

By 1984, to reduce the state-wide incidence of births under 2,500 grams from 5.3% (1979) to 5.0% of all live births.

##### Recommended Action

The principal strategies and actions that will be pursued to implement this health status objective include:

- (1) reducing births to adolescents through improved health education and family planning services;
- (2) increasing the availability and utilization of family planning services in Maine, with a particular emphasis on high risk populations including sexually active adolescents; and
- (3) ensuring that women in Maine receive adequate prenatal care.



These strategies and related actions are reflected in the following goals and objectives (see below):

Goal 4.2 - Objective 4.2.1  
Goal 4.3 - Objectives 4.3.1 - 4.3.2  
Goal 4.4 - Objectives 4.4.1 - 4.4.2

#### GOAL 4.2

TO LOWER, TO THE MINIMUM LEVEL POSSIBLE, THE INCIDENCE OF UNPLANNED, UNWANTED AND UNTIMELY PREGNANCIES IN MAINE.

#### Rationale

There are numerous adverse health and social consequences of unintended and/or unwanted pregnancy, including increased risks of perinatal morbidity and mortality. These risks and consequences are especially important with regard to specific high risk populations, including adolescents. It is assumed that a reduction in the number of unwanted pregnancies would significantly improve the health and well-being of Maine's population.

#### Objective 4.2.1

Compile and develop information regarding total Maine pregnancies (abortions, miscarriages, live births) and unwanted fertility (past and projections for future); and develop demographic profiles of Maine women of child-bearing age, using as many characteristics as possible. Identify adolescents as a special sub-group within this project by June, 1981.

#### Objective 4.2.2

By 1984, to reduce the proportion of births to adolescents (under 18) in Maine from 5.1% (1978) to 3.6% of all live births, by increasing effective use of contraceptives among sexually active adolescents and reducing the incidence of repeat pregnancies among teenage mothers.

#### Objective 4.2.3

By 1984, to reduce the incidence of unwanted, unplanned and untimely pregnancies among women for whom pregnancy might pose serious health risks or create serious social and economic hardships.

#### Recommended Action (Combined for Objectives 4.2.1-4.2.3)

The Division of Child Health and the Bureau of Resource Development, both of the Department of Human Services, the Department of Education and Cultural Services, the Family Planning Association of Maine and other interested

parties, should develop a strategy for (1) determining information needs with regard to unwanted pregnancies in Maine and ways of obtaining this information, (2) providing contraceptive health education and other preventive services aimed at reducing the number of teenage pregnancies in Maine, and (3) providing comprehensive health, educational and social services for adolescents who become pregnant, with the aim of ensuring that the child is born healthy and that subsequent unplanned pregnancies will be prevented. A detailed report/plan should be developed outlining (1) the specific services/resources that are needed, (2) additional resources that are needed beyond those that are currently available, (3) inter-agency agreements and commitments necessary for providing any additional resources that may be needed, and (4) specific responsibilities and a timetable for the implementation of the plan. In addition to the actions listed above, providing comprehensive health education, including human sexuality as a major topic in all of Maine's schools, was considered to be an important means for reducing unwanted pregnancies in the State. Specific related goals and objectives are outlined in Chapter IV, Section A-7 (p. 275 ).

#### Resources Required

It is estimated that additional costs of implementing this objective should be minimal as many existing resources and services could be redeployed to focus on this project. It would cost an estimated \$15,000 (salary cost for one person) to prepare and implement the plan/report.

#### GOAL 4.3

TO PROVIDE FAMILY PLANNING SERVICES TO PEOPLE IN NEED IN MAINE, REGARDLESS OF THEIR ABILITY TO PAY FOR SUCH SERVICES.

#### Rationale Statement

The provision of family planning services is considered a key preventive strategy aimed at reducing the number of unwanted pregnancies, particularly among high risk populations, and, thereby, improving perinatal health in Maine. These objectives are based on the assumption that a retargeting

of existing resources and services on specific high risk groups (e.g. adolescents) would yield the greatest benefits.

#### Objective 4.3.1

Increase by 10% annually the volume of family planning services available to marginal and low income adults of reproductive age and sexually active adolescents of all incomes.

#### Recommended Actions (Objectives 4.3.1)

The Family Planning Association, family planning clinics, the Division of Child Health, Department of Human Services and other interested parties should prepare a detailed report estimating the need for expanded family planning services for these populations, evaluating the adequacy of current resources in meeting these needs and planning for any additional initiatives that should be undertaken. Specific emphasis should be placed on evaluating the cost-effectiveness of existing services and the potential for redeploying existing services to focus on high risk populations (e.g., adolescents). A specific health education campaign aimed at increasing teenage male utilization of family planning services should be developed.

#### Resources Required

Additional costs should be limited to the cost of developing the educational campaign for teenage males. It is estimated that this project could cost up to \$20,000.

#### GOAL 4.4

TO ENSURE THAT ADEQUATE PRENATAL AND DELIVERY CARE IS PROVIDED TO PREGNANT WOMEN IN MAINE.

#### Rationale

It is estimated that between 400-600 pregnant women in Maine each year do not receive adequate prenatal and delivery care according to the standards

established by the American College of Obstetricians and Gynecologists. These women are at higher risk of poor pregnancy outcomes than women who receive adequate care. It is anticipated that a reduction in the number of women receiving inadequate obstetrical care could significantly improve perinatal health in Maine.

#### Objective 4.4.1

To provide prenatal care services in a manner that ensures that 90% of the women who deliver in 1984 in Maine receive prenatal care in the first trimester.

#### Objective 4.4.2

To provide prenatal care and other services to adolescents who became pregnant to ensure, by 1985, that at least 85% receive adequate prenatal care in their first trimester and that appropriate educational and/or social services are available as needed (increase from an average of 62% in 1975-1977).

#### Recommended Actions (Objectives 4.4.1 and 4.4.2)

Several actions are needed to accomplish these objectives:

The Bureau of Health Planning and Development and the Division of Child Health (DCH), Department of Human Services, together with other interested parties, should undertake a study of the utilization of prenatal care in Maine to determine (a) how many women in the State receive inadequate care, and (b) why these women failed to obtain/receive adequate prenatal services.

Based on the results of this study, DCH should undertake a review of its programs and services to determine whether they are adequate for helping to ensure that women receive adequate care. Particular emphasis should be placed on the adequacy of current efforts to reach high risk populations (e.g., women under 20).

DCH, the Maine Hospital Association and other interested parties should undertake an analysis of hospital-based prenatal clinics to determine the need for and/or the feasibility of expanding these services.

### Resources Required

It is estimated that the cost of the study of prenatal care utilization would be \$10,000. The magnitude of additional costs associated with the expansion of existing services will depend on documentation of the need for such services.

### Objective 4.4.3

To ensure that publicly provided nutrition services are available to all eligible expectant women, infants and children in the State. (ongoing)

### Objective 4.4.4 (Also Objectives 4.6.2 (p. 249) and 4.7.2 (p. 250.))

To study the availability and distribution of private insurance benefits in Maine for prenatal and delivery services to determine the need for expanded or improved coverage for these services. (by September 1981).

### Recommended Action

A study group consisting of representatives from the insurance industry, the Department of Human Services, the medical associations, the Maine Health System Agency, Inc., and other interested parties should be formed to (1) evaluate the adequacy of existing insurance coverage (i.e., number of people covered and adequacy of benefits), (2) document the need for improved or expanded coverage, and (3) assess the cost implications of improved or expanded coverage. The group's report should focus specifically on documenting the reasons why coverage for preventive prenatal visits, delivery care, emergency newborn transport and routine preventive newborn care is so limited and whether these limitations represent barriers to the adequate utilization of these services. The group's report should clearly identify the benefit-cost implications of any recommendations.

Refer to Section A-7 (p.275) of this chapter for goals of the Division of Maternal and Child Health related to the Women, Infants and Children Program (WIC).

#### Resources Required

It is anticipated that accomplishing this objective will not require any additional expenditures.

#### Objective 4.4.5

To study the current and future availability and distribution of physician and non-physician manpower for providing obstetrical care in Maine, by June, 1981.

#### Recommended Action

The Bureau of Health Planning and Development, Maine Department of Human Services, the Maine Health Systems Agency, Inc., the Medical associations and other interested organizations should conduct a joint study of the State's future needs for obstetrical manpower. This study should (1) document existing and proposed manpower and assess the need for additional manpower, (2) clarify the roles of physicians with obstetrical specialities and other primary care physicians who provide obstetrical care, and (3) analyze the feasibility of using nurse-midwives to augment the supply of physicians providing obstetrical care in Maine.

#### Resources Required

No additional expenditures are anticipated.

#### Objective 4.4.6

To study recent trends toward increased numbers of out-of-hospital deliveries and alternatives to traditional hospital based obstetrical facilities (e.g., birthing centers) by January, 1981.

#### Recommended Action

The Bureau of Health Planning and Development, Maine Department of Human Services, the Maine Health Systems Agency, Inc., the medical and nursing associations and other interested organizations should jointly conduct a study of the increased incidence of planned out-of-hospital deliveries. The aim of this study should be (1) to identify the actual number of planned (as

opposed to emergency) out-of-hospital deliveries; (2) to determine the reasons why this phenomenon is occurring; and (3) to identify alternatives (e.g., birthing centers, use of nurse-midwives) to existing hospital-based obstetrical service which would respond to the apparent needs/demands of an increasing number of women for a less intensive birth experience. The emphasis in this study should be on (1) finding ways to ensure the safety and quality of non-traditional methods/places of childbirth, and (2) evaluating the potential that these alternatives might have in reducing the costs of obstetrical care.

#### Resources Required

It is estimated that this study would cost \$20,000.

#### GOAL 4.5

TO PROVIDE INPATIENT OBSTETRICAL SERVICES IN MAINE ON A REGIONAL BASIS, WITH FORMAL AND ON-GOING LINKAGES WITH INTENSIVE (LEVEL III) AND INTERMEDIATE (LEVEL IIA) OBSTETRICAL AND NEONATAL FACILITIES.

#### Rationale Statement

The consolidation of underutilized and duplicative obstetrical and nursery units may be desirable from the point of view of improving the economic efficiency of health care resources as well as the quality of perinatal care. There is considerable evidence to support the general assumption that the consolidation of obstetrical services in Maine has the potential for significant cost savings. The consolidation of obstetrical services in specific areas of the State could be effected without seriously jeopardizing accessibility to these services. Nevertheless, more extensive analysis and public debate will be required before many of the political and technical issues underlying the consolidation of obstetrical services in Maine can be resolved. (See Section B-2 (p.403).

### Objective 4.5.1

To study the need for and the feasibility of consolidating duplicative obstetrical and nursery facilities in Maine, January, 1982.

### Recommended Actions

Several Actions should be taken to implement this objective.

The Bureau of Health Planning and Development, Maine Department of Human Services, the Maine Health Systems Agency, Inc., the Maine Hospital Association and other interested organizations should form a special work group to (a) document the extent to which duplicative obstetrical units are creating economic and other inefficiencies in the provision of obstetrical care in Maine, and (b) evaluate the feasibility of consolidating units within reasonable proximity of each other (i.e., 30 minutes), including units in the following areas:

- . Portland-Westbrook
- . Lewiston
- . Brunswick-Bath
- . Boothbay-Damariscotta
- . Rockport-Camden
- . Waterville
- . Bangor
- . Caribou - Presque Isle

The group's report should specifically evaluate the implications of potential consolidations for the aggregate cost of health care, for the cost of obstetrical care in the area/region affected by the consolidation and for accessibility to obstetrical care in the affected area.

The Bureau of Health Planning and Development, Maine Department of Human Services, has established specific utilization standards and criteria for obstetrical and nursery units in Maine (P. 403).

On the basis of the working group's findings, hospitals in areas with duplicative obstetrical units should establish specific multi-institutional arrangements for coordinating or consolidating obstetrical and nursery services in the area/region.



### Resources Required

Implementation of this objective will require a considerable investment of planning and staff time as well as the use of independent hospital/health care consultants. It is estimated that the costs of implementing this objective would range from \$50,000 - \$100,000.

### Objective 4.5.2 (See also 4.9.1)

By 1980, to develop and implement standards and criteria for defining and evaluating the roles and performance of routine (Level I), intermediate (Level IIA) and intensive (Level III) obstetrical-neonatal/perinatal care facilities.

### Recommended Action

The Task Force on Perinatal Care, the Maine Department of Human Services, the Maine Health Systems Agency, Inc., the Maine Hospital Association and other interested organizations should develop a special work group to formulate and implement standards for Level I, IIA and III obstetrical and newborn care facilities in Maine.

### Resources Required

None

### GOAL 4.6 DIAGNOSTIC SERVICES

TO PROVIDE ADEQUATE NEWBORN CARE TO INFANTS BORN IN MAINE.

### Rationale

A number of services (e.g., diagnostic, health education, nursery services) is provided routinely for newborns and/or their parents. A small percentage of babies require diagnostic and other services for problems ranging in severity from minor jaundice to severe respiratory distress. Routine diagnostic services provided to newborns are generally not included as part of the obstetrical, prenatal, delivery and post-partum package. With the exception of services provided to Medicaid-eligible families,

routine diagnostic services are not reimbursed by third party payers and are, therefore, paid for out-of-pocket by parents.

A recent analysis by the Bureau of Health Manpower, Department of Health, Education, and Welfare, estimates a range of desired ratios for pediatricians of 1:2,126 to 1:2,580. In Maine, the ratio is 1 physician with pediatric specialties to every 4,183 children age 0-19. Analysis of sub-state areas in Maine shows significant differences in physician-to-population ratios. The data also suggest that there may be significant problems in the distribution of these physicians.

#### Objective 4.6.1

To study the current and future availability and distribution of manpower in Maine for providing pediatric care for newborns, by July, 1981,

#### Recommended Action

The Bureau of Health Planning and Development, Maine Department of Human Services, the Maine Health Systems Agency, Inc., the medical associations and other interested organizations should conduct a joint study of the State's current and future need for pediatric manpower. This study should document existing and projected manpower, assess the need for additional manpower and clarify the roles of physicians with pediatric specialties and other primary care providers who provide pediatric care. It should also assess the feasibility of using physician extenders (i.e. Pediatric Nurse Associates) to augment the supply of physicians providing pediatric care for newborns in Maine.

#### Resources Required

None

#### Objective 4.6.2

To study the availability of private insurance benefits in Maine for routine preventive newborn care to determine the need for expanded or improved coverage for these services.

(For recommended actions, date for implementation, and expenditures/costs, see Objective 4.4.4)

#### GOAL 4.7 - EMERGENCY MEDICAL SERVICES

TO PROVIDE EMERGENCY MEDICAL (AND TRANSPORT) SERVICES FOR HIGH RISK MOTHERS AND NEWBORNS IN MAINE.

##### Rationale

According to a set of draft standards for Level II units in Maine developed in 1977, hospitals providing Level IIA care on a referral basis would be expected to have transport teams of nurses available to move infants transferred from Level I hospitals in the area to the Level IIA facility or to the Neonatal Intensive Care unit in Portland.

##### Objective 4.7.1

To develop, by 1980, (completed) detailed standards for emergency transport of high risk infants in Maine.

##### Recommended Action

The Emergency Medical Services Project, Medical Care Development, the Task Force on Perinatal Care and the Department of Human Services have jointly developed specific standards for emergency transport of newborn infants to upgrade and standardize transport equipment and procedures throughout the State, and standardize transfer protocols among all hospitals providing obstetrical care in Maine.

##### Resources Required

None

##### Objective 4.7.2

To study the availability and distribution of private insurance benefits for emergency and acute (convalescent) newborn transport to determine the need for expanded or improved coverage for these services (by Sept. 1981).

##### Recommended Action

See objective 4.4.4 (p. 244).

#### GOAL 4.8 - POST-PARTUM HEALTH EDUCATION

TO PROVIDE POST-PARTUM HEALTH EDUCATION SERVICES TO PARENTS OF NEWBORN INFANTS IN MAINE INCLUDING NUTRITION EDUCATION AND INFORMATION ON ACCIDENT PREVENTION AND IMMUNIZATION.

## Rationale

There is currently very little information on the availability of post-partum health education services in Maine. Although a survey conducted in 1977 by Rosemary Caffarella of the University of Maine (Orono), indicates that approximately 42% of the hospitals (15 hospitals) in Maine with obstetrical and nursery services had one or more planned patient education programs, no specific reference is made to post-partum education services for parents. A more detailed survey of existing patient education programs in Maine would be helpful in identifying those hospitals which do not offer formal post-partum education services for their patients.

### Objective 4.8.1

By 1980, to study the current availability of formal post-partum education for parents of newborn infants and to evaluate the need for new or expanded health education initiatives for this population. For recommended actions and resources required, see Objective 4.12.1.

## GOAL 4.9 - NEONATAL SPECIAL CARE UNITS

TO PROVIDE INTERMEDIATE AND INTENSIVE NEONATAL CARE IN MAINE ON A REGIONAL BASIS WITH FORMAL AND ONGOING LINKAGES WITH OBSTETRICAL SERVICES.

### Rationale

Regionalization represents an effort to organize an efficient and effective system for the delivery of health care services, within a defined geographic area, with the intent of ensuring that all patients have adequate access to a full range of high quality services appropriate to their needs. Current efforts to promote the regionalization of perinatal care services are premised on two major assumptions regarding the benefits of regionalized care. Regionalization is often justified on the basis of the assumption that the volume of services in any obstetrical and newborn care facility is directly associated with the quality of the care that is provided. It is generally assumed that hospitals providing complex perinatal care services

will require a minimum volume of deliveries in order to allow highly trained and skilled personnel to maintain their skills and competencies.

A second major assumption underlying the concept of regionalization involves considerations of economic efficiency. (See Section B-2 (p.404))

#### Objective 4.9.1

By 1980, to develop and implement standards and criteria for defining and evaluating the roles and performance of routine (Level I), intermediate (Level IIA) and intensive (Level III) obstetrical-neonatal/perinatal care facilities.

(For recommended actions and resources required, see Objective 4.5.2 above.)

#### Objective 4.9.2

To facilitate the development by 1981, of a single intermediate neonatal care unit (Level IIA) in the Northern Maine Planning and Development District (Aroostook County).

#### Recommended Action

Implementation of this objective will depend on the two hospitals in the Caribou-Presque Isle area establishing a plan for the development of a Level IIA unit. The Bureau of Health Planning and Development, Maine Department of Human Services, and the Maine Health Systems Agency, Inc., should encourage and facilitate the development of a Level IIA unit in this area provided that plans for the unit are consistent with goals, objectives, standards and criteria established in this plan and the Health Systems Plan.

#### Resources Required

It is impossible to estimate accurately the cost of establishing and operating a Level IIA facility in the Northern Maine area. Costs will depend on the availability of existing space and equipment, whether the consolidation of obstetrical and nursery services is achieved, and other factors which are difficult to identify or predict at this time.

### Objective 4.9.3

By 1981, to study the need for an intermediate (Level IIA) neonatal care unit in the Eastern Maine Planning and Development District (Washington and Hancock Counties).

### Recommended Action

The Task Force on Perinatal Care, the Bureau of Health Planning and Development, Department of Human Services, the Maine Health Systems Agency, Inc., the Maine Hospital Association and other interested parties, should evaluate the need for a Level IIA facility in the Washington - Hancock county area in developing standards for routine, intermediate (Level IIA) and intensive (Level III) obstetrical-newborn/perinatal units. Analysis of the need for such a unit should include an assessment of current resources and utilization problems in the area, documentation of current barriers to adequate utilization of Level IIA care in other areas (i.e., Bangor), and utilization projections for any unit, should it be recommended.

### Resources Required

The additional cost is estimated to be \$5,000.

### GOAL 4.10 - PERINATAL MORTALITY AND MORBIDITY

TO REDUCE, TO THE EXTENT FEASIBLE, PERINATAL MORTALITY AND MORBIDITY IN MAINE.

### Rationale

Maine's perinatal and neonatal mortality rates have declined dramatically in the past 5 years. Perinatal mortality rates declined in Maine from 15.1 perinatal deaths per 1,000 live births and fetal deaths (20 weeks or more gestation) in 1975 to 13.1 in 1977. Most of this decline in Maine's perinatal mortality rate is attributable to the rapid decline in the State's neonatal mortality rate, from 9.0 neonatal deaths per 1,000 live births in 1975 to 6.1 deaths per 1,000 live births in 1977. Despite these encouraging statistics, efforts to reduce perinatal morbidity and mortality should continue.

#### Objective 4.10.1

To study the feasibility of reducing Maine's perinatal, neonatal and infant mortality rates to the following levels by 1984:

1. Perinatal mortality - from an estimated 13.1 (1977) to no more than 12.0 perinatal deaths per 1,000 live births and fetal deaths.
2. Neonatal mortality - From 6.1 (1977) to no more than 5.0 neonatal deaths per 1,000 live births.
3. Infant mortality - From 9.4 (1977) to no more than 8.0 infant deaths per 1,000 live births.

#### Objective 4.10.2

To study the feasibility of reducing the incidence and associated short and long-term health consequences of maternal, fetal and neonatal morbidity, by June, 1980.

#### Recommended Action

The Task Force on Perinatal Care, the Perinatal Review Committee and the Division of Child Health, Department of Human Services, should prepare an analysis of the feasibility of reducing perinatal, neonatal and infant mortality and morbidity in the next five years. This analysis should specifically document the estimated number of preventable deaths each year in Maine and define specific maternal, fetal and neonatal diseases/conditions which, if their incidence and/or prevalence were reduced, would prevent short and long-term sequelae (e.g., disability). It should also outline a strategy for reducing preventable deaths and/or morbidity and assess the ethical, social and cost implications of further efforts to reduce perinatal mortality rates in Maine.

#### Resources Required

None

#### GOAL 4.11 - SCHOOL HEALTH EDUCATION

TO OFFER A COMPREHENSIVE FAMILY LIFE EDUCATION CURRICULUM INCLUDING HUMAN SEXUALITY, CONTRACEPTION, CHILDBIRTH/PRENATAL CARE AND CHILD CARE IN EVERY SCHOOL SYSTEM IN THE STATE.

##### Rationale Statement

Formal state-wide health education and health promotion activity focusing on perinatal health are limited to childbirth education programs which are conducted in communities throughout the State and the School Health Education Project funded by the Department of Human Services.

#### GOAL 4.12 - PRENATAL HEALTH EDUCATION

TO ENSURE THAT FORMAL CHILDBIRTH EDUCATION IS AVAILABLE TO ALL EXPECTANT FAMILIES IN THE STATE.

##### Rationale

There is a need for physicians and hospitals to pay greater attention to demands of parents for alternatives to current methods of childbirth. Increasing specialization and technological developments in obstetrics and pediatrics have tended to transform childbirth into a medical event as evidenced by the increasing incidence of fetal monitoring and cesarean deliveries. Resistance to this trend has increasingly been voiced by couples who feel that prevailing obstetrical practices deprive them of the opportunity to experience fully the delivery of their child. Recent increases in the number of out-of-hospital births in Maine may be explained, in part, by these trends.



Pregnancy and childbirth represent a unique opportunity for health care providers to introduce parents to information, concepts and skills which are important in preparing them for childbirth and for parenthood. During pregnancy parents are most likely to be receptive to efforts to educate them with regard to important health care practices including nutrition, immunization, genetic counseling, health education services which offer opportunities for reducing maternal, fetal, and infant morbidity, for enhancing the birth experience, and for preparing parents for the responsibilities of parenthood.

#### Objective 4.12.1

By 1980, to study the current availability for formal pre- and post-partum education for expectant and new parents and to evaluate the need for new or expanded health education initiatives for this population.

#### Recommended Action

The Office of Health Education, Department of Human Services, the Division of Child Health, Department of Human Services, the Maine Health Systems Agency, Inc., the Maine Hospital Association, the Health Education Resource Center, University of Maine-Farmington, and the Childbirth Education Associations in Maine should form a work group to evaluate the adequacy of current pre- and post-partum health education services in Maine's hospitals. Particular emphasis should be placed on ensuring that expectant and new parents, and especially first-time parents, receive information and education on prenatal fetal development, nutrition and childbirth; infant and child nutrition; child care -- well baby (e.g., hygiene) and sick baby; accident prevention (e.g., child-proofing); and immunization schedules, and other important child care priorities. This group should issue a formal report documenting the current status of pre- and post-partum health education services and outlining recommendations for the improvement/expansion of

these services. Progress in implementing this objective will be determined by whether or not a report is completed and its recommendations implemented.

Resources Required

An estimated \$5,000 will be required to accomplish this objective.

GOAL 4.13 - GENETIC COUNSELING

TO REDUCE THE INCIDENCE AND, THEREFORE, THE BURDEN OF GENETIC DISEASE IN MAINE TO THE LOWEST LEVEL, CONSISTENT WITH THE STATE OF THE ART.

Rationale

(See Section A-7 (p.275)).

## 5. Pediatric Care

### GOAL 5.1

TO PROVIDE ADEQUATE AND ACCESSIBLE PRIMARY HEALTH CARE FOR MAINE'S CHILDREN.

#### Rationale

Planning for pediatric care in Maine is currently seriously constrained by the limited availability of data on the health status and health service needs of children and adolescents in the State. This goal defines specific indicators to evaluate child and adolescent health status and care in Maine. The information will form the basis for improving primary care for children.

Secondly, school health services represent an important though often overlooked component of preventive pediatric care. Although school health services are available in every school system in Maine, the quality and adequacy of these services has never been evaluated. Information acquired in the evaluation effort would lead to the improvement of children's primary health care.

#### Objective 5.1.1

To evaluate the adequacy of school health services in Maine (by 1982).

#### Recommended Action

The Divisions of Public Health Nursing and Child Health should work with the Maine Chapter of the American Academy of Pediatrics and the Department of Education to prepare an evaluation of school health services in Maine:

- (1) to determine how many school systems in Maine meet the standards for school health services established by the American Academy of Pediatrics; and

- (2) to develop specific strategies for addressing deficiencies in these services.

Resources Required

The estimated cost of implementing this objective is \$30,000.

Objective 5.1.2

To develop a strategy for determining the health care needs of the pediatric population (by 1981).

Recommended Action

The Division of Child Health and the Bureau of Health Planning and Development, Department of Human Services, together with the Maine Chapter of the American Academy of Pediatrics should jointly prepare a plan:

- (1) identifying specific health conditions to be used as indicators of child health status in Maine (e.g., iron-deficiency anemia); and
- (2) outlining a strategy for obtaining specific health data necessary for describing the magnitude, distribution and trend of these conditions in Maine.

Resources Required

It is estimated that the implementation of this objective will cost \$20,000.

Objective 5.1.3

By 1981, to evaluate the availability and distribution of pediatric primary care providers in Maine.

Recommended Action

The Maine Chapter of the American Academy of Pediatrics and the Bureau of Health Planning and Development, Department of Human Services, should jointly prepare an analysis of primary care physicians and physician extenders in Maine:

- (1) to determine the availability and distribution of physicians to care for children;
- (2) to project the future need for such physicians;
- (3) to evaluate the potential for using non-physician providers to provide routine pediatric care;
- (4) to develop strategies for increasing or decreasing the supply of primary care providers and/or improving their distribution in the State.

#### Resources Required

It is estimated that this study will cost \$15,000.

#### Objective 5.1.4

By 1982, to determine the adequacy of primary care services provided to foster children and children with mental handicaps in Maine.

#### Recommended Action

The Division of Child Health, Bureau of Health Planning and Development, and the Bureau of Resource Development, Department of Human Services, should cooperate in designing and implementing a study which would identify the health care needs of these groups and the adequacy of the services they currently receive.

#### Resources Required

Implementation of this study will cost an estimated \$15,000.

#### GOAL 5.2

TO REDUCE THE INCIDENCE OF CHILDHOOD DEATHS IN MAINE TO 40.0 PER CHILDREN AGED 1-19.

#### Rationale

Accidents are a major cause of death among children aged 1-19 in Maine. Accidents claimed an average of 130 lives each year (1973-1977) and accounted for over half of the total deaths in this age group. In addition,

it is estimated that approximately 42% of Maine's children aged 0-14 (112,000) were involved in non-fatal accidents in 1977. An estimated 2.2% (2,500) of these accidents were serious enough to require hospitalization. It is estimated that a large number of fatal and non-fatal accidents could be prevented through education and other prevention strategies.

#### Objective 5.2.1

By 1983, to reduce the average number of accidental childhood deaths in Maine to the following levels: 18.0 per 100,000 population aged 1-4; 10.0 per 100,000 population aged 5-14; 45.0 per 100,000 population aged 15-19.

#### Recommended Action

It is envisioned that the achievement of this objective will be accomplished largely through the development of a statewide accident prevention program encompassing specific educational and other strategies for reducing the number of accidental injuries and deaths involving children and adolescents in Maine. Specific goals, objectives and recommended actions related to the development of this accident prevention program are outlined in Goal 5.3, below.

#### GOAL 5.3

TO PROVIDE ACCIDENT PREVENTION PROGRAMS TO REDUCE PREVENTABLE CHILDHOOD DEATHS, MORBIDITY AND DISABILITY IN MAINE.

#### Rationale

There are two major problems with Maine's current accident prevention efforts. The first is the lack of a concerted prevention program in the State. There is little, if any, coordination of effort among existing prevention programs. A second, and perhaps more important problem, has to do with current lack of leadership and direction for program development in this area.

None of the State agencies involved with accident prevention - including among others, the Department of Transportation, the State's Highway Safety Committee and the Division of Child Health - have overall policy or program responsibility in this area. One important consequence of this fragmentation of responsibility and programs has been that no agency has addressed the need for new accident prevention initiatives or for better coordination of existing efforts.

#### Objective 5.3.1

By 1982, to develop a statewide childhood accident prevention program.

#### Recommended Actions

The Division of Child Health, the Office of Emergency Medical Services, the Bureau of Health Planning and Development, Maine Department of Human Services, and the Maine Chapter of the American Academy of Pediatrics should undertake a joint planning effort:

- (1) to identify specific types of accidents that are preventable and which, on the basis of their magnitude, are priorities for addressing in an accident prevention program;
- (2) to develop specific recommendations and strategies for preventing the types of accidents selected;
- (3) pursue federal and State funding sources for the implementation of the proposed program.

Specific types of accidents that should be considered include-motor vehicle, bicycle and pedestrian accidents and poisonings, drownings and fires.

Intervention strategies that should be considered include strengthening existing public awareness efforts; strengthening accident prevention com-

ponents of existing health education programs; and improving school health services.

#### Resources Required

The cost of developing a proposal is estimated to be \$10,000. It is estimated that a statewide accident prevention program would cost approximately \$100,000.

#### GOAL 5.4

TO REDUCE PEDIATRIC HOSPITAL UTILIZATION FOR CHILDREN AGED 0-14 YEARS IN MAINE TO 250 PATIENT DAYS PER 1,000 POPULATION AT RISK AND TO INCREASE THE STATEWIDE AVERAGE OCCUPANCY OF PEDIATRIC UNITS TO 65% OR GREATER.

#### Rationale

The economic impact of excess pediatric capacity in Maine, although difficult to determine precisely, is estimated to be roughly \$1.2 million annually. This estimate is based on an estimate of the cost of maintaining an empty hospital bed of \$14,000. The cost of maintaining this unused and unnecessary capacity will increase dramatically in future years as excess pediatric capacity increases - by 33% in 1983 - and as the cost of hospital services rises.

The problems of excess pediatric capacity and excess inappropriately used capacity in Maine are most acute in the larger urban areas where there are multiple hospitals providing pediatric hospital services. It is not feasible or desirable, in most cases, to close or consolidate pediatric beds in rural facilities, primarily because of the problems this would create for accessibility. In addition, the cost savings resulting from such actions would most likely be very small or non-existent depending on how the fixed and variable costs associated with these beds are allocated. We would expect the economic benefits of consolidating pediatric services in urban areas of the State to be far greater, however, and to outweigh any



adverse social or cultural consequences of consolidation in these areas. In addition, potential benefits for the quality of pediatric care in these areas (e.g., improved emergency pediatric care) should not be discounted.

For additional analysis, refer to Section B-3, Pediatric Inpatient Services, p. 412.

#### Objective 5.4.1

To study the need for and the feasibility of consolidating duplicative pediatric facilities in Maine (1982).

#### Recommended Actions

Several actions should be taken to implement this objective.

- (1) The Bureau of Health Planning and Development, Maine Department of Human Services, the Maine Health Systems Agency, Inc., the Maine Hospital Association, the Maine Chapter of the Academy of Pediatrics and other interested organizations, should form a special work group to: (a) document the extent to which duplicative pediatric units are creating economic and other inefficiencies in the provision of pediatric care in Maine; and (b) evaluate the feasibility of consolidating units within reasonable proximity of each other (i.e., 40 minutes), including units in the following areas:

- . Portland-Westbrook
- . Lewiston
- . Brunswick-Bath
- . Waterville
- . Bangor
- . Caribou-Presque Isle

The group's report should specifically evaluate the implications of potential consolidations for the aggregate cost of health care, for the cost of pediatric care in the area/region affected by the consolidation and for accessibility to pediatric care in the affected area.

- (2) The Bureau of Health Planning and Development, Maine Department of Human Services, should establish specific utilization standards and criteria for pediatric units in Maine.
- (3) On the basis of the working group's findings and considering the standards established, hospitals in areas with duplicative pediatric units should establish specific multi-institutional arrangements for coordinating or consolidating pediatric services in the area/region.

Establishment of the goal of 250 inpatient pediatric days per 1,000 population of children by 1982 is based on a review of use rates in other areas of the country showing wide variations in use rates which cannot be explained by known health risks. The goal of 250 days is approximately halfway between the current rate in Maine (289.0) and the rate in the Western United States of 236.2 (1975).

#### Resources Required

Implementation of this objective may require the use of independent hospital/health care consultants. It is estimated that the costs of implementing this objective would range from \$50,000-\$100,000.

#### Objective 5.4.2

To conduct a study of pediatric hospital utilization in Maine (by 1981).

#### Recommended Action

The Maine Chapter of the American Academy of Pediatrics, The Pine Tree Organization for Professional Standards Review and the Bureau of Health Planning

and Development, Maine Department of Human Services should jointly sponsor a study of pediatric utilization:

- (1) to define, through patient origin analyses, hospital service areas for pediatric services;
- (2) to identify specific areas/regions with utilization rates significantly above the State norm;
- (3) to develop recommendations and strategies for reducing pediatric utilization in high use areas and maintaining utilization rates in low use areas.

#### Resources Required

The estimated cost of this study is \$10,000.

#### GOAL 5.5 CHRONICALLY ILL AND/OR DISABLED CHILDREN

TO PROVIDE HEALTH SCREENING, DIAGNOSIS, TREATMENT AND FOLLOW-UP SERVICES FOR CHILDREN AT RISK OF DEVELOPING CHRONIC HEALTH CONDITIONS (E.G., HEART DISEASE).

#### Rationale

Some children have hereditary tendencies to develop specific conditions (e.g., heart disease) when they reach adulthood. If these children can be identified early and followed, special preventative measures can be taken that will minimize the risks of disease later on.

#### Objective 5.5.1

By 1982, to study the need for and the feasibility of providing preventive services for children at risk of developing chronic health conditions.

#### Recommended Action

The Division of Child Health, Department of Human Services, and the Maine Chapter of the American Academy of Pediatrics should undertake a planning effort:

- (1) to identify specific conditions/problems that may be amenable to preventive intervention;
- (2) to determine or estimate the incidence of these problems and the need for preventive services in the State;
- (3) to develop strategies for intervention; and
- (4) to develop a specific proposal outlining steps that will be taken to implement these strategies.

Specific health problems which should be considered include:

- 1) heart disease
- 2) obesity
- 3) preventable mental retardation due to social and cultural deprivation.

#### Resources Required

The cost of preparing the planning analysis for this project will be approximately \$15,000. Estimated total costs for the project would be \$50,000 annually.

#### GOAL 5.6 CHRONIC ILLNESS AND DISABLING CONDITIONS

TO PROVIDE COMPREHENSIVE SCREENING, DIAGNOSIS, TREATMENT, REHABILITATION AND FOLLOW-UP SERVICES FOR CHILDREN IN MAINE WITH CHRONIC ILLNESSES AND/OR DISABLING CONDITIONS.

#### Rationale

Some children suffer from conditions which if detected early could be treated. This goal aims to ensure that these children will be identified, diagnosed, and provided with proper treatment. Treatment frequently requires input from several disciplines. There is, therefore, in Maine a need for leadership and coordination to insure that these children receive the best care possible.

#### Objective 5.6.1

By 1982, to evaluate health care needs and services for children with chronic health problems to determine the adequacy of the current service delivery system in Maine.

### Recommended Action

The Division of Child Health, Department of Human Services, and the Maine Chapter of the American Academy of Pediatrics should jointly conduct this evaluation:

- (1) to estimate the prevalence of chronic childhood illness and disability in Maine;
- (2) to assess the adequacy of existing services with regard to their availability, continuity (i.e., do they assure early detection, treatment, follow-up, and coordinated care) and accessibility (i.e., are there financial barriers to the utilization of these services?); and
- (3) to develop strategies for addressing any deficiencies in the existing service delivery system, including strategies for achieving inter-departmental cooperation and coordination.

### Resource Required

The estimated cost of this evaluation will be \$20,000.

## 6. Specialized Medical Care: End Stage Renal Disease

### GOAL 6.1

TO PROVIDE ADEQUATE DIALYSIS CAPACITY, ORGAN REPLACEMENT, AND TRANSPLANTATION IN MAINE TO CARE FOR INDIVIDUALS SUFFERING FROM END STAGE RENAL DISEASE.

### Rationale

End stage renal disease (ESRD) or chronic renal failure is a life-long condition which, if untreated, results in the death of the individual. The only cure for the disease requires the replacement of the diseased kidney with a healthy one through transplantation. This difficult procedure cannot be undertaken by many patients because of age, physical condition and associated illnesses. For patients who are not suitable for transplantation or who are waiting for a matched donor, dialysis, on a long term basis, is the only life-sustaining treatment available.

The federal government provides benefits under the Medicare program for treatment of end stage renal disease. As a result, Maine presently has an effective and adequate system of caring for those people who have end stage renal disease. This goal and its objectives are designed to maintain the current system and the different structures for delivering care. (See Section B. 8. of this chapter for standards for services for end stage renal disease.)

The Goal refers to dialysis care provided for individuals with chronic renal failure. The limited scope was chosen because:

1. The programs status as a disease whose treatment is almost completely federally reimbursed;
2. Units providing services for chronic ESRD patients must be certified by the federal government; and
3. Treatment of this population is provided either in a separate section of the hospital or a free-standing unit.

The following table provides information on patients, number of stations, shifts and reimbursement levels for the ESRD facilities in Maine.

Table 1  
 Patients, Stations, Shifts and  
 Reimbursement Levels for  
 ESRD Facilities in Maine

	<u>#Patients</u> <sup>1</sup>	<u># Stations</u>	<u>Shifts/Day</u>	<u>Reimbursement/ Treatment in 1980</u> <sup>2</sup>
Eastern Maine Medical Ctr.	45	14	2	\$150
Mid-Maine Medical Center	13	8	1	\$150
Southern Maine Dialysis Ctr.	86 <sup>3</sup>	21	2½	\$138

1. Number of patients in July 1981.
2. Free standing dialysis units are compensated on the basis of charges whereas hospital units are reimbursed on the basis of allowable costs incurred. The maximum amount paid under Medicare is \$150. Costs exceeding this are not allowable. The facilities charge rate equals the reimbursement level.
3. In July 1981 Southern Maine Dialysis Unit also served 11 transient patients.

Where feasible, additional need should be satisfied through the addition of hours of activities instead of increasing the number of stations. Currently Southern Maine Dialysis facility and EMMC operate their units at least two shifts per day. Additional stations at existing facilities should not be added unless the facility can determine that:

1. Need exceeds the amount of services which can be provided by operating existing stations two shifts a day; or that
2. The long term costs of adding stations to meet need are less than the cost of operating existing stations two shifts per day.

In addition, a hospital wishing to add additional dialysis stations should demonstrate that it has considered the financial feasibility of locating the stations outside of the hospital.

Dialysis treatment may also be provided for certain hospitalized patients at bedside or in specialized hospital units. This intensive service is provided for patients who may or may not be end stage renal disease patients whose condition is complicated by either temporary or permanent renal failure, but almost always have serious systemic disease. Dialysis care in this setting is complicated by the intensity of the patients illness. Acute dialysis is currently offered in Maine at Maine Medical Center, Eastern Maine Medical Center, Mid-Maine Medical Center, and most recently at Central Maine Medical Center and St. Mary's General Hospital.

#### Objective 6.1.1

To provide an adequate dialysis capacity to meet the needs of Maine's population.

#### Recommended Action

Maine currently has adequate in-center dialysis capacity (either hospital or free standing unit) to meet the needs of Maine's population. In-center dialysis is provided at three hospitals: Eastern Maine Medical Center, Mid-Maine Medical Center and Maine Medical Center and at a free standing facility, Southern Maine Dialysis Center. Maine Medical Center's unit contains three stations which are used for home training only. Portland area patients receive dialysis care at Southern Maine Dialysis Center. In-center dialysis treatment requires that the patient travel to the facility three times a week. Access remains difficult for some individuals who must travel up to 100 miles to receive care. Because of high costs and requirements for specially trained physicians and nurses, it is not possible to provide dialysis services in many locations around the State.



Dialysis stations should be established at facilities which do not have them only after the need for them has been documented. There is presently no documented need for a facility in the Lewiston-Auburn area. Because the area has the second largest population in the State and is served by two full-service hospitals, a need for such a facility may be demonstrated in the future. If a need is established in the Lewiston-Auburn area, the dialysis unit should be established only after a planning effort which includes participation by Central Maine Medical Center and St. Mary's General Hospital.

Patients may be trained to receive dialysis care in the home. In 1979, federal reimbursement policies under Medicare were adjusted to improve coverage of self dialysis costs and make patient acquisition of a dialysis machine more feasible. The number of patients choosing this form of dialysis care, however, remains small.

Recently a method of home care, known as continuous ambulatory peritoneal dialysis (CAPD), has come into use in Maine. At this time, Maine Medical Center and Eastern Maine Medical Center have been authorized to provide CAPD training. CAPD offers the individual increased mobility because the patient is not required to use an immobile machine three times a week. This method of care requires a large amount of self care by the patient. The program is still experimental, and long term study of the procedure and its effect on patients should be conducted.

The Veterans Administration Medical Center provides dialysis services to eligible veterans. In accordance with the law, service may be provided to non-veterans only in life-threatening emergencies when no other facilities are available. V.A. patients from Maine receive transplantation and home training services in Boston. The Veterans Administration Center should be encouraged to coordinate more closely with civilian dialysis units and where possible to coordinate patient care to best serve the State's population.

### Resources Required

The ongoing system does not require the addition of funds beyond that needed to operate the units. Costs involved to expand capacity have not been determined. See Table 1 above for information on patients and costs at each facility.

### Current Status

The actions required by this objective are ongoing. It appears that the discovery rate for the disease has stabilized and now approximately equals those leaving the system through transplantation or death.

### Objective 6.1.2

To provide an adequate transplantation capacity to meet the needs of Maine's population.

### Recommended Action

Maine Medical Center should continue to be the kidney transplantation center of Maine. Maine citizens should be encouraged to be donors of kidneys for transplantation through the use of the form on their drivers' licenses for making anatomical gifts.

### Resources Required

No new resources.

### Current Status

Maine Medical Center performed 26 kidney transplantation operations in 1980. Of the 26, 20 were cadaver kidneys and 6 from living related donors.

### Objective 6.1.3

To provide adequate coordination and technical assistance for the End Stage Renal Disease Program in Maine.

### Recommended Action

ESRD services should be provided in a coordinated, efficient manner which minimizes duplication and encourages optimal quality of care at a reasonable cost for individuals suffering from chronic kidney disease. To facilitate this, the hospitals responsible for the chronic disease programs should form, in cooperation with interested nephrologists, a coordinating committee to encourage and enhance coordination of chronic dialysis services both in a facility and at home. This committee should provide advice to the (Maine) State Health Coordinating Council, the Department of Human Services and the Maine Health Systems Agency, Inc. on state-wide ESRD services. Coordination of the transplantation program should remain with the Maine Medical Center.

### Resources Required

There are no additional direct costs associated with this objective.

### Current Status

To be implemented.

## 7. Public Health

In 1983, the Maine State Health Coordinating Council reviewed the Bureau of Health Plan for Public Health prepared by the Bureau of Health of the Maine Department of Human Services. The Bureau of Health's plan is a successor to its earlier State Plan for Public Health, which the Council had incorporated in the State Plan for Maine.

In its review, the Council noted that the Bureau of Health's plan is generally consistent with the broad aims of health promotion and disease prevention in the State Health Plan for Maine. The Council also determined that the Bureau of Health's plan contained goals and objectives which were limited to the Bureau of Health's programs. Because the State Health Plan for Maine contains goals, objectives and recommended actions which call for coordinated efforts by many public and private providers of health care, the Council decided not to include the Bureau of Health's plan in the State Health Plan.

The Council will seek the participation of the Bureau of Health in the development of State Health Plan components which are related to the programs of the Bureau of Health. The Council noted in its review of the Bureau of Health's plan that representatives of the Bureau of Health were active participants in the preparation of the State Health Plan sections on health promotion and nutrition and that the Council's planning work was used by the Bureau of Health's staff in preparing the Bureau of Health Plan for Public Health.

The Bureau of Health's Plan for Public Health is available from the Bureau of Health, Maine Department of Human Services.

## 8. Primary Care

### GOAL 8.1

A STATEWIDE SYSTEM ESTABLISHED FOR HYPERTENSION CONTROL SERVICES.

#### Rationale

An 18% prevalence rate in the over 18 population of 728,600 produces an estimate of approximately 131,148 adult hypertensives in Maine. An estimated 40% prevalence rate in the over 65 population yields an estimate of approximately 32,060 older hypertensives.

A network of thirteen community health agencies currently provides blood pressure screening and follow-up services in Maine. However, follow-up and control is an extremely difficult component to effectively build into these programs. A coordinated system of follow-up, referral and monitoring should be developed to improve hypertension control in Maine.

This goal is to develop a chronic disease control system for hypertension which, if successful, can be expanded to address other chronic conditions, including: diabetes, arthritis, chronic obstructive lung disease and others.

Medical Care Development, Inc. has received a contract through the Maine Department of Human Services from the National Institute of Health to develop a coordinated control system for hypertensive services throughout Maine. This is being done in cooperation with the High Blood Pressure Council.

The development of a chronic disease control program is based on the assumption that the diagnosis of a condition through screening is only effective if a full treatment and follow-up program is also available. An effective hypertension control program includes patient education, active follow-up, and the provision of cardiovascular risk factor intervention which includes specific support services such as diet counseling.

### Objective 8.1.1

By 1982, the number of hypertensives determined statewide.

#### Recommended Action

By 1982, survey a sample of the adult Maine population to identify the prevalence of hypertension, the degree of patient awareness and the control status. The Hypertension Control Project through the Department of Human Services at MCD and members of the Maine High Blood Pressure Council, are primarily responsible for developing and conducting this survey through a contract with the Social Service Research Institute.

#### Resources Required

The total estimated budget for the conduct of the statewide survey through the Hypertension Control Project is \$68,272.

### Objective 8.1.2

By 1984, effective high blood pressure screening, detection and referral services established through such quality assurance measures as development and dissemination of standards, educational programming, data management and consultative assistance in creating new programs.

#### Recommended Actions

By 1983, groups should be encouraged to mobilize community and workplace resources for hypertension control.

By 1984, the Maine High Blood Pressure Council, Medical Care Development, Inc., and the Department of Human Services should explore changes necessary in the current reimbursement structure to support a control program for hypertension on an ambulatory basis.

By 1984, they should also develop standards concerning screening, detection, referral and treatment for consistent use throughout the State (see also Section A-7, p. 275 ).

#### Resources Required

The cost of these efforts should be paid for through the salaries of many health workers.

## GOAL 8.2

NINETY PERCENT OF CHILDREN UNDER 15 YEARS OF AGE IMMUNIZED AGAINST MEASLES, POLIO, DIPHTHERIA, TETANUS AND PERTUSSIS: 90% OF CHILDREN AT SCHOOL ENTRY IMMUNIZED AGAINST RUBELLA.

### Rationale

The overall immunity level, as discussed in the Health Status Section, has steadily improved. Levels of protection are still less than optimal. Each of these diseases is capable of causing mild to severe permanent physical and/or mental disabilities and all of the diseases are potentially fatal.

### Objective 8.2.1

By 1984, full immunity status established against polio, diphtheria, measles and rubella for 95% of children attending schools (grades K-6).

### Recommended Action

By 1984 the Immunization Program of the Bureau of Health, Department of Human Services should assure that 95% of all schools respond to the school enterers survey and that 95% of day care facilities respond to a survey of day care enrollees.

### Resources Required

It is difficult to determine the total amount of resources that are necessary to accomplish the individual recommended actions and objectives related to this goal. However, preliminary estimated expenditures for the State's total Immunization Program is \$442,520 which includes the contributions of other support units in the Department of Human Services. Resource expenditures by individual school systems will also be required (see also Section A-7, p. 275 ).

### Objective 8.2.2

By 1984, the existence of accurate immunization records monitored at junior and senior high schools.

### Recommended Action

By 1984 the Immunization Program of the Bureau of Health, Department of Human Services should maintain a multi-faceted disease surveillance system capable of identifying and reporting the occurrence of immunizable diseases within 5 days of the identification of a suspected case; respond within 24 hours, to suspected polio, diphtheria and measles cases, and initiate containment procedures.

### Resources Required

Resources required are given for the total Immunization Program budget, and cannot be broken down by recommended action.

### Objective 8.2.3

By 1984, a system established that assures the easy availability of immunization services to 100% of the children in Maine.

### Recommended Actions

By 1984, the Immunization Program of the Bureau of Health, Department of Human Services should provide for the administration of vaccine in order to raise school entry and school (K-6) immunity levels.

### Resources Required

These agencies should initiate an information/educational approach designed to educate the general public regarding the need for immunization and to inform the medical professional regarding recommended immunization practices.

They should also assure that potential vaccine recipients are informed of risks and benefits of immunization and that community-based volunteers are available to increase community participation and interest in immunization.

### Resources Required

See Objective 8.2.1.



### GOAL 8.3

SERVICES ESTABLISHED IN MAINE WHICH PROMOTE HEALTH THROUGH THE ACTIVE MOTIVATION OF THE INDIVIDUAL.

#### Rationale

Efforts to motivate individuals to do more for themselves through the development of healthful behaviors and lifestyles are probably the most important and effective strategy that can be employed to improve health levels throughout Maine. Areas in which health promotion services need to be developed include: self responsibility, nutritional awareness, stress management, physical fitness and environmental sensitivity.

Health promotion is also viewed as a very effective and important cost containment strategy.

#### Objective 8.3.1

By 1984, coordinated systems of health promotion programs established in at least 2 of the State's 5 health planning regions.

#### Recommended Action

By 1983, develop mechanisms and strategies for the creation of health promotion programs in the following settings: community, school, large and small workplaces and hospitals. In 2 regions, implement mechanisms and/or strategies identified for the development of health promotion programs

#### Resources Required

Not yet determined.

#### Objective 8.3.2

By 1984, funding expanded for health promotion programs.

### Recommended Action

By 1984, develop, on a pilot basis, third party involvement in health promotion activities. The implementation of this project will require the determination of an organization with the administrative and technical expertise to implement these activities. Lawmakers should be involved in the planning, implementation and evaluation of health promotion programs.

### Resources Required

Not yet determined.

### GOAL 8.4

ADEQUATE ACCESS PROVIDED TO COORDINATED PRIMARY MEDICAL CARE SERVICES WITHIN EACH OF THE PRIMARY CARE ANALYSIS AREAS OF MAINE.

### Rationale

Accessibility to primary medical services and a desirable supply of primary care providers is a high priority concern of the Maine Health Systems Agency, Inc.

Many areas of Maine have been shown to be "shortage" and "underserved" by Federal standards. Efforts need to be undertaken to determine adequate primary care manpower and service needs in specific local areas throughout the State. Access to these services should be provided within every primary care analysis area. The accessibility of adequate primary care manpower should also be assured throughout the State to meet these primary care service needs. This goal is designed to assure that adequate health manpower will be provided in all areas of the State.

### Objective 8.4.1

By 1983, strategies developed in 3 regions to explore alternative organizational and financial mechanisms for the delivery of primary care and to increase public awareness of these and the most appropriate ways to use the primary care system.

### Recommended Actions

Public education strategies should be designed to develop a consumer awareness of the most appropriate and efficient ways to utilize the primary

care system including the use of physician extenders, public health services, outpatient services, and the emergency room.

Maine Health Systems Agency, Inc. and other groups to be identified, should explore the feasibility of alternative models for the organization, delivery and financing of primary care services such as the possible application of the Health Maintenance Organization concept in an area of the State. The health maintenance organization concept may be a desirable alternative to traditional methods of delivering primary health care services because, in addition to the traditional services which they provide, by accepting a predetermined fee, HMOs assume a share of the financial risk associated with poor health and create their own powerful incentives for operating efficiently and emphasizing ambulatory rather than hospital care.

Realistic reimbursement mechanisms for providers and insurance coverage for consumers should be developed that encourage the most appropriate use of primary care services.

#### Resources Required

Not yet determined

#### Objective 8.4.2

Coordinated primary care systems developed in 3 regions (by 1984).

#### Recommended Action

By 1982, strategies should be designed to establish formal linkages between primary medical care providers and facilities and other health care providers (mental health, emergency rooms, social services) within analysis areas. Activities should be carried out by Maine Health Systems Agency, Inc. and other organizations.

A mechanism should be created to assess the need for mid-level practitioners and encourage their most appropriate placement.

#### Resources Required

Not yet determined.

## GOAL 8.5

A SYSTEM OF SCREENING PROGRAMS ESTABLISHED STATE-WIDE FOR THE DETECTION AND CONTAINMENT OF VENEREAL DISEASE.

### Rationale

Increasing numbers of sexually transmittable diseases are being diagnosed, treated and reported in Maine. Five of these diseases - gonorrhea, trichomonas vaginitis, monilial vaginitis, genital herpes and genital warts - are epidemic both in Maine and in the Nation. A number of others are the focus of increasing concern. While these diseases have not yet achieved epidemic status, their incidence rate is escalating. Included in this group are: infectious syphilis, late syphilis, non-gonococcal urethritis and related infections (see also Section A-7, p. 275).

### Objective 8.5.1

By 1984, the percentage of infected individuals who are detected, treated, and followed-up increased.

### Recommended Action

By 1984, the Venereal Disease Program of the Department of Human Services and physicians throughout the State should conduct follow-up on all cases of gonorrhea and syphilis reported from the venereal disease clinics. The program should continue efforts in providing surveillance, education and treatment activities.

### Resources Required

Not yet determined. However, estimated current annual expenditures for the State's total Venereal Disease Program are \$236,043, which includes the contribution of other support units in the Department of Human Services. Resources will also be required for physician time and other staff.

### Objective 8.5.2

By 1984, the level of public awareness about venereal diseased increased.

### Recommended Action

The Venereal Disease Program and school districts should increase the number of school systems throughout Maine that incorporate venereal disease education

into their curricula. The VD Program should also increase the public's awareness of venereal disease screening and treatment programs throughout the State.

#### Resources Required

Not yet determined.

#### GOAL 8.6

THE POPULATION'S NUTRITIONAL STATUS IMPROVED.

#### Rationale

Good nutrition has been identified as an essential component of good health. Research studies conducted in the State have revealed that Maine's population may, on the average, tend to be more obese, have a greater incidence of dental disease, and consume inappropriate levels of protein, carbohydrates, and fats. While there is probably a need to improve accessibility to nutrition services and nutrition education among the State's population in general, several groups may be identified as being nutritionally at-risk and should thus be the focus of more concentrated efforts to improve nutritional status. These groups are: women of childbearing age (especially pregnant women and lactating mothers); preschool aged (up to 5) children; and the elderly (see also Section A-7 of this Chapter, p. 275).

#### Objective 8.6.1

By 1983, the Revised Dietary Goals for the United States identified by the Select Committee on Nutrition and Human Needs (U.S. Senate, December, 1977), adopted state-wide. Those goals are as follows:

- "1. To avoid overweight, consume only as much energy (calories) as is expended; if overweight, decrease energy intake and increase energy expenditure.
2. Increase the consumption of complex carbohydrates and "naturally occurring" sugars from about 28% of energy intake to about 48% of energy intake.

3. Reduce the consumption of refined and processed sugars by about 45% to account for about 10% of total energy intake.
4. Reduce overall fat consumption from approximately 40% to about 30% of energy intake.
5. Reduce saturated fat consumption to account for about 10% of total energy intake; and balance that with poly-unsaturated and mono-unsaturated fats, which should account for about 10% of energy intake each.
6. Reduce cholesterol consumption to about 300 mg. a day.
7. Limit the intake of sodium by reducing the intake of salt to about 5 grams a day."

#### Recommended Action

By 1983, dietary goals should be prepared and disseminated to all appropriate institutions or individuals who currently deliver services related to nutrition or nutrition education. A public education program should be developed and conducted to inform the general population about the dietary goals, and how they can be incorporated into individual behaviors.

#### Resources Required

Not yet determined.

#### Objective 8.6.2

By 1984, the nutritional status of women (aged 18-44) and preschool children maintained or improved.

#### Recommended Action

By 1983, programs of pre-service and in-service training for preschool or daycare teachers on principles of sound nutrition should be established. By 1984, nutritionally balanced meals for women, infants and preschoolers, should be promoted through existing programs and public education.

Resources Required

Not yet determined.

Objective 8.6.3

By 1984, the nutritional status of children (grades K-12) maintained or improved.

Recommended Action

By 1984, to include in State Standards for Teacher Certification, a requirement of a nutrition course in appropriate certificate fields. By 1984, to establish certification standards for school food service personnel which include a requirement for a nutrition course.

Resources Required

Not yet determined.

Objective 8.6.4

By 1984, the nutritional status of the elderly population (ages 65 and over) maintained or improved.

Recommended Action

By 1984, the provision of nutritionally balanced meals for the elderly through existing programs and public education targeted at this sector of the population, and training for food service workers, nutrition consultants and other providers in nursing homes should be provided. Funding for the nutrition education programs and materials for consultant dietitians and staff in nursing homes, boarding homes and extended care facilities should be increased.

Resource Required

Not yet determined.

## GOAL 8.7

SYSTEMS OF HEALTH EDUCATION SERVICES ESTABLISHED IN ALL SETTINGS OF HEALTH CARE DELIVERY THROUGHOUT THE STATE.

### Rationale

MRSA 20 § 1011 requires the teaching of Health Education to all pupils in the public schools in Maine. The specific content matter will be determined by each school system's governing body.

A system of health education services which is integrated with and related to the promotion of health and the prevention and treatment of illness can have a positive effect on factors such as availability, accessibility, acceptability, continuity, quality, and cost. This goal emphasizes the need for planning and implementation as well as periodic evaluation of health education services. Behavioral outcomes resulting from educational interventions are suggested as a basis for evaluation, in addition to medical or health outcomes (see also Sec. A-7, p. 275).

### Objective 8.7.1

By 1984, integrated, sequential health education programs conducted in Maine schools from pre-school through adult education levels in the Health Education Project participating school districts.

### Recommended Action

By 1984, the School Health Education Project now funded by the Department of Human Services and participating SHEP school districts, the State Legislature, the Department of Education and Cultural Services, and others to be identified should assess existing criteria (including legislation) for school health education, especially factors related to availability, content, manpower qualifications, continuity, effectiveness, and funding, for purposes of recommending changes or strengthening those criteria.

State teacher training institutions with input from SHEP, the public and teachers should assess the existing undergraduate and graduate requirements in State institutions which train and certify classroom and health education teachers for purposes of assuring that appropriate experiences related to health education are included in their academic experiences.



Educational and health institutions should develop health education programs to meet the needs of pre-schoolers, special students and adults.

State teacher training institutions, Department of Human Services, State Department of Educational and Cultural Services, teacher organizations, in-service training organizations should encourage the development and seek additional funding for school health education coordination, pre-service and in-service training programs for teachers, and the sharing of teaching resources throughout the State.

State and regional health professional organizations, local school districts, health care institutions should encourage health professionals and agencies to participate in school health education programs.

#### Resources Required

Not yet determined.

#### Objective 8.7.2

Health education services provided by community agencies.

#### Recommended Action

By 1984, all community agencies should promote the sharing of educational resources through workshops, seminars, and newsletters and identify within their agencies individuals responsible for health education and programs targeted to at-risk populations. They should also encourage governing bodies of community agencies to adopt, display and distribute a patients' bill of rights, using the MHSA Guidelines as a minimum standard; establish patient grievance mechanisms capable of dealing with patient care problems; and increase consumer awareness of services available to encourage more efficient utilization and alternatives to traditional medical care.

#### Resources Required

Not yet determined.

### Objective 8.7.3

Projects established in areas of at least 2 regions where business and labor have assumed responsibility for educating workers about environmental health risks and personal health habits in the workplace setting (1984).

### Recommended Action

In 1984, a professional advisory council on occupational health whose primary responsibility is to examine occupational health hazards in Maine worksites and recommend strategies for intervention should be formed. Existing health education programs in Maine industries should be identified and evaluated for integration with comprehensive health programs.

Other actions should be done, including assisting organizations such as the Maine Labor Group on Health in efforts to advocate employee health; forming a Maine Business Group on Health and a statewide council on occupational health; developing strategies for educational intervention in high-risk occupations; encouraging health insurers to provide financial incentives for employee health maintenance; seeking funds and conducting pilot projects to study the relationships between educational interventions and employee health status, with special emphasis on cost effectiveness.

### Resources Required

Not yet determined.

#### Objective 8.7.4

By 1984, programs developed in all analysis areas of 2 regions to assist families in developing sound health practices in the home.

#### Recommended Action

Specific health education programs that emphasize the home as a site for the promotion of good health, and the prevention and treatment of illness should be established. Using an existing organization as the group responsible for implementation and a problem-oriented approach, a home health education program should be developed. Health care providers, agencies, schools, libraries, the media, and other appropriate sources of information should promote home health education efforts. Actions should emphasize the dissemination of accurate, useful health-related information that is particularly geared to use in the home setting.

#### Resources Required

Not yet determined.

#### Objective 8.7.5

By 1984, health education services integrated into all phases of care delivered in the ambulatory setting in all of the primary health care analysis areas of 3 regions.

#### Recommended Action

By 1984, the relative costs and benefits of patient education in the ambulatory setting should be documented by conducting pilot projects in conjunction with a major health insurer.

All health agencies involved in the delivery of ambulatory care and others including the Diabetes Control Project, SHEP and the Patient Education Reimbursement Project should participate. Also, by 1984, various institutions and agencies should develop educational programs in ambulatory settings which deal with a wide range of concerns from health education through treatment and rehabilitation; utilize the ambulatory setting to educate

patients about methods of self-care; seek alternative sources of funding for health education services delivered in the ambulatory setting; and identify, develop and disseminate evaluation methodologies for patient education in the ambulatory setting.

Other activities include expanding in-service and continuing education activities related to health education for providers in the ambulatory setting; promoting involvement by ambulatory care providers in one or more community health education efforts annually; formulating alternative methods of informing and educating providers about effective health education strategies; and developing educational programs that will increase consumer awareness and understanding of over-the-counter and prescription drugs.

#### Resources Required

Not yet determined.

#### Objective 8. 7.6

By 1984, inpatient facilities assume responsibility to provide health education services as a component part of care to patients and their families as well as a responsibility to stimulate community health education.

#### Recommended Action

By 1984, a statewide policy statement with guidelines and standards for health education services in the inpatient setting should be developed and health education programs for specific types of patients in at least 1 inpatient facility in each of the 5 regions should be established. Inpatient facilities should form education committees, whose purpose is to formulate and enforce educational policies and educational resources among inpatient facilities. These will be shared through workshops, seminars, and newsletters.

Also by 1984, state-wide training and education organizations should be assisted in the development of inservice and continuing education activities related to health education; in seeking alternative and

and ongoing sources of funding for health education services delivered in the inpatient setting; in encouraging shared community health promotion efforts between inpatient facilities and other agencies and organizations; and in increasing consumer awareness and understanding of services available in the inpatient setting to encourage more efficient and appropriate utilization of those services.

#### Resources Required

Not yet determined.

### GOAL 8.8

TO ENSURE A SUPPLY OF PRIMARY HEALTH CARE PERSONNEL WHICH IS ADEQUATE TO MEET THE NEEDS OF THE STATE'S RESIDENTS (OR NO LESS THAN THE EQUIVALENT OF 1 PHYSICIAN PER 2,000 POPULATION).<sup>1</sup>

#### Objective 8.8.1

To assess the current (and future) supply of primary medical care physicians including active and inactive physicians, and the effects of residency and contract student programs and other recruitment efforts.

#### Rationale

There are a number of organizations, committees and programs that are interested in the supply of and need for primary medical care physicians.

These include:

- 1) The Health Professions Program - The Commissioner of the Department of Education and Cultural Services, with the assistance of the Governor's Advisory Committee on Medical Education, is charged with planning and administering the State's Contract Student Program which "purchased seats" for various health care professions.

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<sup>1</sup>The National Health Planning goals suggest that this ratio can be achieved by fostering the use of nurse practitioners and physician assistants.

The Advisory's Committee's Subcommittee on Medical Manpower has undertaken the task of making recommendations to the Commissioner as to medical manpower supply and demand.

- 2) Residency Programs - There are currently six family practice residency programs in the state. Two of the residency programs are osteopathic and the remaining four are allopathic. Since the graduating classes of 1978, about 60% of the residents have chosen to remain in Maine to practice.

There are also numerous residency programs located at the Maine Medical Center in addition to its family practice residency. These programs include the primary care specialties of internal medicine, obstetrics and gynecology and pediatrics.<sup>2</sup> Data supplied by the Maine Medical Center indicate that approximately 60% of its primary care residency graduates (including family practice) from 1965 to 1975 chose to remain in Maine to practice.

The Osteopathic Hospital of Maine also has several residency programs, in addition to its family practice residency. One of the residencies is in a primary medical care specialty, internal medicine. The program currently has its first resident who plans to establish a practice in Maine.

- 3) New England College of Osteopathic Medicine - NECOM was established in 1978 and offers a four-year medical degree in osteopathic medicine. Thirty-six students were enrolled in the freshman class in the fall of 1978, followed by 56 students in 1979, 68 in 1980, with 76 freshman anticipated in the fall of 1981. It is expected that graduates of NECOM will significantly affect the primary care physician to population ratio in Maine.

<sup>2</sup>Primary care physicians include all allopathic and osteopathic physicians providing direct patient care who practice principally in general or family practice, general internal medicine, general pediatrics or obstetrics and gynecology.

- 4) National Health Service Corps (NHSC) - Designation as a health manpower shortage area for primary care makes a group of towns eligible for direct placement of a federally financed physician. In order to qualify for this designation an area must have, in general, less than one full time equivalent primary care physician per 3,500 people. Portions of Androscoggin, Aroostook, Cumberland, Hancock, Kennebec, Knox, Oxford, Penobscot, Piscataquis, Somerset, Waldo, Washington and York Counties have been designated as health manpower shortage areas. As of October of 1979, there were 16 NHSC physicians in Maine.
- 5) Recruitment Efforts - There are numerous other primary medical care physician recruitment efforts ongoing in the State through hospitals, primary care centers and physicians.
- 6) Taylor Study - Although there is little agreement on a "correct" ratio of primary care physicians to the population of Maine, several studies have concluded that there may be a shortage and a maldistribution of primary medical manpower in the State.

An unpublished study by Michael Taylor, M.D., M.P.H. analyzed 1976 and 1978 primary care physician data and concluded that improvements at least in the number of physicians had been made. Similar 1980 data will be made available by the Bureau of Health Planning and Development early in 1981.

For the most part, these programs and recruitment efforts are unrelated and uncoordinated. Given the changes documented in Taylor's work of the numbers of primary care physician's in Maine in recent years and the expansion of programs for training such physicians, it is imperative that a manpower planning effort be established. This effort should take a state-wide perspective which would promote coordination among the existing programs.

The state-wide planning effort must also carefully consider the questions of need and demand for primary medical care, as well as the questions of supply and distribution. Resources to support the planning effort must be identified and developed. Such resources do not now appear to exist.

#### Objective 8.8.1

To assess the current (and future) supply of primary medical care physicians including active and inactive physicians, and the effects of residency and contract student programs and other recruitment efforts.

#### Recommended Action

The Bureau of Health Planning and Development and the (Maine) State Health Coordinating Council should work with the Subcommittee on Health Manpower, the Maine Health Information Center, the University of Maine, the Maine Health Systems Agency, Inc., the residency programs, NECOM, the Maine Medical Association and the Maine Osteopathic Association, and other interested groups and individuals to develop appropriate criteria for primary care physician supply and geographic distribution.

The Bureau of Health Planning should analyze data from the 1980 survey to determine present characteristics of primary care physicians and their practices. The 1980 data should be compared with the 1976 and 1978 data to determine changes and trends in the distribution and supply of primary care physicians.

The Bureau of Health Planning should collect and analyze data pertaining to the various physician manpower education programs (including the National Health Service Corps) to determine their adequacy in meeting Maine's primary medical manpower needs.

#### Objective 8.8.2

To ensure an adequate supply of active registered nurses and licensed practical nurses appropriately distributed geographically and by health care setting and specialty to help meet Maine's primary care needs.



## Rationale

Several organizations in the state have expressed concern that there may be a shortage of active R.N.'s and L.P.N.'s in some areas of the state. For example, the Maine Hospital Association Board of Directors identified "the R.N. shortage" as one of four primary concerns over the next 5-10 years.<sup>3</sup> Upon inquiry, it was found that while the issue was one of decreasing numbers and changing roles of nurses, concern was also expressed about shortages of other types of personnel.

In a report published in December, 1979 by the Bureau of Health Planning and Development entitled Registered Nurses and Licensed Practical Nurses: Current Supply, it was noted that, according to federal criteria, there was no apparent severe shortage of nurses in the state. It was also reported that approximately one-quarter of both R.N.'s and L.P.N.'s (in 1979 and 1978 respectively) were inactive for a variety of reasons. The highest number (almost half) of inactive R.N.'s and L.P.N.'s were not working due to household responsibilities. Approximately 24% of the inactive R.N.'s and 10% of the inactive L.P.N.'s were retired. A total of 105 R.N.'s and 55 L.P.N.'s state-wide were at the time of the studies, seeking work in nursing.

The Maine Health Information Center is currently undertaking a study under the Bureau's CHSS contract which will study trends in nursing supply and demand since 1976, project need based on experience to date, and analyze geographic distribution. The study will also address factors which are important in nursing employment participation rates.

## Recommended Action

The Bureau's Division of Planning and Administration will work with the Division of Data and Research and the Maine Health Information Center to identify nurses providing primary care by setting, geographic location, and practice specialty. After study of these control data sets, additional data will be

<sup>3</sup>Maine Hospital Association Friday Report, May 30, 1980.

collected and analyzed pertaining to place of work, education, age, etc. to further define location and characteristics of nurses providing primary care.

The Bureau of Health Planning and Development, in consultation with the Maine Nurses Association and the state nursing programs, should collect and analyze data pertaining to nursing education in Maine to determine if sufficient number of nurses are being trained so that, given out-migrations, in-migrations, retirement and other reasons for leaving the job market (e.g., household responsibilities), an adequate supply by setting and specialty is available.

Objective 8.8.3

To study the utilization of and the role of a new health practitioner in Maine.

Rationale

A new health practitioner may be defined generally as a health professional, qualified by academic training and clinical experience, who performs under the direction and supervision of a qualified licensed physician in the diagnostic and therapeutic management of patients. New health practitioners include physician's assistants, physician associates, nurse practitioners, health associates Medex, Primex and child health associates.

As of June, 1980, there were 271 new health practitioners in Maine, 195 nurse practitioners and 76 physician assistants. Of those responding to a survey conducted by Perry and Redmond ("New Health Practitioners in Maine: An Assessment of their Current Role," Journal of the Maine Medical Association, July 1980), the following information by practice setting was found:

	Nurse Practitioner (n=61)	Physician Assistant (n=54)
Private solo, partnership practice, or private group practice	29.8%	25.8%
Hospital	27.2%	38.2%
Community based clinic	14.3%	25.6%
Other	<u>28.7%</u>	<u>10.4%</u>
	100.0%	100.0%

Perry and Redmond also reported that over half of the nurse practitioners and physician's assistants in Maine are working in communities of less than 5,000 persons. The distribution of nurse practitioners is almost identical to primary care physicians while physician assistants are more heavily concentrated in the rural areas.

Inactivity among new health practitioners was also documented. Only 61 of the 92 responding nurse practitioners were found to be currently employed in that field. All of the responding physician assistants were found to be working as new health practitioners as they are only registered by the Board of Medicine or Osteopathy when they are actively employed. Nurse practitioners are registered as such whether they are currently employed as a practitioner or not.

#### Recommended Action

The Bureau of Health Planning and Development, in consultation with the University of Southern Maine Nurse Associate Program, the Ambulatory Care Center Coalition, Medical Care Development, Inc., and other interested groups, should assess the role and utilization of new health practitioners in light of Maine's overall primary care needs. Questions to be addressed would include supply and employment opportunity, work relationships with primary care physicians and utilization in specialty practices.

#### GOAL 8.9

TO ENSURE REASONABLE ACCESS TO PRIMARY MEDICAL CARE TO ALL MAINE RESIDENTS.

#### Objective 8.9.1

Assess the viability of ambulatory care centers as a long term solution to the primary medical care needs of Maine's residents.

#### Rationale

There are any number of problems which may impede accessibility to primary medical care. These might include such things as a lack of transportation, excessive travel time, inability to pay for services, or dissatisfaction with the health services offered in the community.

One alternative to the traditional delivery of primary medical care which has become popular over the last decade is the ambulatory care center. Many ambulatory care centers in Maine, particularly in the rural areas, were developed specifically to address some of the problems described above.

There are currently 37 ambulatory care centers state-wide which can be characterized as urban or rural, hospital based or free standing, teaching center or community health oriented. Most are heavily dependent on federal funding, hospital support and/or designation as an underserved area. None are totally supported on the traditional fee-for-service basis.

The availability of federal funding for ambulatory care centers has become more limited. Long range planning for financial independence will become imperative as the following situations present themselves:

- 1) De-designation - Over time and changing circumstances, manpower shortage areas may no longer qualify as such and may be de-designated by the Department of Health and Human Services with the advice of the Maine Health Systems Agency, Inc. and the Bureau of Health Planning and Development. These decisions are crucial to the ambulatory care centers as de-designation would mean the loss of reasonably secure federal funding and other resources.
- 2) Reduction in Federal Funding - It is expected that the federal funding of many of the rural health centers and family practice centers will decline if it has not already done so. More research needs to be done on a center by center basis and financial alternatives explored.

As de-designation and loss of federal funding occur, communities may opt to ensure the financial stability of the centers. It also seems reasonable to assume that area hospitals might become interested in the rural free-standing clinics. Management of a center by a hospital might result in reduction or elimination of unprofitable services. Financial difficulties

will undoubtedly beset even the more profitable and well-run centers.

These situations could well result in the curtailment of a comprehensive range of services essential to the provision of good primary medical care.

#### Recommended Action

The Bureau of Health Planning and Development and the Maine Health Systems Agency, Inc. should work with the Ambulatory Care Coalition, the National Rural Primary Care Association, the Maine Hospital Association, the family practice centers and other interested groups to document financial need and consider alternative funding mechanisms.

The organizations listed above should also work to define minimum services needed for the provision of comprehensive primary medical care in an ambulatory care center.

#### Objective 8.9.2

To study the appropriateness of the HMO model for the delivery of primary medical care in Maine.

#### Rationale

A health maintenance organization (HMO) is defined as an entity with four essential attributes:

- 1) An organized system for providing health care in a geographic area, where the entity accepts the responsibility to provide or otherwise assure the delivery of
- 2) an agreed upon set of basic and supplemental health maintenance and treatment services to
- 3) a voluntarily enrolled group of persons, and
- 4) for which services the HMO is reimbursed through a predetermined, fixed, periodic prepayment made by or on behalf of each person or family unit enrolled in the HMO without regard to the amounts of actual services provided. (From the report of the Committee on Interstate and Foreign

Commerce on the HMO Act of 1973, P.L. 93-222, in which the term is legally defined, section 1301 of the PHS Act.

Health Maintenance Organizations are often viewed as the most desirable alternative to the existing medical care system, including traditional primary medical care. "HMO Reimbursement and Regulation" from Altering Medicaid Provider Reimbursement Methods cautions that HMO's may not be the solution to providing comprehensive health care services that they seem to be. It was pointed out that, although empirical investigations have not concluded that HMO's possess all the advantages they are assumed to have, the studies do seem to indicate that:

- HMO's are a less expensive means of providing care than fee-for-service;
- Hospitalization rates are significantly lower;
- Consumers probably receive a comparable quality of care (as from fee-for-service).

Beyond these, not many generalizations can be made in comparing HMO and other populations, due to the self-selection aspect of HMO clientele.

There are basically two types of HMO's which are distinguishable by the locus of administrative control and provider organization.

The first is a Prepaid Group Practice (PGP) characterized by physicians which practice at a common facility and who receive payment on a salary or capitation basis. Prepaid Group Practices, especially the larger ones, are owned and operated by consumer associations, labor unions, medical schools, etc. The physician may have ownership in the plan or may contract with the HMO to furnish services.

The second type of HMO is referred to as a Foundation for Medical Care (FMC). This type is usually composed of physicians in private practice who are paid by the HMO on a fee-for-service basis. Foundations for medical care are usually controlled by county medical associations. The FMC's tend to differ very little in terms of cost, utilization and access from fee-for-service medical care.

There is one HMO in Maine and several organizations based on various HMO concepts. The Rural Health Associates in Farmington is currently the only HMO recognized under Maine law and was awarded its Certificate of Authority in February of 1980. The Rural Health Associates has an independent practice foundation. The RHA is currently seeking designation as a federal HMO and has been awarded a \$50,000 grant to determine the feasibility of becoming federally recognized.

Blue Cross and Blue Shield of Maine is currently conducting a study to determine the feasibility of establishing an independent practice association network HMO operated as a BC/BS line of business. Blue Cross and Blue Shield staff will be making recommendations to its Board in the fall.

The Greater Portland Health Plan, Inc. has been awarded a federal grant to study the feasibility of establishing an HMO in Portland. Conclusions from that study should be available by May, 1981. GPHP is a new, not-for-profit corporation whose board is composed of business, labor and health professionals.

Since 1972, the Penobscot Bay Medical Center (PBMC) has been operating a prepaid health care program for 1,400 low income residents from Knox, Lincoln and Waldo Counties. Eligibility for other federal or state health benefit programs, such as Medicaid or Medicare precludes eligibility for PBMC's prepaid program.

During 1979, PBMC undertook a feasibility study to determine the potential for expanding its prepaid program into the group contract Medicare and Medicaid markets. PBMC filed a Certificate of Authority of application with the Superintendent of Insurance in July of 1979.

Primarily due to existing low inpatient utilization in the Rockland hospital service area, limited health benefit coverage in the employer market, and small service area population, the expansion into other market sectors was found to be

infeasible at that time. The PBMC Board of Trustees ruled against HMO expansion in August of 1980. PBMC is still exploring the need for licensure of its current prepaid program.

The Washington County Health Plan is a prepaid ambulatory health care program serving 2,300 low income residents of Washington County. It does not qualify as an HMO as it does not cover inpatient services. The WCHP provides services at various ambulatory care center sites. Eligibility for any other third-party federal or state health program, such as Medicaid or Medicare, precludes eligibility for services through the WCHP.

There are many questions that need to be answered about the appropriateness of the HMO model for the provision of primary medical care in Maine. Among them are:

- Can an HMO in Maine provide a comprehensive array of primary medical care services at a cost equal to or less than fee-for-service without federal or other organizational assistance?
- Could sufficient numbers of Maine families afford the premiums of an HMO either privately or share the cost with an employer?
- Could HMO's in Maine realize a long term goal of alleviating access problems in rural areas without isolating providers?
- Would an HMO provide an appropriate and cost effective alternative for the enrollment of Maine's Medicaid population?

#### Recommended Action

The Bureau of Health Planning and Development, the Bureau of Medical Services, the Maine Health Systems Agency, Inc., the HMO and HMO type organizations and other interested persons should study the appropriateness of the HMO model in Maine in terms of accessibility to providers and consumers; cost of services; affordability to consumers and employers; and as an alternative for Maine's Medicaid Program. The Bureau of Health Planning and Development should assume the responsibility for initiating this action.



## 9. Substance Abuse Services - Introduction

Substance abuse is defined by the Office of Alcohol and Drug Abuse Prevention as the use of a substance (alcohol or other drugs) to a point where such use adversely affects the physical, economic, domestic, occupational, emotional and/or social well-being of an individual.

### LEVELS AND CONSEQUENCES OF ABUSE

Alcoholism, an illness that ranks third nationally in number of fatalities after heart disease and cancer, has come to be recognized as one of our most serious health problems. Alcohol is clearly the most abused drug in the United States today and its abuse is believed to be increasing each year. An estimated 10 million Americans, roughly 7 percent of the adult population, suffer from alcohol abuse and alcoholism. A conservative estimate based on 1980 Census data is that 80,000 persons in Maine have problems with alcohol. Of these, an estimated 40,000 are alcoholics.<sup>1</sup> National statistics show that Maine ranks 11th in the numbers of alcoholics per 100,000 population age 21 or over.<sup>2</sup>

Besides the tragic personal devastation of alcoholism, there are other costs to society such as lost production, illness, motor vehicle accidents, and crime. The total economic cost of alcohol abuse in the United States was determined to be almost \$43 billion dollars in 1975. The cost to Maine was estimated to be as high as \$210 million annually.<sup>3</sup> Other consequences of alcohol abuse in Maine are reported on page 49.

Problems related to the abuse of drugs other than alcohol are not documented as extensively as the consequences of alcohol abuse; however, there is increasing concern about the abuse of other drugs in the United States.

The second most frequently used drug in the United States is marijuana according to the sixth National Survey on Drug Abuse (1979). One out of three

of the young adults (age 18-25), one out of six of the youth (age 12-17) and one out of sixteen of the older adults (age 26+) had used marijuana in the month prior to being interviewed.<sup>4</sup> Excluding alcohol, marijuana was identified as the primary drug of abuse for a higher proportion of clients admitted to treatment programs in Maine in 1979 than for any other single drug (32%).<sup>5</sup>

Probably the most serious effect of marijuana is its potential to impair the process of growing up. If young people use marijuana as an escape from the feelings of anxiety and insecurity which necessarily accompany adolescence, they are less likely to resolve the issues surrounding their transformation from children to adults.

Abuse of hallucinogens accounts for the second highest proportion of drug treatment admissions in Maine (14%) followed by tranquilizers (13%) and amphetamines (12%).<sup>6</sup>

An estimate of the number of drug abusers in Maine and the level of abuse are reported on page 49.

#### MAINE'S RESPONSE TO THE PROBLEMS OF SUBSTANCE ABUSE

Programs developed to address the problems of substance abuse in Maine are organized around three categories: prevention, intervention, and treatment. Programs within these three categories focus on both drug and alcohol abuse.

#### PREVENTION

The Governor's Committee on Alcohol and Drug Abuse Prevention (1980) defined prevention as "those activities, including education and information, which help people make responsible decisions about the use or non-use of drugs, including alcohol, before they may begin a cycle of abuse."<sup>7</sup> Consequently, emphasis has been placed on developing prevention programs for use in community settings.

## Schools

There are several organizations and agencies which are involved in substance abuse education in schools. For example, the Unit for Alcohol and Drug Education of the Maine Department of Education and Cultural Services (MDECS) is an organizational unit within State government whose mission is to serve the public schools of Maine in alcohol and drug abuse prevention efforts. The philosophy of the Unit is that "the most effective program is one that is operational within the school system, that is long-term, and not based solely on the use of outside expertise." The goal of the Unit's programs is to create a core team of school and community persons who will know how to best encourage prevention efforts.

## Workplaces

In Maine, the cost of alcohol and drug abuse problems to industry, in terms of lost production, is estimated to be \$60 million per year.<sup>8</sup> Prevention activities include efforts to change attitudes about drinking through educational flyers placed in paychecks, for example. Cooperative efforts to promote health through risk reduction programs at worksites are being made.

## Communities

The Office of Alcohol and Drug Abuse Prevention in the Department of Human Services also engages in prevention activities. A prevention coordinator is part of OADAP's staff; the office provides general information on alcohol and drugs and leadership to community organizations in developing prevention programs. OADAP is funding four community-based prevention projects, five youth alternative projects and a YWCA school-based prevention project.

The state-wide Clearinghouse on Alcohol and Drug Abuse in the Bureau of Health was established to work with regional alcohol and drug councils in responding to requests from organizations and the general public. Voluntary

organizations have been active in such prevention efforts as community education, through discussions at hospitals and service clubs throughout the State. The Regional Councils on Alcohol and Drug Abuse and the National Council on Alcoholism/Maine also contribute to these substance abuse prevention efforts through organizing family-oriented workshops.

The outreach components of existing substance abuse treatment programs are a vital part of the effort to raise community awareness about the availability of treatment services in the community.

### INTERVENTION

This area of service brings persons who already have some level of substance abuse problem into treatment. Generally such services identify the substance abuse problem; treatment may be required as a condition of continued employment, restoration of driver's license, or reduction of a criminal sentence. Such programs usually bring an individual into treatment before he/she would otherwise have sought treatment thus markedly reducing the number of problems to which the person and those around him/her are subjected. Earlier treatment has the additional benefit of improving the chances for successful outcome. Examples of these services are:

Employee Assistance Programs. These programs are designed to identify problems the employee may be having that affect work performance. They may be substance abuse or other physical or emotional problems. OADAP employs an occupational program consultant who provides support to businesses, the Regional Councils, and intervention service providers in developing Employee Assistance Programs.

The Driver Education Evaluation Program (DEEP). Also run by OADAP, DEEP is an intervention program designed to reduce Operating Under the Influence behavior. The program contains two major elements: education or information which may encourage individuals to make safe decisions and a preliminary evaluation which may lead to referral to a substance abuse treatment facility.

## TREATMENT

The philosophy and developmental guidelines for OADAP-funded substance abuse treatment programs are outlined in the Client Oriented Treatment System (COTS) plan. Although COTS is not specifically mentioned in the Goals and Objectives section, references to a comprehensive, integrated management system are made. This is the COTS. The framework for COTS was developed with extensive field involvement, and is based on the following major premises:

- Substance abuse is a treatable illness.
- Substance abusers and their families deserve first quality treatment.
- Treatment should occur within an integrated treatment system.

The Client Oriented Treatment System (COTS) plan utilizes the resources of the existing treatment system, but expands the system and integrates all components to create a logical, coordinated system of care which is designed to meet the needs of each client. Drug and alcohol abusers are treated in the same programs in Maine.

The COTS components are currently in operation state-wide but all regions do not have all service components in place. Figure 19, page 82, shows the geographical distribution of residential and outpatient programs. A table listing programs by county and principal COTS will be inserted when it becomes available. Table 34, page 87 reports the number of clients admitted to each COTS component in 1981. A description of each component follows:

### Shelter

Shelters provide basic, non-medical, life-maintaining services for a limited period; motivate and encourage their users to obtain treatment; and provide bed space on a short-term basis for clients in need of residential services for whom no bed is immediately available. Shelters save lives; they provide an important point of first contact for a certain segment of the substance abuser population, and they are an important resource for law enforcement officers who seek a safe place to bring an intoxicated person.

### Detoxification

Detoxification services are designed to assist substance abusers who are in the process of withdrawing from alcohol or drugs. Withdrawal from drugs

can cause severe physical reactions in some people; in these cases hospital detoxification services are essential.

Detoxification services are only the first step in the substance abuse rehabilitation process. Further treatment is essential to prevent the client from once again abusing substances and again requiring detoxification. The withdrawal period is a crucial time which presents a significant opportunity to motivate a client for further treatment. During withdrawal, the client is in acute distress and it is hard for him to deny that the distress is directly linked to substance abuse. Offers of treatment to prevent such distress in the future are often well received. Thus, a well-organized detoxification program should include means to motivate clients to accept further treatment.

### Outpatient Rehabilitation

Outpatient services are defined as services delivered to persons who do not reside on the premises of the program delivering the services. These services may range from advocacy through counseling to transportation. The services should be available on both a scheduled and nonscheduled basis.

The core of the outpatient component is the delivery of counseling services. This may be done on a group or individual basis. This counseling may be designed to help an individual cope with an immediate crisis, or to provide the client's needs. Outpatient counselors should also be prepared to involve the substance abuser's family in treatment. Even if the abuser cannot be brought into treatment, outpatient counseling can still provide much needed help to the family members. Treating family members is a crucial part of the spectrum of outpatient services.

### Residential Rehabilitation

Substance abuse treatment services are provided in a full (24-hour) or partial (less than 24-hour) residential setting. Services provided may include, but are not limited to: education about the effects of substance abuse, and group and individual counseling. Residential rehabilitation can occur in either a hospital setting or in a free-standing program.

The residential rehabilitation component is designed to provide intensive treatment to develop the client's awareness of his problem, his own self, and to give him the basic tools for coping with his problems. The treatment offered is substantially the same as that offered in outpatient counseling. However, residential rehabilitation is more appropriate for certain clients. First, it is more intensive and concentrated. Second, the residential setting provides a healthful environment. Many substance abusers live in situations which have become intolerable. They receive no support from, and in fact may be harmed by, the situations and persons around them. In these cases, outpatient counseling is likely to prove ineffective.

### Halfway Houses

Halfway houses are intended to provide a semi-structured, supportive, residential environment to assist clients whose life styles have been centered around institutional living or substance abuse in acquiring the skills to reintegrate themselves into the community.

## Extended Care

This component provides a long-term, supportive environment for final stage substance abusers. Participation in the program requires sustained abstinence and allows the client to receive a variety of basic support services.

### FOOTNOTES

1. Age-specific rates of alcohol abuse were applied to Maine's 1980 Census data. The rates were obtained from: Parker Marden, "A Procedure for Estimating the Potential Clientele of Alcoholism Service Programs." National Institute on Alcohol Abuse and Alcoholism, 1974, p. 24.
2. H.J. Malin, N.E. Munch and L.D. Archer, "A National Surveillance System for Alcoholism and Alcohol Abuse," 32nd International Congress on Alcoholism and Drug Dependence, 1978, p. 6.
3. State of Maine, Department of Human Services, Office of Alcoholism and Drug Abuse Prevention. The Maine State Plan for Alcohol and Drug Abuse Services for FY '79/80, p. 13.
4. USDHHS, PHS, ADAMHA, National Institute on Drug Abuse. Sixth National Survey on Drug Abuse: Main Findings, 1979, p. 53.
5. USDHHS, PHS, ADAMHA, National Institute on Drug Abuse. Statistical Series: State Statistics, 1979, p. 145.
6. Ibid.
7. Governor's Citizen Advisory Committee on Alcohol and Drug Abuse Prevention, Alcohol & Drug Abuse Prevention Plan for Maine, A Citizens Report, October, 1980, p. 2.
8. The Maine State Plan for Alcohol and Drug Abuse Services for FY '79/80, op.cit.

## GOAL 9.1

IMPROVE THE PLANNING AND EVALUATION CAPABILITIES SURROUNDING SUBSTANCE ABUSE.

### Rationale

Much of the data, such as cost analyses, public opinion surveys, evaluation studies, and incidence and prevalence studies, needed to do meaningful planning either does not exist, is being collected as a low funding priority, or is built upon national studies. These data are necessary in order to improve service delivery, establish priorities, allocate existing resources, and develop new resources.

### Objective 9.1.1

Develop a baseline of data for substance abuse planning during FY '83.

### Recommended Action

The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, should initiate a joint project to assess the availability of useful data from existing sources; improve the management information system for substance abuse; and, develop special studies where existing data are not available. This project should be done in conjunction with the Bureau of Health Planning and Development, and the Departments of Educational and Cultural Services, Corrections, and Mental Health and Mental Retardation.

### Resources Required

Much of the information system improvements and assessment of existing data can be done with internal budget reallocations, and existing personnel when vacant positions are filled. Special studies will have to be contracted to outside firms having appropriate expertise available to them. The estimated cost of this objective is approximately \$200,000.



### Current Status

Paperwork to fill the required vacancies is being processed through the Department of Personnel. A specific appropriation request will be made during the next regular legislative session to cover additional costs of implementation.

Negotiations among the departments having an interest in substance abuse are ongoing.

### Objective 9.1.2

Develop a program evaluation system in FY '84 that will help improve the quality of treatment.

### Recommended Action

The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, should design an evaluation protocol which includes objective and subjective measures of program effectiveness. Both quantitative and qualitative criteria should be developed. Consultation should be sought from the substance abuse regional councils and the Maine Association of Substance Abuse Programs to assure broadbased acceptance of the evaluation process.

### Resources Required

The financial and manpower resources necessary to meet this objective are available, but pending action to fill vacancies by the Department of Personnel.

### Current Status

Implementation is scheduled for Fiscal Year 1984.

### GOAL 9.2

ENSURE THE AVAILABILITY OF A SUFFICIENT POOL OF PERSONNEL TO DELIVER SUBSTANCE ABUSE SERVICES.

### Rationale

Although a substantial amount of training is available to counselors in substance abuse agencies, more training needs to be available to other health care providers, social service workers, and people interested in prevention. Health care and social service workers are in a good position to recognize alcohol and drug abuse problems in those people whom they serve. Training will

help these workers identify problems, and make referrals to substance abuse specific service, thereby intervening in the disease process earlier when a better chance of successful treatment exists.

Prevention efforts are becoming more popular and acceptable at the local level. Local citizens, generally untrained in substance abuse, recognize a need to confront problems related to substance abuse before addictions requiring treatment develop. Workable methods for delivery of prevention services should be made available to local interested citizens.

#### Objective 9.2.1

Continue to maintain training delivery for treatment, prevention, and support services.

#### Recommended Action

The Office of Alcoholism and Drug Abuse Prevention should increase the emphasis upon training in the prevention area. More training sessions illustrating tested methods of prevention service delivery should be offered to provide local level expertise in prevention. The annual prevention conference should reflect the need for community-based knowledge and skill in developing and implementing prevention projects.

Since many of the local volunteers wishing to engage in prevention have an interest in school-aged youth, the Department of Educational and Cultural Services, the National Council on Alcoholism in Maine, and the Regional Substance Abuse Councils should continue increasing their support to these people. The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, should make prevention resource people available, through contract, in each region. These local resource people should coordinate their activity closely with the previously mentioned agencies as well as local treatment agencies. This local prevention resource should stimulate prevention projects by, and provide training to, local citizens.

Since health care and social service providers come in contact with early stage substance abusers, the Office of Alcoholism and Drug Abuse Prevention should make intervention training available to them. Although OADAP should be a catalyst and provide seed money for training, health care and social service providers should begin to absorb the cost of substance abuse training as a usual cost of doing business.

The Office of Alcoholism and Drug Abuse Prevention should continue providing training sessions which build the skills of substance abuse treatment personnel. Training relating to substance abuse counselor registration is particularly important.

#### Resources Required

Additional funding will be necessary to expand training in the prevention area. Much of the \$300,000 from the Premium Law going to the Department of Educational and Cultural Services is being directed toward training local school teams to address prevention issues. The Office of Alcoholism and Drug Abuse Prevention has requested an additional \$150,000 from the Premium Law to fund locally-based prevention resources.

#### Current Status

Plans for prevention, health care, and social service workers have been made. The Office of Alcoholism and Drug Abuse Prevention has developed more prevention training modules to be offered during the coming year. Both OADAP and the Department of Educational and Cultural Services have requested resources to meet this objective from the Premium Law.

The Office of Alcoholism and Drug Abuse Prevention, taking a leadership role, is encouraging the Regional Councils and the National Council on Alcoholism in Maine, through its contractual relationship, to stimulate volunteer training in the prevention area.

The annual prevention conference is designed to be a major training event and will focus on the regional councils as local resources. NCA/ME continues its involvement in sponsoring and developing the conference.

With the advent of hospital-based residential rehabilitation programs, the medical community is increasing its training in the substance abuse area. For example, the College of Osteopathic Medicine has a substance abuse component in its curriculum and rotates students through local substance abuse treatment agencies for training. Eastern Maine Medical Center has a Family Practice rotation through the Alcohol Institute.

### GOAL 9.3

TO HELP PEOPLE MAKE RESPONSIBLE DECISIONS ABOUT THE USE OR NON-USE OF DRUGS, INCLUDING ALCOHOL, BEFORE THEY MAY BEGIN A CYCLE OF ABUSE.

### Rationale

A growing public and official concern exists over alcohol and drug abuse. Concern ranges from substance abuse in the school-aged population through special groups like the elderly to the fetal alcohol syndrome and drunk driving. Alcohol and drug abuse is epidemic and directly or indirectly affects all of us. The prevention movement has grown out of a desire to reduce the negative consequence of substance abuse on individuals, on those around them, and on society in general.

Official concern over substance abuse problems is most recently illustrated by the Governor's proposal, passed by the Legislature to strengthen the Operating Under the Influence laws. The Legislature also exhibited its concern by passing the Premium Law to fund prevention, education, treatment, and research. The Legislature gave special emphasis to prevention in the Premium Law by setting aside a portion of the revenue raised by the law specifically for prevention.

At the local level, service organizations and local parents groups are investigating ways of stimulating awareness of, and reactions to, substance abuse.

### Objective 9.3.1

Conduct or stimulate a continuous comprehensive prevention program at the state-wide, regional, and local level.

#### Recommended Action

This is a very broad objective requiring the coordinated effort of several agencies. The Departments of Correction, Education, Mental Health, and Human Services are mandated by the Premium Law to cooperate and are doing so through the Premium Law planning effort. The Office of Alcoholism and Drug Abuse Prevention is coordinating work of regional councils and NCA/ME through contractual agreements. This cooperation and coordination of prevention activity should continue.

The Department of Educational and Cultural Services supports school-based teams which are widely representative of local communities and which direct their effort toward prevention activity. These teams address a wide range of topics and choose specific prevention projects with the consultation and assistance of Department of Educational and Cultural Services personnel. These efforts should be expanded to reach more local schools and to provide support for teams already in existence.

Regional councils are expanding their roles in prevention by stimulating local citizen activity, acting as a source of factual information, training local groups, organizing parent groups, and participating in the annual prevention conference. These activities should be expanded. The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, should contract for increased prevention support services on a regional basis.

Local groups coming together either through the schools or in the community should be encouraged to focus their energy on specific target populations such as the elderly, youth, and women. Their specific prevention projects should also relate to any state-wide emphasis being offered through media campaigns.

The National Council on Alcoholism in Maine is addressing state-wide concerns through a number of Commissions. The Commissions are groups of people having a particular interest such as medicine and women's treatment. They are able to influence activity at a policy-making level and have been effective in several areas. NCA/ME should continue to address policy questions, and should expand its interest in prevention.

The annual prevention conference should be continued. The focus of the conference should be specific prevention projects conducted at the local level. As a state-wide effort, the conference affords the opportunity to coordinate local level work, gain new skill and insight into prevention strategies, and learn how to take advantage of state-wide, more general, prevention activities. The conference should emphasize local decision-making about the type of prevention activity to be developed and the specific target population of that activity.

The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, should continue its state level activity. OADAP piloted a substance abuse clearinghouse through the Bureau of Health in the Department of Human Services. The clearinghouse should receive a high priority for continuation. Its activity should be closely linked to local groups in order to provide support to them.

OADAP should follow through on its plans to fund a professionally developed media campaign. Close attention should be given to making the media materials compatible with the needs local groups have for support of their prevention efforts. Consideration should also be given to buying media time and not relying solely upon public service donated time.

Further efforts by the Department of Mental Health and Mental Retardation in Fetal Alcohol Syndrome should be considered. Physician awareness should be one part of the effort, with some attention paid to public awareness and understanding of FAS etiology and prevention.

In conducting any prevention project, close attention should be paid to the role treatment agencies play. Prevention raises awareness of alcohol and drug abuse and leads to referrals for treatment, although that is not the primary purpose. In addition, much of the outreach activity done by treatment agencies is closely related to prevention. Treatment should continue outreach and work closely with groups doing prevention.

#### Resources Required

This objective will require a major investment of resources, especially in terms of volunteer time. Local citizens are prepared to invest the necessary time and energy. Many of the local prevention efforts involve schools, businesses, university departments, health and social service agencies and public service organizations. Although the amount of money and the value of the time invested cannot be calculated, it is substantial.

Direct funding for this objective will total approximately \$500,000, has been requested through the Premium Law and substance abuse block grant, and is being coordinated through the participating departments of state government.

#### Current Status

Plans have been adopted and submitted to the Legislature for approval of expanded services through the Department of Educational and Cultural services. New funding through the Premium Law has been requested for regionally-based prevention resources. These two efforts will increase the amount of local activity in prevention.

A Fetal Alcohol Syndrome proposal has been proposed by the Department of Mental Health and Mental Retardation. The second prevention conference is scheduled for later in the year. Requests for Proposals will be let out this year for a professional media campaign. The clearinghouse has been budgeted for continuation. These four efforts will provide substantial state level prevention activity.

### Objective 9.3.2

Increase public awareness of the consequences of drinking and driving to reduce the incidence of substance abuse related to motor vehicle accidents.

#### Recommended Action

Several agencies have a responsibility for highway safety as it relates to drinking and driving. The Department of Transportation, Secretary of State, Public Safety, Driver Education and Evaluation Program, and the Maine Highway Safety Committee should pool their resources in order to provide for a coordinated effort, and more efficient and effective use of resources directed toward developing better promotional campaigns, and increasing media coverage of those promotional efforts. The Department of Human Services, Driver Education and Evaluation Program, should play a leadership role in developing the prevention potential of this objective.

As a social concern, drunk driving is an appropriate focus for prevention. The policy level intervention through revised and strengthened OUI laws should be monitored and evaluated with an eye toward future improvements. Stepped-up enforcement has increased OUI arrests and awareness of the law has had the salutary effect of increasing programs such as law enforcement agencies providing transportation for partygoers during the Christmas and New Year holidays.

Local community prevention efforts directed toward drinking and driving are a logical extension of public concern and should be encouraged through local prevention groups.

#### Resources Required

Costs of this objective can be borne by existing allocations to various agencies concerned with highway safety and through the Premium Law fund. Sixty thousand dollars has been requested and received from the Premium Law to evaluate the impact of the new OUI law. Additional money has been requested to support local prevention efforts, many of which are directed toward drinking and driving.



## Current Status

The Governor's Advisory Council's media committee met several times during the summer to coordinate special media messages for prevention of drunk driving. Letters were sent to all agencies involved with the problem. The Committee also prepared radio spots which were distributed by the Commissioner of Human Services.

The Governor's office launched an informational campaign on the new OUI law which has received national attention. All forms of media have actively promoted the new law. The Governor's office also coordinated the development of a brochure describing the law. This brochure has received wide distribution and can be found in schools, restaurants, various businesses, and most State agencies.

The Department of Educational and Cultural Services is also active in developing local activities related to highway safety under a grant from the Bureau of Public Safety.

## GOAL 9.4

TO PROMOTE THE EARLY DETECTION OF, AND INTERVENTION IN, SUBSTANCE ABUSE PROBLEMS.

## Rationale

Early intervention and prevention are closely related concepts. Training strategies outlined in Goal 9.2 and Objective 9.3.2 relate equally as well to prevention and early intervention. The Driver Education Evaluation Program which serves to provide education to people convicted of OUI offenses and identify substance abusers at an early stage is under the prevention goal. An OUI strategy could as well be considered an early intervention strategy. Intervention and prevention are also based upon the same argument of stopping abusive use before an individual's problems develop and become uncontrollable.

Prevention is on one end of a continuum; treatment is on the other end of the continuum; and intervention rests in the middle with both prevention and

treatment aspects to it. On one hand, intervention strategies such as OUI efforts and training health care providers have a prevention aspect. Generally, these activities also raise the awareness and understanding of substance abuse. Awareness and understanding - education and training generally - are accepted prevention strategies. On the other hand, these same activities serve to promote the identification and referral of problem substance abusers, a definite treatment orientation.

It follows from the notion of a continuum of prevention to intervention to treatment that Goals 9.2 and 9.3 be considered intervention strategies, although the focus of their direction is under prevention and training. The complexion of those objectives will be colored by their impact on intervention and referral to treatment.

Employee Assistance Programs (EAP), directed toward employees, place emphasis upon supervisors to identify job performance problems, to refer an employee for assistance in identifying the underlying problem creating poor performance, and to obtain appropriate assistance to address the underlying problem. The large number of employed people and the proven success of EAPs argue for increasing the effort to promote the program with labor, business, and industry. Because EAPs are conceptually well developed, are relatively self contained, and are directed toward a specific population, they should be considered a major intervention strategy.

#### Objective 9.4.1

To improve the capacity of employers to identify employee problems and provide suitable treatment through employee assistance programs.

#### Recommended Action

The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, should shift its role from providing consultation directly to business and industry for developing employee assistance programs. OADAP does not have the manpower to continue that role. With many treatment agencies, some

voluntary organizations, and at least one insurance company working in the EAP area, OADAP should provide leadership and direction in this area. OADAP should also generally promote the concept using the media.

The Occupational Program Consultants Association of Maine (OPCAM) should serve as a focal point for local agencies both inside and outside the substance abuse field to coordinate and to develop local efforts to implement employee assistance programs. OADAP should exercise a leadership role within OPCAM and should provide a screening and evaluation service to the business community.

Screening and evaluation should be done through a brokering type function where business can contact a single place and receive a referral to local resources for program development. OADAP should follow up on referrals to discover whether or not the business is satisfied with the service it received at the local level. Eventually, OADAP should be able to identify proven resources and provide technical assistance where it is required.

#### Resources Required

Part of this objective can be met with current resources: OADAP's occupational program consultant and members of OPCAM. A request for approximately \$150,000 in Premium Law funds to develop regional resources will be made in FY '84.

#### Current Status

Training sessions with local area labor councils have been conducted as part of a strategy to promote employee assistance programs. An ongoing consultative relationship has been established with the Occupational Program Consultants Association. Plans for a media campaign to promote employee assistance programs are being made.

#### GOAL 9.5

ASSURE THE AVAILABILITY AND ACCESSIBILITY OF TREATMENT SERVICES FOR SUBSTANCE ABUSERS.

## Rationale

This goal relates to the concept of a continuum of care. The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, has developed a well-defined continuum of care which focuses upon the individual experiencing problems with alcohol or drugs from the early stage user to the final stage alcoholic or addict. The primary components of care in the treatment continuum exist in Maine. Underserved rural areas do not necessarily have appropriate services available to them. Some services, such as extended care for the final stage individual, may not be adequate to meet the needs of the numbers of people who could use these services.

Some people, by virtue of their age, sex, ethnic background, physical or mental condition, or financial status, confront barriers to the receipt of the services they need. Services must be designed to offer easier access for these people and provide adequate sensitivity to their particular problems. Attention must also be paid to the treatment needs of people in state correctional institutions, clients of the Division of Probation and Parole, and people in state mental health institutions. People in these institutions require access to service as well.

## Objective 9.5.1

Investigate and take appropriate action on the barriers which may exist to treatment.

## Recommended Action

The Department of Human Services Office of Alcoholism and Drug Abuse Prevention should determine whether gaps in service exist, whether the amount of service available is sufficient for the number needing it, and whether the design of service fits its defined continuum of care based upon the need of the people using the service. Although OADAP should address all components of care, it should pay particular attention to outpatient, residential rehabilitation, halfway house, and extended care.

The current geographic distribution of outpatient services may be inequitable. Some areas appear to lack outpatient resources while the other areas appear to have a larger number of counselors compared to the size of the population. Several areas of the State lack any capability for serving youth on an outpatient basis. OADAP should address general outpatient capacity in underserved geographic areas and outpatient capacity for youth in underserved areas.

An emphasis should also be placed upon outreach activities of outpatient services. Traditionally, outreach activities, whose purpose is to approach specific groups and populations in order to provide access to treatment services, have been accorded secondary status. OADAP should explore changing that status to recognize the value of those activities which provide a logical connection between prevention and treatment services.

OADAP should encourage outpatient service providers to tailor their programs to be sensitive to women clients. That tailoring should include outreach, changes in program structure, completion of specific staff training programs and other measures designed by the agency.

Residential treatment programs are designed to provide intensive therapeutic services on a 24-hour a day residential setting. An accepted goal has been the establishment of hospital based residential rehabilitation programs in each of OADAP's five planning regions. The availability of hospital based programs is important for two reasons. Hospitals qualify for third-party payments thus reducing the participant's financial burden. Substance abuse continues to carry a stigma in this society; for many people, going to a hospital that provides a wide spectrum of health services is more acceptable than entering a free-standing substance abuse treatment program. Now that the Department of Human Services has approved the certificates of need for residential rehabilitation in southern Maine, OADAP should consider providing start-up costs through an implementation grant.

In addition to encouraging program establishment, OADAP should address the availability of existing residential service to people who cannot afford to pay. Consideration should be given to providing funds to existing programs for people without the resources to pay. In cooperation with these existing programs, OADAP should investigate mechanisms other than direct grants to provide funds for the treatment of people without resources. These mechanisms should include employee benefit plans as well as Medicare and Medicaid.

In the past, considerations of client need and treatment system development have raised questions about the types of services delivered in halfway houses. Concern centers on the possible overlap between residential rehabilitation services and halfway house services, and on the efforts made to encourage clients' independence and to increase their reliance upon outside services. OADAP should address this concern and also determine whether further halfway house capability needs to be developed.

Extended care provides a long-term, supportive environment for final stage substance abusers. OADAP should evaluate the effectiveness of the single existing extended care facility as part of a study to determine the need for additional extended care capacity.

The Departments of Corrections and Mental Health should continue to examine the substance abuse needs of the clients for whom they are responsible. Special attention should be paid to using existing substance abuse treatment capacity. This may require expansion of that capacity.

#### Resources Required

Approximately \$370,000 will be needed to address the establishment of residential rehabilitation service in southern Maine, increased outpatient capability for youth, and residential treatment service for people who cannot afford to pay. Depending upon the results of the studies mentioned in the recommended action section, additional resources may be necessary. It is anticipated that the Premium Law will provide the revenue.

### Current Status

The Departments of Mental Health, Corrections, and Human Services are committed to addressing barriers which exist to treatment. The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention, has taken action to review and modify the program in one halfway house. The Requests for Proposals in the OADAP grant process will reflect the direction described above.

### Objective 9.5.2

Increase accessibility of services by initiating a project to unify the regional administration of substance abuse treatment services.

### Recommended Action

The Department of Human Services, Office of Alcoholism and Drug Abuse Prevention should initiate a three year pilot project to develop an administrative mechanism for assessing individual client needs for substance abuse services and coordinating the delivery of those services within one region.

At the present time, clients may be successively referred to a variety of treatment programs, each run by a different agency before completing all the components of care required for their problem. In such a system, the possibilities of the client leaving treatment before completion, being referred to an inappropriate component of care, or repeating parts of the same treatment regimen are increased. By implementing a case management approach to service delivery, it is anticipated that these problems can be reduced, if not eliminated.

The project will be evaluated at the end of each year to see if the anticipated benefits are occurring and to modify the process if necessary.

### Resources Required

No additional regional funding is required since this objective calls for a reorganization of, not an increase in, administrative functions. The evaluation of the project will be carried out through OADAP's regular grant monitoring process.

### Current Status

A Request for Proposals for implementing a unified regional administration of substance abuse services has been issued. Initiation of the project will be July 1, 1982. A plan for the allocation of FY '83 Premium Law funds which includes a recommendation for coordinating programs and services through regional administration has been submitted to the legislature for approval.



## 10. Mental Health Services - Introduction

### Definition

Mental health is defined, by the American Psychiatric Association, as "a state of being, relative rather than absolute. The best indices of mental health are simultaneous success at working, loving and creating with the capacity for mature and flexible resolution of conflicts between instincts, conscience, important people and reality."

In a statistical sense, mental disorders are among seventeen major categories of health disorders included in the International Classification of Diseases (ICD-9). These include the psychoses, disorders of learning, development, thought and feeling as well as the diseases of the nervous system and sense organs, several organic disorders which are considered to be mental health problems, substance abuse, and mental retardation. In addition, there are a large number of painful transient emotional upheavals in individuals' lives that, while causing social disruptions and presenting a need for mental health services, do not justify a formal diagnosis.

Mental illness "treatment" includes patient testing and evaluation, diagnosis, drug therapy, individual and group psychotherapies, individual, group and family counseling and treatment for specific mental disorders.

### Levels and Consequences of Mental Disorders in Maine

From a practical standpoint, it is impossible to document the true prevalence of mental health disorders in Maine. One obstacle is that the severity of mental disorders ranges from mild, short-term conditions to those which may be totally and permanently disabling. A complete assessment of these problems would require extensive evaluations of at least a significant sample of the entire State's population. To date, this type of prevalence study has not been conducted in Maine primarily due to the tremendous costs involved in

such a study as well as the technical difficulties associated with conducting such a large scale evaluation. Therefore, the most common basis for estimating the prevalence of mental disorders in Maine is through use of various percentages or formulas which have been developed by national studies or research in other areas of the country.

Applying two commonly utilized national prevalence estimates to Maine's population of 1,116,500, between 111,650 and 167,475 Maine residents may have problems to an extent which warrants treatment. These two commonly utilized studies are the Baltimore Prevalence Study which found that 10% of a population are experiencing mental or emotional problems to an extent that mental health services are necessary and the President's Commission on Mental Health Report, of 1978, which estimated that 15% of the population had significant mental disorders.

The Maine Community Support Systems project, which has been identifying the population with chronic illness and their needs, estimates that there are 5,000 chronically mentally ill adults in Maine with long-term repeated episodes of hospitalization and emergency care.

When acute and chronic mental illnesses disrupt an individual's ability to cope with his environment or to productively relate to his family, there are significant social and economic consequences. In 1976, the National Institute of Health (NIH) estimated that, in 1974, the national cost of mental illness approximated \$36 billion, including \$19 billion in lost time and productivity and \$14 billion in treatment costs. If Maine experienced comparable losses, \$95 million would be lost in time and productivity while \$70 million would be spent on treatment.

The NIH also estimated that the costs of unemployment compensation and disability payments attributed to mental health problems were \$20 billion.

In 1982, the Maine Department of Mental Health and Mental Retardation (DMH&MR) identified about \$57 million in resources that were attributable to mental health care in Maine.

#### Maine's Response to Mental Disorders

THE MISSION OF MAINE'S MENTAL HEALTH CARE SYSTEM IS TO REDUCE THE PREVALENCE, INCIDENCE, AND LEVEL OF DISTRESS WHICH IS ATTRIBUTABLE TO MENTAL ILLNESS AND DISABILITY AMONG THE CITIZENS OF MAINE. IN ORDER TO FULFILL THIS MISSION, A COMPREHENSIVE ARRAY OF EFFECTIVE MENTAL HEALTH SERVICES THAT ARE AVAILABLE, AFFORDABLE, ACCESSIBLE, AND VISIBLE MUST EXIST.

The provision of care and treatment for mental disorders and the promotion of mental health are conceptually organized into a system of natural, supportive and protective services settings. Such a system encompasses recognized formal and informal treatment providers and is based upon a recognized continuum in the nature and severity of distress or disruption attributable to mental health problems. As reflected by the setting labels, the system includes preventive or promotional goals and activities in the natural environment of places such as homes, schools, churches and community organizations, supportive goals and activities associated with outpatient counseling and similar services as well as protective care and treatment of hospital settings.

Any person who seeks assistance through this mental health care system should be viewed as a unique individual with special treatment needs.

The Department of Mental Health and Mental Retardation is the designated State mental health authority in Maine, and thus has the key role in providing, funding and assisting in coordinating the array of mental health services existing in Maine. As such, it has organized a process for the development and implementation of a five-year State Mental Health Plan. This presents a historical

and statutory overview of mental health care in Maine and presents principles which are used as the foundation for administering and operating the mental health service network. Current services, resources and priorities are described. This section of the State Health Plan for Maine contains key elements of, and in many ways parallels, the State Mental Health Plan.

The State Mental Health Plan includes definitions for a continuum of programs which are funded by or through the Department. Some of these programs are also offered in the community by private and informal providers. These seven basic programs are: consultation, education and training, outpatient, emergency, community support, community residential, day treatment/rehabilitation and in-patient programs. A brief definition of these programs and an example of each follow:

1. Consultation, Education and Training

These programs are delivered to other providers, programs, organizations, and the general public rather than to the individual client. The goal of these activities is to prevent mental health problems for groups at risk and to facilitate early intervention when problems have been identified (e.g., Sampler Program provided by Tri-County Mental Health, Inc. The Sampler Program provides educational programs to the community on subjects such as coping with stress, development of parenting skills and understanding the aging process).

2. Outpatient

Outpatient mental health programs provide treatment of the mentally ill in a community setting both before and after hospitalization. These programs provide social and emotional skill development to individuals of all ages, couples, groups and families. The goal of service is to promote positive reorientation, relief of excess stress and growth toward more integrated, independent levels of functioning (e.g., counseling provided to a client in a private office or a community mental health center).

### 3. Emergency

The emergency service provides immediate, crises-oriented mental health care for persons with an acute problem of disturbed thought, behavior, mood, or social relationships as defined by the client, family, or social unit. The service is aimed at the reduction of these acute emotional disturbances and their physical and social manifestations to ensure safety of an individual or society (e.g., crisis intervention and evaluation services provided in a public or voluntary community hospital).

### 4. Community Support

Community support programs are oriented toward helping clients, most often the chronically mentally ill, move along a residential and programmatic continuum from most restrictive to least restrictive settings. The community support program may include encouragement, advice, training, advocacy, coordination, and liaison so that the client will be able to assume community commitments and responsibilities without feeling isolated. Community support programs in community agencies are closely coordinated with State mental health institutes through cooperative agreements, designated liaison staff and joint client planning meetings to assure continuity of care (e.g., assistance in the development and maintenance of a stable life style for a chronically mentally ill client residing in the community).

### 5. Community Residential Program

A community residential program is a comprehensive continuum of transitional community-based living situations ranging from highly structured and highly supervised halfway-houses for more dependent clients, to less supervised, less structured cooperative and supervised apartment programs for higher functioning clients (e.g., community living arrangements for ex-AMHI (Augusta Mental Health Institute) patients, provided by a not-for-profit organization).

## 6. Day Treatment/Rehabilitation

Day treatment/rehabilitation programs provide training in psycho-social skills in order to maintain the existing functional level of the client as well as to assist with further development of skills in a number of areas. These skill areas include daily living, community orientation, social and interpersonal and vocational rehabilitation/habilitation skills (e.g., partial hospitalization services provided several afternoons/week by a community mental health center in order to support and rehabilitate clients experiencing acute mental illness.)

## 7. Inpatient

Inpatient mental health services are services provided in a community hospital or public setting whose purpose is to restore, as quickly as possible, a level of psycho-social functioning sufficient to allow clients to return home or to receive services in a less restrictive setting (e.g., treatment in a community or public hospital that will enable a patient to return to the community).

The current status of Maine's mental health system is best summarized by a review of each of the three major levels of settings of care (protective, supportive and natural).

As noted previously, protective programs are predominantly carried out by hospital inpatient units. A table of the 12 facilities in Maine which provide formal mental health inpatient treatment is included in Chapter II, Section F of this State Health Plan.

Residential treatment centers for children and adolescents are also considered to provide protective levels of care, as are intermediate care facilities (ICFs). There are currently 168 State-supported beds in five residential treatment centers in Maine. Intermediate care facilities that provide protective levels of care include intermediate care units at State hospitals, intermediate

care facilities for the mentally retarded (ICF/MR's) that provide services to clients with both mental retardation and mental disorder-related diagnoses and intermediate care nursing homes in the community.

Before 1963, the start of community mental health center movement, state hospitals were the major provider in the mental health care delivery system. The past twenty years have brought about many changes that have affected the service delivery patterns of these major providers of "protective services."

Maine's two State psychiatric hospitals currently maintain a combined census of about 620 patients. This contrasts with an average of about 3,400 in 1958. According to DMH&MR figures, the number of psychiatric admissions to Augusta Mental Health Institute (AMHI) increased from 933 in fiscal year 1981 to 1,015 in fiscal year 1982 to 1,242 in fiscal year 1983. The number of psychiatric admissions to Bangor Mental Health Institute (BMHI) decreased from 618 in fiscal year 1981 to 435 in fiscal year 1982 to 418 in fiscal year 1983. In contrast to the historical change in size of the resident population, these admission totals are similar to figures for the early 1960's. The two State mental health institutes provided 215,229 inpatient days in fiscal year 1983. Comparative utilization figures for both community hospitals and the Veterans Administration Center's inpatient psychiatric units are included in Table 33A, in Chapter II of the State Health Plan for Maine.

The State hospitals are now more customarily involved with the more severely disturbed and/or disabled individuals. Admission rate and length of stay data indicate that these individuals generally have more frequent, but shorter episodes of re-hospitalization. The second major resident population in State institutions is composed of elderly long-term patients needing the supportive services of a long-term residential setting. These patients reside primarily in intermediate care facility (ICF) units of the State hospitals.

The concentration of severely disturbed and disabled patients has required the development of a range of programs providing intensive intervention over extended periods and a high concentration of specialized staff to meet the difficult challenges presented by this population, as well as to prevent the acutely disturbed patient from entering the long term-population of the State hospitals. These two State hospitals also provide forensic care.

Both of Maine's State psychiatric hospitals have received recent accreditation renewals by the Joint Commission on Accreditation of Hospitals. The accreditations reflect compliance with national standards regarding basic capacity to provide acceptable treatment and have also enabled the State to maximize allowable federal reimbursements.

Supportive and natural based programs are predominantly carried out by community-based providers. The community-based service providers can be categorized into three groups as follows: First are public and private, not-for-profit agencies or organizations subsidized by the Department of Mental Health and Mental Retardation and other public funds. Second are private proprietary or not-for-profit agencies or organizations and private practitioners who are compensated with public funds such as Medicaid, but not by the Department of Mental Health and Mental Retardation, as well as by larger proportions of client fees or other third party revenues than the first group.

The third group of providers are the informal mental health care providers who routinely engage in the emotional care of persons. They receive very little, if any, public or private revenue specifically for mental health care; examples are clergy, family members, friends and peer groups. The informal providers are the primary providers of care in the natural setting.

The major providers of a service in the first category of community-based providers are the seven community mental health centers (CMHC's). A CMHC is an agency in a designated geographic area which, under one administrative organization,



provides the greatest range of mental health services to all residents of that area. In addition to providing a wide variety of services, it must, through contractual or cooperative agreement, assure availability of a complete range of the seven basic mental health programs to all residents of the catchment area. In Cumberland County three agencies are funded as comprehensive service providers: Maine Medical Center, Western Maine Counseling Center, and the Area V Mental Health Board. To ensure accountability for public funds and appropriate standards of care, DMH&MR conducts fiscal and program audits and licensing visits.

An indication of the number of clients who received these services in 1980-81 is shown by Table 33 in Chapter II of this State Health Plan. No similar data are available from private mental health practitioners, who provide predominantly outpatient services, or from informal providers.

Consideration of the future needs for community-based mental health care must include recognition of several general population trends as well as trends in the characteristics of those utilizing and presenting problems to the mental health service network. For example, there is increasing concern for individuals in their middle twenties with histories of multiple hospitalizations for mental illness. This may result in a sizable new population of people with long-term treatment needs. Maine's 18-34 year old population has been increasing dramatically but is expected to peak in the next two years.

Given this brief overview of Maine's mental health care system, the following goals and objectives are presented in order that this system can fulfill its MISSION TO REDUCE THE PREVALENCE, INCIDENCE, AND LEVEL OF DISTRESS WHICH IS ATTRIBUTABLE TO MENTAL ILLNESS AND DISABILITY AMONG THE CITIZENS OF MAINE.

## GOAL 10.1

ENCOURAGE COMMUNICATION AND COORDINATION AMONG THE MANY AGENCIES, ORGANIZATIONS AND INDIVIDUALS WHICH HAVE RESPONSIBILITY FOR THE PLANNING AND DEVELOPMENT OF MENTAL HEALTH CARE RESOURCES.

### Rationale

Responsibility for the planning and development of resources which significantly affect mental health care exists at varying levels among numerous entities, including many State and federal agencies, third party payors, and providers of mental health services. Coordination and communications among these could improve. To maximize the State's planning and development resources and to avoid unnecessary duplication of effort, there is a need for these various entities to establish and implement working agreements, wherever feasible, which will clearly define the roles and responsibilities of each. This will enable each to carry out its functions in coordination with others.

### Objective 10.1.1

By 1985, develop a comprehensive regional planning process for mental health services in each mental health catchment area in Maine.

### Recommended Action

DMH&MR should oversee the development of timely comprehensive regional mental health plans. These regional mental health plans are not exclusively the plans of the community mental health centers and should include input from public and private health practitioners, including both mental and physical health professionals, family support groups and other consumers. DMH&MR should promote dialogue among these individuals in the development of standards and criteria for such plans. These regional plans should encompass an assessment of the needs of both rural and urban communities in the region. In order to develop the foundation for the development of this regional planning process, the following tasks should be accomplished:

- a) DMH&MR shall continue to assess, refine, modify, improve and develop, in collaboration with affected professionals, providers, families and clients, a uniform set of comprehensive provider, program and performance standard definitions.
- b) DMH&MR should improve its capacity to collect, analyze and use data on mental health services, clients and costs in order to develop the capacity to monitor and periodically evaluate the cost and effectiveness of existing services. Future efforts should include working in cooperation with licensing boards in order to obtain data from private practitioners.
- c) The Bureau of Mental Health should take the lead role in assuring the development of minimum standards for each of the seven basic mental health programs identified in the State plans, contracts and statutes. The Department of Human Services and the Department of Educational and Cultural Services, CMHC's, private practitioners, general and State hospitals and others should be integrally involved in the development of these standards. This initiative will also include both children's and adult services.

#### Resources Required

The combined personnel and data resources of CMHC's, the Department of Human Services, Department of Educational and Cultural Services, private practitioners, general and State hospitals and others should be involved, with direction, support and monitoring by the Bureau of Mental Health. Additional financial resources may be required.

#### Current Status

The CMHC's and DMH&MR jointly developed a regional plan format which was used to develop regional plans for the 1981-86 State Mental Health Plan. Such

formats, as well as standards and review criteria, will be refined for similar submissions for future annual updates. DMH&MR should build on existing regional planning efforts to promote linkages among public and private practitioners, including both mental and physical health professionals, family support groups and other consumers, in both rural and urban settings. This is likely to be an ongoing and continuously refined process.

Regarding the three specific tasks to be completed, the following has occurred:

- a) Definitions - DMH&MR has promulgated and refined definitions of various mental health programs. These are summarized in the Introduction to the mental health section of this plan and completed and included in the State Mental Health Plan.
- b) Data - A survey was conducted by the DMH&MR's Division of Planning in the summer of 1981. The purpose of this survey was to obtain Administrative, Programmatic and Fiscal descriptions of those agencies licensed by the Department for descriptive inclusion into the State Mental Health Plan. This task was accomplished. Subsequent mental health plan updates will include an expansion of the number of agencies described as they are identified. As a result of interaction with the Interdepartmental Committee (IDC), the DMH&MR questionnaire was sent to agencies that are not licensed by DMH&MR but that provide mental health services. Such agencies included Group Homes and Special Purpose Private Day Schools. A major key informant survey of 2,300 individuals and organizations regarding mental health issues and unmet needs will be completed by early fall 1983.

In 1983, the Maine Legislature passed L.D. 1664, An Act to Require Interdepartmental Coordination of Social Services Planning.

The Act requires the Department of Human Services, DMH&MR and the Division of Community Services to develop a Maine Social Service Plan. This plan must include an outline of social service information, including anticipated federal funding, anticipated current services, (Part I) budget figures, policy matters, service priorities and their estimated cost and other program issues pertaining to operations. The joint standing Health and Institutional Services Committee shall, during each Legislature, hold a public hearing or hearings on the proposed plan and report to the Legislature its findings. This legislation should affect DMH&MR's plans to implement any regional plan mechanisms by providing community representatives with an opportunity to respond to proposed budgets and service priorities well before they are implemented.

- c) Standards - The IDC has formed a working subcommittee to develop these standards for residential child care programs. There are several recent documents which reflect a participatory federal-state process which has occurred over the last several years and which provide a comprehensive set of defined data elements and potential standards. This material should provide a basis for initiation of work by the DMH&MR, providers and affected people. The motivation for completion of such materials by the service agencies will be the realization that future public support of such services will be allocated only to agencies that meet approved standards for the provision of services.

#### Objective 10.1.2

Individual Program Plan (IPP) formats, development procedures, review methods, comprehensive protocols and standards which provide assurances for continuity of care and provisions for informed consent by clients should be developed.

### Recommended Action

Individualized plans for discharge from inpatient facilities and provision of community-based services are beneficial because they can help assure the continuity of programs for an individual across a spectrum of various providers. A discharge plan should deal with the medical, mental health, social services and other basic needs, such as housing or income. The availability of services to meet these needs in the community will help prevent rehospitalization. Primary responsibility to develop the IPP standards and process will rest with DMH&MR and representatives from the mental health, medical and social services communities and third-party payors.

These parties should develop:

- a) Inter-disciplinary individual program planning protocols and strategies for their implementation in 1983.
- b) Placement protocols and cost effective strategies for their implementation should be established in 1983. These should include for the development of voluntary therapeutic and rehabilitative transfer arrangements for patients/clients.
- c) By 1984, transfer agreements should also be established, as needed, among major service providers to assure continuity of care and appropriate placement throughout Maine with informed consent by the client.

### Resources Required

Lead staffing by DMH&MR. Additional resources may be required.

### Current Status

The existing contract mechanisms for CMHC's which pertain to recently institutionally discharged clients, plus ongoing dialogue with the State institutions, emphasize IPP planning as a necessary treatment component. This initial step is encouraging the Bureau of Mental Health (BMH), institutions and the receiving

community care providers to refine, over the next year, specific expectations, criteria and defined responsibilities. A task force will be established by BMH early in the fall of 1983 to complete recommendations late this year.

In addition, a review of the state-of-the-art of functional assessment utilized in psychiatric rehabilitation treatment planning is currently underway in the BMH conducted by the Community Support Project.

In 1983, the Maine Council of Community Mental Health Services developed a model Community Mental Health Center joint agreement on discharge planning and follow-up care.

#### Objective 10.1.3

To develop joint planning processes for the delivery of wholistic care to populations for whom more than one agency has responsibility. Specifically targeted for 1983 will be the substance abuse programs.

#### Recommended Action

The Departments of MH&MR, Corrections, Human Services and Educational and Cultural Services should begin joint comprehensive service descriptions, needs assessment, program development and contract review. This process should be formalized as an ongoing commitment by each Department and the product of such process should be a written plan of problems and needs in 1983 and contractual joint funding review process for appropriate programs in 1983.

#### Resources Required

Designated staff from each of the above four Departments to meet, negotiate and develop a problems/needs program and resource plan for substance abuse services. Lead staffing should be provided by the Alcohol and Drug Abuse Planning Committee, a new office created within the Department of Human Services.

#### Current Status

In 1983, the Maine Legislature passed L.D. 1692, An Act to Provide for the Development of a Centralized Coordinated Planning and Evaluation Process for

State Alcohol and Drug Abuse Activities. The law establishes a single final point of operational authority, direction and decision-making in the management of alcohol and drug programs in Maine through the establishment of the Alcohol and Drug Abuse Planning Committee. The Planning Committee will consist of the Commissioners of the Departments of Corrections, Human Services, Educational and Cultural Services, and Mental Health and Mental Retardation. The Planning Committee shall coordinate, with the advice of the Maine Council on Alcohol and Drug Abuse Prevention and Treatment, all drug abuse prevention, education, treatment and research activities in Maine. The law implements a four year cycle which includes periodic needs assessment, statement of service goals, biennial allocation plans and regular performance evaluations.

Objective 10.1.4

To carry out an evaluation of the process through which juveniles are brought into various service systems, including human services, mental health, juvenile justice and education.

Recommended Action

The Department of Mental Health and Mental Retardation should provide leadership in the design, implementation and completion of an assessment which involves the Department of Human Services (DHS), Department of Corrections and Department of Educational and Cultural Services (DECS). The evaluation may take place in a selected region, but it should result in documentation and recommendations which are generalizable statewide.

The objectives of the study should clearly include clarification of complex issues related to the provisions for and process of diagnostic evaluation of juveniles requested by the judiciary, including fiscal, statutory, and systemic involvement by parents, schools and other agencies.

The State Health Coordinating Council believes that the State Legislature should investigate this issue in greater detail in the next legislative session.



## Resources Required

Personnel from the DMH&MR should lead this activity with involvement from other Departments, service providers and others.

## Current Status

In 1983, the Maine Legislature passed a law (Resolve Chapter 47) that established a 31 member commission to examine the availability, quality and delivery of services to children with special needs. This commission will examine the current mechanisms for identifying and following children with special psychological, emotional and behavioral needs, identify major gaps in the provision of services to these children, examine the current mechanisms used by DHS, DECS, DMH&MR, and the Department of Corrections to plan for and provide services to children. Based on its findings, the Commission will establish legislative priorities. The Commission held its first meeting in August, 1983 and will hold public hearings in the near future to receive public input on the current service delivery system to children with special needs.

## GOAL 10.2

TO ENSURE THAT PREVENTION AND EARLY INTERVENTION EFFORTS REGARDING MENTAL HEALTH OCCUR.

## Rationale

Preventive intervention is defined as action taken at a point at which it is still possible to anticipate or reverse early pathological or maladaptive processes and prior to the need for treatment or rehabilitative services.

Several assumptions characterize preventive intervention concepts and efforts. One key assumption is that populations at risk of developing a multitude of health or social problems are most readily identified with a fairly consistent or common set of risk factors which reflect a higher probability of future disorders. A second assumption is that preventive intervention activities, despite the relative lack of scientific evaluation, can and do represent

a fiscally advantageous approach as formal treatment and services become more expensive. Preventive intervention efforts are often directed to children but intervention can occur for all age groups.

#### Objective 10.2.1

To identify and implement methods to promote the provision of prevention and early intervention activities.

#### Recommended Action

DMH&MR should establish an informal clearinghouse of prevention and early intervention activities, techniques, results and resources. Conferences and workshops and dissemination of written information on a variety of prevention issues can and should be used to promote interest and involvement in preventive intervention. Efforts to maximize participation of academia, public and private providers, family support groups, other consumers and State interests should be undertaken.

#### Resources Required

The existing resources of DMH&MR staff, academicians, private providers, Department of Human Services staff, and interested citizens will continue to be utilized. Additional financial resources may be required.

#### Current Status

DMH&MR's Division of Planning now has a fairly extensive collection of research and other literature extracts, a bibliography and summary of key findings. This material is being expanded and the bibliography combined with informational material from the DECS Office of Special Education and other offices.

Several related information dissemination conferences took place in 1982 with the Developmental Disabilities Council and the University Affiliated Facility at Eastern Maine Medical Center. In addition, through the initiative of the DMH&MR's Office of Children's Services, several committees are addressing

prevention. One is made up of representatives of that office, the Developmental Disabilities Council and DHS's Division of Maternal and Child Health. Several mental health client and family groups are also working on both regional and statewide prevention issues.

The Developmental Disabilities Council commissioned a study of primary prevention which has made draft recommendations for a statewide program. This study has been presented to the Commissioners of the Department of Mental Health and Mental Retardation, Department of Human Services and Department of Educational Cultural Services.

### GOAL 10.3

TO PROMOTE MENTAL HEALTH AWARENESS THROUGH ENHANCED SCHOOL AND COMMUNITY HEALTH EDUCATION PROGRAMS.

#### Rationale

This goal will promote mental health and the prevention of mental illness in these two settings. Pilot programs implemented throughout the country have displayed some evidence of success in reducing the incidence of mental disorders among high-risk populations. Many providers believe that these relatively new interventions hold great promise in being a cost effective approach.

#### Objective 10.3.1

Provide assistance in the promotion and implementation of community education programs related to mental health awareness to schools and other community resources.

#### Recommended Action

DMH&MR should lead an effort to establish a clearinghouse for public education and information activities related to mental health. Activities to characterize participation in these programs as well as an attempt to delineate barriers to broader participation and impact should also occur. DMH&MR should make this information available to parents and other potential participants as well as to providers or potential providers.

DMH&MR should discuss with the Department of Human Services the feasibility of utilizing Title XX training funds for community education programs related to mental health awareness for Human Services' workers.

#### Resources Required

The existing staff of the Bureau of Mental Health, Department of Human Services, CMHCs, DECS (Department of Educational and Cultural Services) and Office of Alcoholism and Drug Abuse Prevention as well as client and family groups.

#### Current Status

Many mental health and general health providers are promulgating information about stress and other mental health problems. The Tri-County Mental Health Center's Sampler Program provides an excellent example of what can be done. There have also been concerted efforts, now sponsored by the Maine Council of Community Mental Health Services and DMH&MR, to provide mental health related training and education to boarding home staff.

The Bureau of Mental Health recently sponsored a major conference on mental health stigma with several follow-up activities.

#### GOAL 10.4

TO IMPROVE AND EXPAND A COMMUNITY SUPPORT SYSTEM FOR CHRONICALLY MENTALLY DISABLED PEOPLE.

#### Rationale

One of the effects of deinstitutionalization has been the shift of care of persons with major mental illnesses from institutions to the community. This has resulted in an increase in the number of chronically mentally disabled people residing in the community. Of the estimated 5,000 chronically mentally disabled people residing in Maine communities, a 1979 survey of community mental health centers found that 2,292 clients were being provided community support services.

The Maine State Health Coordinating Council (SHCC) believes that a continuum of services should be provided for the chronically mentally disabled so that they may be served in a way that is appropriate to individual needs. The goal of such a continuum should be to provide stabilization, substance, rehabilitation, and growth services in the most independent and least restrictive appropriate setting possible, and ideally in the natural environment. The provision of community support services can reduce costly reinstitutionalization, often labeled the "revolving door" syndrome.

A community support system (CSS) is an organized network of caring and responsible people committed to assisting a vulnerable population meet their needs and develop their potentials without being unnecessarily isolated or excluded from the community.

A community support program is oriented towards assisting individuals in the context of their individual concerns, in couples, in families, in groups, and in the community. Services are outreach-oriented rather than office-based. The range of services that should be available include supportive employment opportunities, housing alternatives, socialization, crisis intervention, medical and mental health treatment, psycho-social rehabilitation and educational services.

#### Objective 10.4.1

Establish or improve shared or consolidated services among the mental health, substance abuse, medical, social and rehabilitative service systems whenever feasible and appropriate to meet clients' needs.

#### Recommended Action

DMH&MR's Community Support Systems Project (CSSP) will continue to identify barriers to the development of shared, consolidated or linked services, including any related to reimbursement mechanisms. The Bureau of Mental Health will develop recommendations and strategies for their elimination. These will be reported to the SHCC prior to formal adoption of the next State Health Plan.

One of the major efforts of the Community Support Systems Project has been in providing assistance to the development of family support groups. An integral part of this assistance has been in educating families about mental illness: how to assist family members who have experienced mental illness and how to utilize the treatment resources available in the mental health system. These efforts should be continued.

DMH&MR should assess and monitor existing community support system services to ensure that they are provided effectively. Input from provider agencies, third party payors, client and family groups, DMH&MR and DHS, local government, and regional and State health planning bodies will result in the development of identified priorities and implementation plans in each of the eight CMHC catchment areas in the State.

Also recommended for consideration are efforts to determine whether continuation of personnel and other resources funded by federal community support systems project monies will be needed following the end of fiscal support in September, 1984. These federally funded employees provide statewide technical assistance and evaluation activities in psychosocial rehabilitation services.

#### Resources Required

CSS Project Continuation for Fiscal Year 1984; Federal \$50,000, State \$198,265. The federal share terminates in September, 1984.

#### Current Status

The Department of Mental Health and Mental Retardation currently operates a Community Support System Project. As part of the DMH&MR Recodification Bill to be effective January, 1984, P.L. 83, Chapter 580, The Office of Community Support Systems was created as part of the Bureau of Mental Health. FY '84 appropriations included funding for five Regional Coordinator positions to staff the office along with the Director and a clerical staff position provided with other DMH&MR funds. Federal fiscal support through August, 1984, is

expected to fund three positions with statewide responsibilities. Through this unit, which operates on the basis of a specific and extensive plan of objectives and tasks, DMH&MR carried out several notable activities such as organization of a network of client and family groups.

Provider agencies are, to an increasing extent, including explicit provisions for chronically mentally disabled in their plans and programs. Incentives for continuation and expansion of this approach are becoming clearer.

Client and family groups are becoming more interested, involved and influential in regional assessments of unmet needs and development of strategies to relieve these deficits.

#### Objective 10.4.2

Develop effective therapeutic housing alternatives for the chronically mentally disabled in each of the five health planning regions, including linkages with other mental health programs, the medical and social service systems, and appropriate housing agencies.

#### Recommended Action

DMH&MR, mental health providers, consumer groups and organizations, regional planning bodies and local units of government should work together to assess the need for the development and provision of a spectrum of housing programs for the chronically mentally disabled and for those with acute disorders who need temporary housing alternatives. The spectrum of programs is represented by "halfway houses" on the grounds of State institutions, ICF-level facilities, group homes, therapeutic family foster homes, supervised apartments, emergency shelters, congregate living facilities, respite care facilities and independent living sites.

Principles for placement include: considerations of basic safety; appropriate cost; proximity to health, mental health and other services; accessibility of social support groups; proximity to other social service housing resources

so as to avoid "saturation" of urban areas; and access to rehabilitative programs such as job-try-out programs, sheltered workshops and day activity programs.

DMH&MR should assume the lead role in investigating potential sources of funding to provide for this spectrum of housing services. DMH&MR should also document the total costs of community care in such residential programs.

#### Resources Required

A specific itemized list of personnel and other resources has not yet been determined.

#### Current Status

Several activities are happening related to the development of resources, implementation of programs, alleviation of zoning barriers, organization of providers and provision of assistance to potential providers.

These activities are more fully described in the State Mental Health Plan.

With the Bureau of Medical Services of the Department of Human Services, DMH&MR received a HUD 1115 Waiver to provide additional funding for four selected residential programs and to evaluate those programs.

The Bureau of Mental Health has been involved in developing new HUD Section 8 and 202 projects, which are under way in several areas of the State, with a range of residential programs attached. Plans to restructure existing resources to provide more adequate low income housing are being explored, legislation was passed to prohibit the use of zoning ordinances to block housing for the mentally handicapped. The CSSP is providing technical assistance and staff support to family support groups and other providers in the development of new residential rehabilitation programs.



## GOAL 10.5

TO INCREASE THE MENTAL HEALTH RESOURCES FOR THE ELDERLY, MAKE THE RESOURCES MORE VISIBLE AND ENCOURAGE THEIR APPROPRIATE USE.

### Rationale

Nationally, the growing elderly population, which represents 10% of the population, is responsible for 25% of all suicides. The President's Commission Report on the Elderly estimated that between 15-25% of the elderly have significant mental health problems. The low incomes of many elderly often result in poor housing, isolation, poor physical health and poor mental health. Although there are many services and benefits available for the elderly, often they do not take advantage of those services for which they qualify, perhaps due to lack of awareness of services, long held attitudes of the elderly and those who are working with them, the rural nature of Maine and the lack of public transportation.

### Objective 10.5.1

To determine the extent of both the existing system's capacity and the elderly population's need for mental health services.

### Recommended Action

The Bureau of Mental Health, Bureau of Maine's Elderly, Bureau of Social Services, and others should begin joint planning efforts over the next year for specific program proposals in FY '84. Existing sources of data regarding prevalence of specific diagnostic conditions should be utilized to identify problem areas.

### Resources Required

No additional resources required. Existing resources will be utilized.

### Current Status

The Bureau of Mental Health and the Bureau of Maine's Elderly are now forming a joint task force on the mental health needs of the elderly. This

task force will lead to improved coordination regarding an assessment of the existing system's capacity and the elderly population's need for mental health services.

#### Objective 10.5.2

To increase professional expertise to meet the social, medical and emotional needs of the elderly and promote cooperation and consultation among other service providers.

#### Recommended Action

DMH&MR, the Bureau of Maine's Elderly, the Bureau of Social Services, Southern Maine Association of Cooperating Hospitals (SMACH) and other major mental health providers and elderly organizations should stimulate the development of forums to increase the sensitivity to elderly issues and capability of health and social service professionals to respond to those issues.

#### Resources Required

Existing resources will be utilized.

#### Current Status

The recent increase in attention to mental health/elderly issues among several key elements of the mental health system and components of the elderly network has begun to result in more formal and explicit linkages.

#### Objective 10.5.3

To encourage the use of mental health resources by the elderly and their families.

#### Recommended Action

DMH&MR and the Bureau of Maine's Elderly should encourage mental health clinics and both formal and informal providers including the Area Agencies on Aging and Adult Protective Services units of the Department of Human Services to develop and enter into effective working agreements regarding the provision of services to the elderly including neglected or abused elderly adults and

also family members. Efforts should focus on sensitizing service providers to the special needs of this traditionally underserved group. The needs of families for counseling regarding the issue of nursing home placement of family members should be considered. These agreements should outline workable policies and specific services to be available and clarify areas of mutual responsibility.

#### Resources Required

Continued participation and commitment of both professionals and informal providers to various work groups, with lead staffing provided by DMH&MR and the Bureau of Maine's Elderly.

#### Current Status

The Southern Maine Association of Cooperating Hospitals has a Geriatric Task Force that has been actively addressing professional and administrative service issues as well as public education and information.

Participation of DMH&MR personnel in the Conference on Aging and collaborative needs of boarding home projects among DMH&MR and Bureau of Maine's Elderly personnel on boarding homes and other issues exemplify several of many recent indicators of increased coordination.

#### Objective 10.5.4

To develop programs of public education and training in the issues surrounding the aging process.

#### Recommended Action

CMHC's and other providers should join in a concerted effort with the Area Agencies on Aging to develop programs of public education to provide factual material about aging as it relates to mental health.

These providers should develop and make this information available to the direct service personnel of the Area Agencies on Aging, the DHS' Adult Protective Units, homemaker and home health care agencies. These programs should include current information which indicates that mental illness can appear as physical

problems and even more often physical illness can show itself as disturbed behavior and abnormal thinking. They should also include discussion of techniques found to be useful in dealing with bizarre or unmanageable behavior, especially with chronically mentally disabled people.

#### Resources Required

Existing resources of the Area Agencies on Aging, Department of Human Services Adult Protective Services, DMH&MR, and public and private mental health providers will be utilized. Technical assistance will be provided by the Bureau of Maine's Elderly. Additional financial resources may be required.

#### Current Status

DMH&MR and the Bureau of Maine's Elderly are now forming a task force on the mental health needs of the elderly that should lead to joint planning efforts for specific program proposals in FY '84.

Also, DMH&MR's funding contracting process with the CMHC's provides an opportunity to encourage CMHC's program plans to include increased provision of services to the elderly since current service descriptions specify and encourage boarding home and nursing home consultation and other pertinent services.

The 1983 Blaine House Conference on Aging, which took place on October 13, 1983, included a workshop on the mental health needs of the elderly.

#### Objective 10.5.5

To encourage mental health providers, particularly informal providers, to provide treatment and counseling to the elderly in locations such as older persons' homes, the worksite, group settings, congregate living facilities, senior centers and meal sites, and especially in boarding and nursing homes.

#### Recommended Action

A major impediment to treatment in these alternative settings is the attitude of consumers. Informal providers such as the clergy are in a particularly good position to help to remove this barrier. With progressive awareness

and promotion of mental health prompted by the preceding objectives, and with substantial action on contractual or reimbursement provisions, major providers and State agencies can also stimulate progress on this objective. The DMH&MR and Bureau of Maine's Elderly personnel must continue to improve communications and coordination in specific program planning projects regarding this issue.

#### Resources Required

Continued participation and contribution of many professionals and others to work groups such as the SMACH subcommittee is essential.

#### Current Status

Several recent activities such as the SMACH Task Force on the Elderly, the boarding home training project, the annual Blaine House Conference on Maine's Elderly and the State's boarding home study group have clarified, reaffirmed and contributed to progress on these issues. DMH&MR is also currently monitoring the progress of federal legislation regarding reimbursement issues.

#### GOAL 10.6

TO ASSURE THAT EMOTIONALLY HANDICAPPED, DEVELOPMENTALLY DISABLED AND/OR DELAYED CHILDREN ARE MAINTAINED IN SETTINGS MOST BENEFICIAL FOR CARE, TREATMENT AND EDUCATION.

#### Rationale

Emotionally handicapped children and youth are defined by the State (DMH&MR, DECS and DHS) as those, age 18 and under, who "exhibit affective, reactive and/or maladaptive behavior(s) to a marked extent and over a significant part of the school day or year, that significantly interferes with the child's learning or that of other children; special educational programs and/or services are required to provide for the child's educational progress and potential."

According to federal statute, a developmental disability refers to a severe chronic disability that is attributable to a mental or physical impairment or combination of mental and physical impairments, that are manifested before the person attains age twenty-two and results in substantial functional

limitations in several areas of major life activity. Developmentally delayed is a term that is applied to children whose progress in reaching specific developmental milestones is below the average level of progress of most children.

Many children with emotional and/or developmental difficulties are not able to live in their natural homes. For some, this is because the kind and degree of emotional difficulties are beyond the capabilities of the natural family, even when community support systems are brought to bear. For others, disintegration of the natural family unit has rendered it incapable to cope with emotional difficulties, and actually may have been a factor contributing to them.

This goal, then, is directed at developing a statewide network of mental health services to children which is sufficient to meet the full range of emotional difficulty they may experience. In addition to services offered to children in their natural homes, there must also be services to children through therapeutic group homes and foster homes in the community, and the combination of services available only in the specialized setting of the residential treatment facilities and inpatient hospital settings. These four levels of services constitute the continuum available to emotionally handicapped and developmentally disabled and/or delayed children.

#### Objective 10.6.1

To develop a statewide system of "homebuilders" programs, therapeutic foster homes, therapeutic group homes and residential treatment centers together with coordinated referral, placement, management, funding, evaluation, and support procedures and services so as to ensure the full continuum of mental health services to children.

### Recommended Action

The therapeutic foster homes and group homes are basically defined as foster homes and group homes plus the provision for on-site and off-site (e.g., day treatment) programs. Homebuilder model programs must include four basic components: 1) the prevention of the removal of a child from the family through the provision of family intervention and support; 2) on a time-limited, problem-specific basis; 3) delivered to all or a majority of family members; and 4) in the home. A secondary goal of homebuilder program intervention is to better equip the family to deal with crises and increase the family's ability to use existing community service.

Under overall supervision of the Residential and Group Care Committee of the IDC, the Division of Planning of the DMH&MR and the DHS will jointly evaluate the therapeutic foster home, homebuilders, and therapeutic group home and residential treatment models currently in operation or being developed in the State.

Following completion of this joint evaluation, the IDC (through an appropriate task group assignment) will formulate plans for further development of the model(s) which appear(s) most desirable from programmatic, financial and management standpoints and/or will suggest changes in existing or developing models to make them more effective.

### Resources Required

Cost of these activities will be absorbed by the involved agencies.

### Current Status

The Division of Planning of DMH&MR is currently accumulating cost and program related information in order to evaluate the therapeutic foster home, homebuilders, and therapeutic group home models and residential treatment centers currently in operation.

## Objective 10.6.2

To establish and improve a coordinated support system of medical, mental health, social, rehabilitative and other services whenever feasible and appropriate to meet the long term needs of autistic children.

### Recommended Action

Autistic children represent a particularly vulnerable population due to several factors. First, administrative and program responsibility falls among developmentally disabled, mental health, mental retardation, special education and several other service systems and agencies. Second, the needs of this population are not episodic or easily alleviated through short-term intervention, nor are they limited to any single method such as medical or mental health care or special education. Although early identification and intervention are accepted as having long-term benefits in terms of functional ability, no formal system exists to assure that this occurs.

Increased levels of information regarding needs, solutions and strategies, advocacy for and assistance in implementation which involve a variety of providers are needed.

The Developmental Disabilities Council, the DMH&MR Office of Children's Services, the IDC and others should reassess their current work plans and modify them to ensure impact upon autistic children.

### Resources Required

Lead staffing provided by DMH&MR. No other resources required.

### Current Status

In June 1982, DMH&MR established a broadly constituted Autistic Services Task Force to pursue these issues.



## GOAL 10.7

TO ESTABLISH AND PROVIDE AN EFFECTIVE MENTAL HEALTH SERVICE SYSTEM FOR THE DEAF POPULATION OF MAINE.

### Rationale

Very little has been done with regard to effective mental health care for the deaf. Controversy exists around the most dignified and effective method to deliver mental health care to a deaf individual. Emotions, word definitions, and meanings are often lost in sign language, and this problem is compounded when the counseling sign language session is supplied by a third party interpreter. This is exacerbated by a significant lack of trained sign language individuals. Coordination of efforts by mental health professionals and interpreters is currently underdeveloped.

### Objective 10.7.1

To develop training programs for mental health services to the deaf population and their families.

### Recommended Action

The Governor's Mental Health Advisory Council, DMH&MR, the Committee on Mental Health Services to the Deaf, and the Bureau of Vocational Rehabilitation should join in a coordinated effort to establish a training program for mental health providers regarding the mental health needs of the deaf population. This training program should include training of mental health professionals regarding the use of an interpreter in the mental health setting, psychological evaluation of the deaf person, crisis intervention and referral, and a review of community resources for the hearing impaired.

### Resources Required

Existing resources of the Governor's Mental Health Advisory Council, DMH&MR, the Committee on Mental Services to the Deaf, and the Bureau of Vocational Rehabilitation (BVR) will be utilized.

## Current Status

In 1982, the Bureau of Mental Health convened the Committee on Mental Health Services to the Deaf to identify the mental health needs of the deaf and to propose actions to meet those needs. This Committee's membership included representation from several State agencies, private not-for-profit provider organizations, and the Maine Deaf Consumers. This Committee recommended a series of goals and objectives that were included in DMH&MR's 1982-83 Maine Mental Health Plan Update.

Several of the Committee's recommendations are being implemented. BMH has recently established a system of making interpreters available to mental health providers. BMH has also held two educational conferences in the summer of 1983 on mental health/deaf issues.

DMH&MR has also recently developed a training curriculum for mental health practitioners. Finally, BMH and the Developmental Disabilities Council have recently provided joint funding for a statewide coordinator of mental health services for the deaf.

## Objective 10.7.2

To encourage the appropriate utilization of mental health services by the deaf population and their families.

## Recommended Action

The Governor's Mental Health Advisory Council, DMH&MR, and BVR should join in a coordinated effort to develop and utilize resources to increase the awareness of the deaf population and their families of existing mental health services. These efforts should include the increase of utilization of existing and/or the development of new audio-visual resources which depict mental health problems. Mental health information programs should be organized through coordination with representatives of deaf/fraternity clubs and Baxter State School for the Deaf.

### Resources Required

The existing resources of the Bureau of Mental Health, Governor's Mental Health Advisory Council, DMH&MR, the Bureau of Vocational Rehabilitation, the Baxter School for the Deaf, and deaf/fraternity clubs will be utilized.

### Current Status

The Governor's Mental Health Advisory Council, DMH&MR, and the Bureau of Vocational Rehabilitation have had several informational exchanges regarding this issue during 1982 and 1983. Representatives from these organizations have formally agreed that achievement of this objective is a priority concern. BMH has contracted out for the development of a short educational film on mental health to be used with both the deaf and hearing populations.

### GOAL 10.8

ENSURE THE QUICK AND APPROPRIATE RESPONSE FROM THE MENTAL HEALTH SYSTEM TO VICTIMS OF DISASTER.

### Rationale

The loss of life, the injury and trauma and destruction of communities due to natural disasters is immense. The Red Cross, the Bureau of Civil Emergency Preparedness and personnel of other organizations with experience in coping with the effects of disasters readily cite the high level of shock, trauma, disorientation, stress and other mental health-related consequences of disasters. A systematic crisis intervention and long-term intervention strategy should reduce the adverse mental health-related effects of future natural disasters.

### Objective 10.8.1

Develop a systematic crisis intervention and long-term intervention strategy for the provision of mental health care in collaboration with the Bureau of Civil Emergency Preparedness.

### Recommended Action

DMH&MR should be designated by the Governor as the lead agency to prepare a mental health disaster response plan and to oversee and coordinate that plan's implementation during and after any major disaster in Maine. This plan should be jointly developed with representation and commitment from the community mental health centers and other designated community mental health providers.

This response must also include cooperative training programs with the American Red Cross, public safety personnel, Office of Emergency Medical Services, National Guard and the Bureau of Civil Emergency Preparedness. This plan should be developed and promulgated in 1984.

### Resources Required

Lead staffing provided by the Division of Planning personnel of DMH&MR.

### Current Status

Meetings are being planned with representatives of those agencies responsible for implementing the recommended action. Preliminary discussions have already been held with representatives of the Bureau of Civil Emergency Preparedness.

### GOAL 10.9

TO ENSURE THAT THE HUMAN RESOURCES INVOLVED IN THE PROVISION OF MENTAL HEALTH CARE ARE ADEQUATE.

### Rationale

Mental health manpower issues are increasingly recognized as being critical in determining the quality, availability, and cost effectiveness of mental health services. Analyses of mental health care costs both nationally and in Maine have consistently indicated that mental health services are manpower intensive with manpower (human resource) costs comprising approximately 85% of total mental health costs. It is essential that increased efforts be devoted to

enhancing the recruitment, retention, utilization, distribution, and training of mental health care providers at all levels in order to ensure quality services at the most cost-effective levels.

Objective 10.9.1

To identify the tasks required of direct care workers, to determine the skills, knowledge, and abilities/attitudes required to perform those tasks, and to further assist in developing appropriate training opportunities throughout the State at both worksites and in formal educational settings/institutions.

Recommended Action

DMH&MR should lead a cooperative effort of mental health providers and others including CMHC's and hospitals with psychiatric units to continue and expand efforts to identify tasks required in the provision of mental health services and the translation of those tasks into training activities. These mental health providers should intensify and accelerate efforts to establish formal linkages and training agreements with other members of the educational community offering relevant training or educational programs in mental health. Continuing educational activities should be expanded, to be offered both in the mental health institutions and universities and in community settings in order to be widely available to providers of direct care from a variety of settings such as boarding homes, CMHC's, and other community-based providers.

DMH&MR should expand and formalize its collaborative efforts with the University of Maine campuses at Bangor/Orono, Augusta, Farmington, and Portland via the Maine Career Mobility Project.

Resources Required

The existing resources of the DMH&MR Manpower Development Unit, academicians, and public and private providers will continue to be utilized.

### Current Status

Several initiatives between universities and mental health providers regarding field placements and internships for students already exist in Maine. The formalization of these arrangements should increase in the near future.

The Manpower Development Unit of the Department of Mental Health and Mental Retardation is currently working collaboratively with the University of Maine system via the Career Mobility Project in conducting a functional job analysis of tasks performed by direct care workers in the mental health institutions and in the community. Formal and informal (non-credit) training activities are being developed and implemented by the Department and individual campuses of the University which address the skills, knowledge, and abilities identified through analysis of the tasks performed by direct care workers.

DMH&MR has developed linkages with the University of Connecticut for a Master's in Social Work and a Psychiatric Nursing Program and Boston University's Center for Rehabilitation in the area of psychiatric rehabilitation training. As part of this effort, competencies required to provide psychiatric rehabilitation will be identified and appropriate training will be developed for direct care workers.

Specific training opportunities will be developed and offered at Maine locations both in institutions and community settings which can be taken on a credit or non-credit basis.

### GOAL 10.10

TO ENSURE THAT THE FINANCIAL RESOURCES FOR THE PROVISION OF MENTAL HEALTH CARE ARE SUFFICIENT TO ENSURE CLIENT IMPROVEMENT.

### Rationale

The enormous economic, social and personal costs of mental illness were briefly mentioned in the introduction of this section. Historically, several

major influences have affected the availability and adequacy of financial resources for mental health care. Recent events seem to indicate what will become yet another notable turning point.

State hospitals have, since the mid-1800's, continued to be largely dependent upon State appropriations. Community care originated on a basis of patient fees and private philanthropy. The 1963 Federal Community Mental Health Centers Act provided time-limited resources which significantly expanded the provision of community care. The intent of this Act was to gradually develop mental health services through the provision of federal seed money. Other sources were expected to eventually replace the federal share. State funds represent a significant portion of this. Medicaid, Medicare, Blue Cross-Blue Shield and other third-party insurance resources have, on the other hand, developed less extensively than anticipated, hoped or planned for by advocates for the mentally ill. In addition, a significant number of individuals may have limited access to mental health services because they do not have health insurance.

As noted previously, the Department of MH&MR has identified over \$50 million in service resources which are used, annually, for the treatment or support of mentally ill clients.

The approximate distribution of these resources, estimated over the past three fiscal years, includes:

	<u>FY 1980</u>	<u>FY 1981</u>	<u>FY 1982</u>
State hospitals	\$18.0 million	\$20.4 million	\$22.8 million
State funding/CMHC's	4.6 million	4.9 million	5.1 million
State funding for other mental health related services	1.5 million	1.6 million	1.7 million
Other CMHC funding*	7.4 million	7.3 million	7.2 million
Other non-CMHC funding*	<u>26.8 million</u>	<u>28.4 million</u>	<u>29.8 million</u>
	\$58.3 million	\$62.6 million	\$66.6 million

\*These resources include third-party payment estimates to individual providers, community hospitals, community health centers and the Veterans Administration Center at Togus.

More specific information regarding mental health-related expenditures is available in the State Mental Health Plan or from DMH&MR.

In an era characterized by decreased reliance upon government funding, challenges to the mental health system are obvious and significant.

#### Objective 10.10.1

To determine and project probable short-term changes in the total composition and level of resources which support mental health care.

#### Recommended Action

Currently, projected fiscal impacts of next year's federal and State budgets are developed by each of many individual programs (e.g., Bureau of Mental Health, Rehabilitation, Medicaid, Children's Services). These are consolidated to some extent at Departmental levels, and reviewed by various councils, provider coalitions or citizen groups. Responses are planned and legislated based upon varying levels of comprehensive organizational concern. Because mental health conditions and the nature of the service system are affected by a broad range of health, social and economic resources, there is a particular need to provide a greater emphasis upon the coordination of fiscal analysis and planning.

DMH&MR should use existing fiscal data as the basis for a historical trend analysis and short-term projection based upon known or anticipated changes and summary of resource development requirements.

#### Resources Required

Existing DMH&MR personnel.

#### Current Status

Various compilations of mental health-related fiscal resource information have or will be developed in regard to: CMHC contract monitoring, federal community support systems project reporting, institutional data system planning



and general information services. This information could be organized and analyzed to provide resource development recommendations. Non-public resources also should be included in this analysis.

#### Objective 10.10.2

To develop collaborative mechanisms to increase the level and effective use of mental health resources.

#### Recommended Action

DMH&MR should provide leadership and assistance to a coalition of mental health providers, professionals, parents and others, in order to develop plans and strategies for effective utilization of resources for mental health. This coalition should include both public and private providers.

#### Resources Required

Lead staffing provided by DMH&MR.

#### Current Status

Several committees, councils and units of State government with interest in mental health resource use and efficiency are currently addressing related issues.

In 1983, Governor Brennan signed into law Chapter 515, An Act to Provide Equitable Mental Health Insurance. This Act requires that every insurer which issues group health care contracts to Maine residents shall provide inpatient, outpatient and day treatment services to any subscriber or other persons covered under those contracts for conditions arising from mental illness. Employee group insurance policies issued to employers with 20 or fewer employees are exempt from this provision. This law does permit insurers to develop policies that contain provisions for maximum benefits, co-insurances, reasonable limitations and deductibles.

## 11.a. Health Promotion

### An Introduction to Health Promotion

Health promotion is any effort or combination of efforts designed to help bring about or further the development of the state of physical and mental well-being in individuals. A major objective of health promotion endeavors is the avoidance, limitation, or postponement of disease, disability and premature death. However, health promotion efforts are also oriented toward the attainment of "wellness," that is, maximizing the individual's potential within the environment where he is functioning. A major challenge that exists is for the citizens of Maine to extend the years of life that can be lived actively with pleasure and with minimal dependency and disability.

The consensus regarding the need for, and value of, health promotion has recently become more apparent. Commissioner Petit of the Department of Human Services has stated that the "major goal of this administration will be the development and implementation of a positive health strategy, one which emphasizes the promotion of health and the prevention of disease as an equal partner to the development of more sophisticated ways to diagnose and treat our afflictions." The last two federal administrations have stated that disease prevention and health promotion were key elements of national health policy. According to Richard Schweiker, former Secretary of the Department of Health and Human Services under President Ronald Reagan, "the future of health care under the Reagan Administration can be described in two words: competition and prevention. The (second) major thrust of our new direction in health care... is a rigorous effort toward health promotion, health protection and disease prevention."<sup>1</sup>

The private sector has also become increasingly involved. Over 500 corporations nationwide have set up programs to promote the health of their employees. A wide range of services is often offered by these companies including stress management, substance abuse/employee assistance, health screening, hypertension control, smoking cessation, and nutrition/weight management, exercise, and personalized risk-factor calculation programs.

One major factor leading to increased emphasis on health promotion stems from the belief that future improvement in health status will not be made predominately through the treatment of disease, but rather through its prevention. The mortality rate from infectious diseases such as tuberculosis, gastroenteritis, diphtheria, and poliomyelitis has drastically decreased during the period 1900-1980. During this same period, the major chronic diseases, such as heart disease, cancer and stroke, have become the three leading causes of death for both the United States and Maine. (See Tables 3 and 4 - pages 26 & 27 in Chapter II.) For many years, lack of knowledge about the causative factors contributing to chronic disease hampered the development of preventive strategies. Research has resulted in a greater understanding of the role of personal lifestyle and environmental factors in chronic illnesses. According to Healthy People, the Surgeon General's Report on Health Promotion and Disease Prevention, "although the degenerative diseases differ from their infectious disease predecessors in having more - and more complex - causes, it is now clear that many are preventable."<sup>2</sup>

The second major factor leading to a greater emphasis on health promotion has been the pressure of rising costs. Americans spent more than \$245 billion on health care in 1980. By 1983, the national health bill was expected to equal 10 percent of the gross national product. Those relatively few diseases and conditions that account for a large proportion of all deaths in the United States and Maine also account for a major share of the

of the economic burden. According to the Health Care Financing Administration (HCFA), costs associated with the four major causes of death in 1975 accounted for 30 percent of the \$110.8 billion direct total cost of illness in that year. Of the \$120.4 billion of indirect costs attributable to premature death from all disease and conditions, 62 percent (\$74.6 billion) was for the same major disease categories.<sup>3</sup>

A major emphasis of health promotion activities is to assist changes in individual behavior. The USDHEW Report of the Task Force on Prevention notes that "if effective approaches were developed to encourage positive changes in just five behavioral factors (smoking, nutrition, exercise, alcohol consumption and patient adherence to hypertensive medication), the incidence of seven out of ten leading causes of mortality in this country could be substantially reduced (heart disease, cancer, stroke, diabetes, accidents, cirrhosis of the liver, and arteriosclerosis)."<sup>4</sup> These same seven causes of mortality are among the top ten ranked causes of mortality in Maine.

Epidemiological efforts have resulted in a tremendous increase in knowledge regarding the causes of chronic diseases but many gaps still exist. Epidemiologists have primarily utilized retrospective studies (studies of population where the disease has already occurred) and, more recently, prospective studies (those that follow the study group forward from a point in time and observe whether a disease process develops) to attempt to determine the causes of chronic diseases. The etiology of chronic diseases is often so complex that complete knowledge of disease-causing processes does not exist. Epidemiological studies, particularly prospective, often have been able to identify major factor(s) (e.g., smoking, exercise, patterns of food consumption) that are associated with an increased risk of a person developing a disease (e.g., coronary heart disease).

The Office of Disease Prevention and Health Promotion recently compiled a chart linking the major causes of death in 1977 and the "risk factors" most commonly associated with the development of the disease (see Table 1).

Table 1  
Major Causes of Death in 1977 and Associated Risk Factors<sup>5</sup>

Cause	Percent of All Deaths	Risk Factor
Heart disease	37.8	Smoking, hypertension, elevated serum cholesterol (diet), lack of exercise, diabetes, stress, family history
Malignant neoplasms	20.4	Smoking, worksite carcinogens, environmental carcinogens, alcohol, diet
Stroke	9.6	Hypertension, smoking, elevated serum cholesterol, stress
Accidents other than motor vehicle	2.8	Alcohol, drug abuse, smoking (fires), product design, hand-gun availability
Influenza and pneumonia	2.7	Smoking, vaccination status
Motor vehicle accidents	2.6	Alcohol, no seat belts, speed, roadway design, vehicle engineering
Diabetes	1.7	Obesity
Cirrhosis of the liver	1.6	Alcohol abuse
Arteriosclerosis	1.5	Elevated serum cholesterol
Suicide	1.5	Stress, alcohol and drug abuse and gun availability

Source: The Office of Disease Prevention and Health Promotion, 1977.

A major prevalence study with new information about the health promotion-related behavior of Maine adults has recently been conducted. This study was funded in part by a contract from the National Heart, Lung and Blood Institute to the Department of Human Services and subcontracted to Medical Care Development, Inc. This statewide Household Survey of Prevalence and Control of Hypertension in Maine, conducted in 1980-81, provides new information on Maine adults over 18 years old about smoking, nutrition, exercise, alcohol consumption and patient adherence to hypertensive medication. A recent national source of comparable data on adults aged 20 through 64 exists through the 1979 National Survey of Personal Health Practices and Consequences.

Data from these surveys indicate that Maine adults (ages 18-64) have a higher proportion of current smokers than the sample of national adults (ages 20-64).

Table 2 illustrates that for both males and females a higher proportion of Maine adults surveyed were current smokers than the United States sample. Also, in every age group, a higher proportion of Maine females were smokers than the United States sample. These proportional differences were greatest in the youngest age groups.

Table 2

Proportion of Maine and United States Adults Who are Current Smokers<sup>1</sup>  
by Age and Sex

Current Smokers	Age Groups						18-64 20-64*
	18-34	20-34*	35-44	35-49*	45-64	50-64*	
Maine Males	48.2%		39.6%		33.3%		40.7%
U.S. Males		37.1%		43.2%		36.0%	38.8%
Maine Females	38.1%		39.3%		37.0%		37.9%
U.S. Females		32.0%		36.9%		30.0%	32.9%

\*National Data Age Groupings.

Source: National Survey of Personal Health Practices and Consequences, 1979.  
Household Survey of Prevalence and Control of Hypertension in Maine, 1981.

<sup>1</sup>Table utilizes 1979 data for the U.S. and 1980-81 for Maine population.

Data from these surveys also indicate that a much higher proportion of Maine adults consider themselves overweight than the comparative national adults surveyed. This holds true for both sexes and all age groups as Table 3 illustrates.

Table 3

Proportions of Maine and United States Adults  
Who Consider Themselves Overweight by Age and Sex

Consider Themselves Overweight	Age Groups				
	20-34	35-49	50-64	20-64	65+*
Maine Males	45.0%	59.0%	54.1%	52.2%	35.5%
U.S. Males	25.7%	40.8%	41.8%	34.4%	-
Maine Females	66.4%	69.1%	66.2%	67.2%	55.0%
U.S. Females	43.2%	56.7%	54.7%	50.3%	-

\*Maine Data was only source available.

Source: National Survey of Personal Health Practice and Consequences, 1979.  
Household Survey Prevalence and Control of Hypertension in Maine, 1981.

Table 4

Weight for Height by Age and Sex of Respondent  
as found in Household Survey of Prevalence  
and Control of Hypertension in Maine

	<u>Age Groups and Sex</u>							
	18-34		35-54		55+		Total	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
More than 10% Below Ideal	11.8	9.0	1.1	4.8	7.7	9.5	6.7	7.8
10% Below Ideal to 10% Above	49.6	55.1	39.7	30.6	39.4	30.5	42.8	38.4
10% Above Ideal to 20% Above	21.1	13.8	27.4	28.5	23.6	22.2	24.2	21.6
20% Above Ideal and Over	17.5	22.1	31.9	36.2	29.3	37.8	26.3	32.2

Definition: Ideal Weight was defined from the Metropolitan Life medians with extrapolations for short or tall people.

Source: Maine Department of Human Services, Bureau of Health, Health Promoter use of Household Survey of Prevalence and Control of Hypertension in Maine Data, July, 1982.

Table 5 provides a comparison of Maine's Household Survey data regarding weight for height with that of five other states. Data from these recent risk factor prevalence surveys indicate that, for many age and sex groups, a higher percentage of Maine adults were more than 20% above their ideal weight than comparable groups in the comparison states. It should be noted that controversy surrounds the use of the 1959 Metropolitan Life medians as height-weight standards. However, these standards, which are currently being revised "upward" to reflect the higher median weights of Americans, are the most commonly utilized standards.



Table 5

Weight for Height by Age and Sex  
 Percentage of Sample Found to Be  
 20% or More Above "Ideal Weight"  
 Comparison of Six States

State	<u>Age Groups and Sex</u>					
	18 - 34		35 - 54		55+	
	M	F	M	F	M	F
Maine*	17.5	22.1	31.9	36.2	29.3	37.8
Nebraska**	16.0	19.5	32.8	27.1	23.4	25.0
West Virginia	20.2	21.6	21.3	17.7	31.5	34.1
Alabama	15.1	12.6	33.2	40.6	20.3	25.3
Virginia	15.4	14.9	25.9	15.2	37.2	27.6
Florida	17.4	14.0	28.3	39.5	21.7	40.1

Definition - Ideal Weight was defined from the 1959 Metropolitan Life medians with extrapolations for short or small people for all six states.

\*Maine adults ranking (regarding the percentage of adults who were reported to be 20% or more above ideal weight) among the six states surveyed for each age and sex group are as follows: Males 18-34, second; Females 18-34, first; Males 35-54, third; Females 35-54, third; Males 55+, third; Females 55+, second.

\*\*It would appear that demographically (e.g., race, age distribution), Nebraska would be the state that is most similar to Maine. In 5 out of the 6 age-sex groups, a higher percentage of Maine adults sampled were found to be more than 20% above the "ideal weight" than in the Nebraska sample.

Source:

- 1) Maine Department of Human Services, Bureau of Health, Health Promoter use of Household Survey of Prevalence and Control of Hypertension in Maine Data, July, 1982. (Heights and weights of respondents are self reported.)
- 2) Center for Disease Control Risk Factor Telephone Prevalence Survey, 1982. (In the Center for Disease Control Surveys, 500 randomly sampled respondents were asked to report their current height and weight.)

Medical Care Development, Inc.'s May 1982 report of findings on the Household Survey of Prevalence and Control of Hypertension in Maine provided the following information regarding the present state of hypertensive care in Maine.<sup>6</sup>

- a) The prevalence of hypertension is estimated to be 24% (hypertensive being defined as diastolic blood pressure greater than or equal to 90 (>90) or less than 90 (<90) and on antihypertensive medication). Of this 24%, one-half have uncontrolled high blood pressure and one-half have controlled high blood pressure.
- b) 75% of Maine's hypertensives are aware of their condition, for they have been told by a doctor that they have high blood pressure. Eighty percent of the hypertensives currently taking medication have their blood pressure under control.
- c) Body Type: A strong relationship between prevalence of hypertension and body type as assessed by the interviewer was found. The "heavy" body type has a particularly high rate of hypertension (42%) compared to other body type categories ("normal" 17%, and "thin" 13%). This relationship between prevalence of hypertension and body type was found to be statistically stronger than the relationship between the prevalence of hypertension and any of the other factors studied (age, income, education, ethnicity, and sex).

A comparison of Maine and United States adult alcohol consumption habits is presented in Table 6.

Table 6

Alcohol Consumption Habits by Age and Sex  
Maine\* and United States\*\*

Drinking Large Quantities of Alcohol	<u>Age Groups</u>						Ages*** 20-64	18-75+ All Ages
	18-34	20-34***	35-49***	35-54	50-64***	55+		
Maine Males	54.4%			10.7%		4.8%		16.7%
U.S. Males		24.2%	16.6%		16.8%		19.2%	
Maine Females	8.1%			1.8%		3.3%		3.9%
U.S. Females		4.2%	2.7%		2.8%		3.2%	

\*The Household Survey (Maine Data) utilized the term "Acute Episode of Alcohol Consumption" which is defined as drinking 5 or more drinks at least once every 2 weeks or drinking 3 drinks on a daily basis.

\*\*The National Survey of Personal Health Practices (U.S. Data) utilized the term "Large Quantity" which was defined as drinking 5 drinks or more in a day at least once a week or drinking 3 drinks on a daily basis.

\*\*\*National Data Age Groupings.

Source: National Survey of Personal Health Practices and Consequences, 1979.  
Household Survey of Prevalence and Control of Hypertension in Maine, 1981.

These data indicate that a higher proportion of Maine's young adults "drink a large quantity of alcohol" than the comparative national sample. Heavier drinking behavior is much more likely to be reported by men than women in all age groups.

Finally, the Maine Household Survey provided the following data about the exercise behavior of Maine's adults in Table 7.

Table 7  
Exercise Behavior by Age and Sex of Respondent  
(percentages)

	<u>Age Groups and Sex</u>							
	18-34		35-54		55+		Total	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
Never Exercise	11.4	11.3	15.2	20.7	30.1	39.5	18.6	24.1
Light to Moderate	61.6	71.4	66.4	68.8	55.1	56.3	61.3	65.3
Heavy Exercise	27.0	17.3	18.3	10.6	14.8	4.2	30.1	10.6

Definitions: All types of exercise behavior added together. Never exercise = 0 hours/week; Light-Moderate = exercises up to six hours/week; Heavy - exercises more than six hours/week.

Source: Maine Department of Human Services, Bureau of Health, Maine Health Promoter, May-June, 1982

These data indicate that females reported slightly greater light to moderate exercise rates than males of similar age groups, while males reported higher "heavy" exercise rates. Except for the youngest age group, females were more likely than men never to exercise.

Maine also has available statewide data regarding those health conditions whose incidence may be related to the five behavioral factors discussed above.

Table 8 indicates that seven out of the ten leading causes of mortality in Maine are identical to those national causes of mortality whose prevalence may be affected by changes in the behavioral factors.

Table 8

LEADING CAUSES OF DEATH RANKED BY CRUDE DEATH RATE  
AND BY TOTAL YEARS OF LIFE LOST  
Maine, 1980  
(Resident Data)

Cause of Death	Crude Death Rate <sup>a</sup> (Rank)	Total Years of Life Lost <sup>b</sup> (Rank)
Diseases of the Heart*	1	1
Cancer*	2	2
Cerebrovascular Disease*	3	4
Accidents*	4	3
Chronic Obstructive Pulmonary Disease and Allied Conditions	5	6
Influenza and Pneumonia	6	9
Arteriosclerosis*	7	12
Diabetes*	8	11
Cirrhosis of the Liver*	9	10
Suicides	10	7
Certain Diseases of Early Infancy	12	5
Congenital Anomalies <sup>c</sup>	14	8

<sup>a</sup>Actual number of deaths per 100,000 population.

<sup>b</sup>Based on difference between age at death and life expectancy from 1977 United States Life Tables for white population. An infant death represents 73.8 years of life lost; death of a 50-year-old person represents 27.7 years of life lost.

<sup>c</sup>The years of life lost measure may be misleading when applied to deaths from congenital anomalies, since such conditions are already present at birth.

\*Causes of mortality whose prevalence may be affected by behavioral factors of smoking, nutrition, exercise, alcohol consumption and adherence to hypertension medication.

Source: Division of Research and Vital Records  
Maine Department of Human Services  
January, 1982

Table 9 compares Maine (1977-79) and United States (1978) age standardized death rates. Maine age standardized death rates exceed national rates for five of the seven leading causes of mortality whose incidence may be affected by changes in the five behavioral factors previously discussed.

Table 9

VITAL STATISTICS INDICATORS OF HEALTH STATUS:  
AGE-STANDARDIZED DEATH RATES<sup>a</sup> FOR SELECTED CAUSES  
Maine (three-year average: 1977-1979) and United States (1978)<sup>b</sup>  
(Resident Data)

Cause of Death <sup>c</sup>	Deaths Per 1,000		
	Maine (1977-79)		U.S. (1978)
	Actual Rate	Age Stand. Rate	Actual Rate
Diseases of the Heart	361.6	351.0*	348.6
Cancer	207.2	205.4*	186.6
Cerebrovascular Disease	83.8	80.1	81.5
Accidents	43.5	44.9	47.9
Chronic Obstructive Pulmonary Disease and Allied Conditions	30.9	29.9	26.7
Influenza and Pneumonia	24.3	23.2	27.3
Arteriosclerosis	16.6	15.6*	14.2
Diabetes	15.7	15.3*	15.0
Cirrhosis of the Liver	15.1	15.5*	13.2
Suicides	13.6	14.2	13.4
Congenital Anomalies	6.4	5.9	5.7
Certain Diseases of Early Infancy	5.5	4.9	16.0

<sup>a</sup>Age-standardized death rates per 100,000 population were computed using the direct method, i.e., applying the age-specific death rates to the standard 1978 United States white population.

<sup>b</sup>Rates for white population.

<sup>c</sup>ICDA-8 used for 1977, 1978 codes; ICD-9 used for 1979 codes.

\*Maine age standardized death rates exceed national rates for those causes of mortality whose prevalence may be affected by changes in five previously cited factors.

Source: U.S. - National Center for Health Statistics  
Hyattsville, Maryland, September 1980

Maine - Bureau of Health Planning and Development  
Maine Department of Human Services  
September 1980

In conclusion, available "lifestyle" related data indicate that Maine adults practice many "risky" behaviors, often at a greater rate than comparative national samples. Data also indicate that Maine adults experience higher mortality rates from several causes often related to these same behavioral factors than the national adult population.

As the open-endedness of the definition of health promotion indicates, there are obviously many ways to promote health. The type of interventions utilized to promote health include educational service provision, technological, legislative, regulatory and economic approaches.

Health promotion efforts are not focused in one central setting such as the medical care system, but occur in many milieus. These settings include the workplace, schools, community agencies, homes and health care facilities. Health promotion interventions are often aimed at changing the behaviors of individuals and also include environmental changes that affect groups and communities.

Examples of health promotion efforts are health education programs designed to help students understand the health risks related to alcohol use, smoking cessation service programs in the workplace, and the development of child resistant drug containers designed to attempt to reduce accidental poisoning deaths among children.

Studies indicate that it is not the practicing of any one individual habit but the development of a pattern of good personal health practices that can best affect health status. The studies by Drs. Brewlow and Belloc in California in 1973 indicate that the average life expectancy of men aged 45 who reported six or seven (out of seven) "good" personal health practices was more than 11 years more than that of men reporting fewer than four. For women, the relationship between health practices was less strong, and the difference between the life expectancy at age 45 for those

who reported six or seven, and those who reported fewer than four, was 7 years. These seven "good" individual health practices are:

1. Three meals a day at regular times with no snacking between meals.
2. Breakfast every day.
3. Moderate exercise at least 2 or 3 times a week.
4. Eight hours of sleep a night.
5. No smoking.
6. Reasonable weight control.
7. No alcohol or only in moderation.

This relationship between positive health practices and mortality rates was found to be independent of income level and physical health status.<sup>7</sup>

An examination of the emerging profile of national health data suggests some interesting and encouraging trends related to individual health practice patterns associated with health promotion efforts. Throughout this century annual adult per capita cigarette consumption rose until 1964, when the first Surgeon General's report on smoking and health was published and a comprehensive public and private effort was initiated to reduce smoking. During the past fifteen years, the proportion of adults who smoke has declined more than twenty percent. Analyses of subsequent cigarette consumption suggest that without the anti-smoking campaign, cigarette consumption in 1978 would have been more than forty percent greater than it actually was.<sup>8</sup> However, recent data indicate that there has been an increase in the past fifteen years in the prevalence rates of young women (18-34 years) who smoke.

A 1980 Gallup poll indicates that the proportion of the population engaging in regular exercise has increased as much as 100 percent in the



past decade.<sup>9</sup> Data from the United States Department of Agriculture indicate that national aggregate consumption of foods high in total fat, saturated fat, and cholesterol, often linked to increased cardiovascular risk, has decreased ten to fifteen percent or more within the last decade.<sup>10</sup>

National mortality rates for cardiovascular disease also display some encouraging trends. Heart disease has been the leading cause of death in this country since 1910, except for the years of the influenza epidemic (1918 to 1920). Although there has been a gradual decline in cardiovascular disease since the 1940's, the decline has accelerated in recent years. Between 1970 and 1980, the age-adjusted death rate declined 37.4% for stroke and 19.0% for all heart disease; the decline has been even greater for ischemic heart disease alone.<sup>11</sup> The United States is virtually unique in the world in terms of the magnitude of this decline during the past decade.

This improvement is most likely attributable to both improved clinical management of cardiovascular conditions and efforts to change the profile of overall cardiovascular risk for Americans. It is extremely difficult to ascertain the proportion of decreased mortality rates due to either improved clinical management or selected cardiovascular risk factors. One might note that several recent studies have been unable to conclude that the dramatic recent decline in cardiovascular mortality rates could be directly related to specific improvements in long term coronary care.<sup>12</sup> However, the recent changes in cardiovascular risk profiles of Americans in areas such as smoking, exercise and consumption of foods cited above, combined with targeted efforts such as the National High Blood Pressure Education Program and various efforts of voluntary and professional organizations, have most probably facilitated this decline in mortality rates.

Epidemiological studies have indicated that certain health promotion efforts have been effective in reducing cardiovascular risk. One study conducted in Sweden found that aggressive treatment of high blood pressure in a group of men 47 to 54 years of age cut in half the incidence of coronary heart disease during a four year period, compared with a control group.<sup>13</sup>

Another study of the Stanford Heart Disease Program found an extensive community health education program to be effective in decreasing risk factors related to cerebrovascular disease. This field experiment was conducted in three communities in Northern California. In two of these communities there were extensive mass media campaigns over a two year period, and in one of these, face-to-face counseling was also provided for a small subset of people. The study population was interviewed and examined before the campaign began and one and two years afterward to assess knowledge and behavior related to cardiovascular disease (e.g., smoking, exercise and diet) and also to measure physiological indicators of risk (e.g., blood pressure, relative weight and cholesterol). In the control community, the risk of cardiovascular disease increased over the two years, but in the treatment communities there was a substantial and sustained decrease in risk.<sup>14</sup>

That health promotion efforts often attempt to decrease the prevalence of chronic diseases has many implications for the evaluation of these efforts. Much of the success related to a reduction in incidence of infectious diseases has come about through the identification of specific disease-causing agents (etiologic agents) and devising of public health approaches that intervene with these agents before the completion of their transmission cycle can fatally affect humans. This process is much more complex for chronic diseases. The disease-causing agent is often unknown

for chronic diseases. Each stage in the chronic disease spectrum usually lasts a number of years, varying with the disease and the individual, and distinctions between the stages are often difficult to make.

It is also necessary to sift through many studies to determine those areas in which a solid body of evidence exists that would enable one to "conclude" that certain health promotion intervention activities designed to affect a specific "risk factor" might succeed. Because of the conflicting evidence provided through these studies, this task is often quite difficult. Determining the efficacy of selected health promotion intervention efforts is further compounded by the difficulties caused by isolating the "effects" of an intervention from the multiple methods utilized and the various settings in which these efforts are performed.

These efforts are further stymied because whatever benefits do develop may not be demonstrated until after a period of many years. Thus, demands for resource allocation for these activities may not be perceived to be as pressing in the political marketplace of the public sector or provide the necessary short-term pay-back often required by the private sector.

These difficulties in evaluating health promotion efforts do not mean that it is not necessary to continue forward with these interventions. The hard issues of resource allocation, more accurate evaluation, role delineation and the appropriate structuring of these efforts will continue to evolve through interaction of both the public and private sector.

Given the rapidly increasing costs of health care, and the increasing evidence that supports the belief that major future improvement in health status will be made through the prevention and/or delay of illness and accidents, the State of Maine must vigorously pursue a positive health strategy that supports both public and private health promotion efforts.

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11.b. Nutrition Services

GOAL 11.b.1

INCREASED COORDINATION OF EFFORTS AMONG PROVIDERS OF NUTRITION EDUCATION SERVICES SHOULD BE ENCOURAGED.

Rationale

Many sources of nutrition-related information are currently available to the general public. The consumer is often provided with conflicting nutrition-related advice from these different sources. Coordination among those organizations and individuals responsible for providing nutrition education services can avoid or decrease the duplication of efforts and ensure that a strong consistent body of nutrition information is provided to consumers.

Objective 11.b.1.1

To develop and disseminate information regarding recommended dietary guidelines for Maine's citizens.

Recommended Action

The Maine Nutrition Council should lead a coordinated effort of public and private individuals and organizations to develop a comprehensive understandable set of nutrition guidelines.

Resources Required

Existing resources of the Maine Nutrition Council with input from public and private individuals and organizations. Additional financial resources may be required to print, publicize and distribute materials developed.

Current Status

The Maine Nutrition Council, formed in March, 1982, evolved from the Maine Nutrition Committee. According to its bylaws, the Maine Nutrition Council shall use its resources to promote healthful nutrition practices, recommend the assessment of nutrition needs in Maine and ways to meet those through education, make available information on the reduction of risk of nutrition-related disorders,

stimulate research in priority nutrition areas, and facilitate impartial evaluation of nutrition education programs in the State of Maine.

The membership of the Nutrition Council is made up of private, not-for-profit organizations, proprietary organizations, academia, State government and individual practitioners. The Nutrition Council held its first annual nutrition conference in March, 1983. Future conferences may focus on the development of dietary guidelines.

#### Objective 11.b.1.2

Efforts to transmit nutrition information to the public by health care and human service providers should improve.

#### Recommended Action

Nutrition information is provided to the public in many settings by several levels of health care practitioners. Providers of nutrition information may include, but are not limited to physicians, nurses, dentists, pharmacists, nutrition consultants, dietitians, health educators, home health care aides, human service agencies, and homemakers. Settings include medical and dental offices, hospitals, human service agencies, nursing homes, schools, pharmacies, and private homes. These providers should coordinate efforts to ensure that patients and/or clients receive consistent dietary information. Particular attention should be given to improving coordination of providers offering different levels of care. Efforts to provide methods and trans-disciplinary continuing education opportunities in nutrition-related topics to all levels of providers should be encouraged. Referrals should be made by physicians, social workers, and other providers to appropriate nutrition-related providers when indicated.

The Maine Dietetic Association and the Maine Nutrition Council should publish and distribute a directory of nutrition resources in Maine. The

directory would serve as an informational and educational tool for nutritionists, physicians and others seeking referral sources, educators and the general public.

One possible source of nutrition-related information is the newly formed U.S. Department of Agriculture Human Nutrition Research Center on Aging at Tufts University. A coordinated effort with participation by the Bureau of Maine's Elderly, the Maine Dietetic Association, the Maine Nutrition Council and other health professionals should explore the feasibility of developing a formal linkage with this Center.

#### Resources Required

Existing health care resources will be utilized for many of the recommended actions. Additional financial resources will be required to print and distribute the directory of nutrition resources.

#### Current Status

Communication among providers is ongoing and extremely difficult to fully document. Examples of coordination efforts include trans-disciplinary continuing education workshops and case conferences.

#### Objective 11.b.1.3

Statewide nutrition efforts focusing on specific nutrition-related topics should be encouraged.

#### Recommended Action

The Maine Nutrition Council and the Maine Dietetic Association should serve as the coordinating groups for the development of time-limited statewide nutrition education efforts. These nutrition education efforts should focus on informing the public, with particular emphasis on at-risk populations, about a specific nutrition-related topic for a defined time period. Efforts to maximize participation of both public and private nutrition education providers and representatives of the media from all areas of the State should be encouraged.

### Resources Required

Existing nutrition education providers with leadership provided by the Maine Nutrition Council. Additional financial resources from public and private sources may be necessary for the publication and dissemination of the information.

### Current Status

The Maine Nutrition Council recently stated its desire to act as a coordinating vehicle for specific time-limited nutrition education efforts. The Maine Dietetic Association has collaborated with the Maine Heart Association and Blue Cross and Blue Shield of Maine to publish a nutrition education booklet entitled "Food Styles: A Nutrition Handbook for the 80's." The booklet which contains answers to questions commonly asked of dietitians by consumers has been widely distributed in Maine during the spring of 1983.

### Objective 11.b.1.4

To improve the coordination among the departments of State government that provide nutrition education services to ensure that actions taken and messages projected are consistent.

### Recommended Action

An interdepartmental coordinating committee made up of appropriate representatives of the Department of Educational and Cultural Services, Department of Agriculture, Department of Corrections, Department of Human Services, and Department of Mental Health and Mental Retardation should be formed. Department of Human Services representatives should include individuals from the Bureau of Health, Office of Dental Health, Bureau of Maine's Elderly, Bureau of Income Maintenance, Division of Licensing and Certification, and Bureau of Social Services.

The Maine State Health Coordinating Council (SHCC) should request that the Commissioners of the various departments involved agree to establish the



coordinating committee and appoint appropriate staff to be members. The SHCC should also organize and conduct the group's initial meeting. The committee should establish its own form and structure. As part of its early efforts, the committee should review the nutrition section of the State Health Plan for Maine, develop implementation strategies for it and seek ways to coordinate the work programs of the various departments. This interdepartmental coordinating committee should work together to ensure that State government is providing a consistent body of nutrition education advice through the programs that these departments administer. In addition, the coordinating committee will serve as an entry point in State government for public and private organizations and citizens interested in nutrition.

#### Resources Required

Existing staff resources of the Department of Educational and Cultural Services, Department of Agriculture, Department of Corrections, Department of Mental Health and Mental Retardation and Department of Human Services.

#### Current Status

Several of the departments are currently coordinating efforts on an informal basis. Examples of such efforts include the publication of "Nutrition Notes," a nutrition information supplement published by the Division of Child Health, Bureau of Health, Maine Department of Human Services. The publication is prepared by individuals representing the Departments of Human Services and Educational and Cultural Services, the Maine Cooperative Extension Service, and private agencies. The Department of Educational and Cultural Services State Advisory Council on Nutrition Education and Training Program includes membership of other State agencies and private groups.

## GOAL 11.b.2

TO CONTINUE TO STRENGTHEN EDUCATIONAL PROGRAMS WHICH TRAIN PERSONNEL RESPONSIBLE FOR PROVIDING NUTRITION INFORMATION TO THE PUBLIC.

### Rationale

The public benefits from having available proper information on nutritious eating. The volume and quality of the information provided are related to the number of properly trained and educated professionals and service providers.

### Objective 11.b.2.1

Training programs for key nutrition personnel and other health professionals should be encouraged.

### Recommended Action

The University of Maine, private colleges, and vocational technical institutes should provide adequate programs to train diet technicians, registered dietitians, and teaching personnel. Adult education courses in the concepts of nutrition should be encouraged. The institutions should advertise the availability of these courses to members of the public.

Professional organizations, such as the Maine Medical Association and the Maine State Nurses Association, should encourage their members to seek out continuing education opportunities in nutrition.

### Resources Required

Existing resources of colleges, universities, vocational technical institutes, health care associations and institutions in Maine. Maintaining and strengthening these programs requires the continued commitment of the institutions as evidenced through adequate funding.

### Current Status

The University of Maine at Orono offers a bachelor's and master's degree in foods and nutrition. This program is certified by the American Dietetic Association (ADA). Certification by the ADA assures that graduates of both

programs are eligible to complete the requirements for certification as registered dietitians. The Master's program includes additional options of Food Science or Community Nutrition. The University of Maine at Farmington offers a bachelor's degree program in nutrition education.

The University of Maine at Farmington and Southern Maine Vocational Technical Institute offer dietary technician programs which are certified by the American Dietetic Association. The Farmington program is an associate's degree program in nutrition care. The Southern Maine Vocational Technical Institute offers a dietary technician program in food service management.

Local school districts are beginning to offer nutrition-related courses as part of their adult education curricula.

#### Objective 11.b.2.2

Key food service personnel who provide meal services in institutional settings to various populations "nutritionally at risk" should be encouraged to enroll in nutrition education training courses provided through the vocational technical institutes.

#### Recommended Action

Site managers for the Nutrition Program for the Elderly, dietary employees at State institutions and supervisory level employees of school lunch programs, child care food programs, hospitals, intermediate care facilities and boarding homes should be encouraged to enroll in nutrition-related training courses. Nutrition-related training can affect both the nutritional quality of food provided and nutrition information disseminated to patients, students, and clients.

The vocational technical institutes should be encouraged to offer these courses regularly. These courses should provide information both on the concepts of basic nutrition and methods of teaching nutrition. This information should ensure that service providers have the proper training to provide information

on nutritious eating. Consideration should be given to development of a core course with a number of modules developed for providers in different settings.

#### Resources Required

Existing resources of the vocational technical institutes and nutrition education teachers.

#### Current Status

The vocational technical institutes provide a State-approved 96-hour nutrition education course that is required, by State regulation, for dietary supervisors at skilled nursing facilities. The vocational technical institutes also offer salad bar and food preparation courses to school lunch personnel through the Department of Educational and Cultural Services' Nutrition Education and Training (NET) Program.

#### Objective 11.b.2.3

To provide opportunities for school food service personnel to participate in educational programs.

#### Recommended Action

The Department of Educational and Cultural Services, the DHS Office of Dental Health, local school districts, and other private and semi-private agencies should encourage the participation of food service personnel in educational opportunities. Increased educational opportunity should result in positive benefits to the school foods program and provide a common ground to initiate communication between teachers and food service personnel which can result in benefits to the student population. Local school districts which now are required to have some money available to reimburse teachers for college level courses should consider reimbursing food service personnel for courses taken at appropriate levels. Local school districts should encourage certification for food service personnel.

### Resources Required

This objective requires a joint effort of those agencies providing educational training courses in nutrition. The Department of Educational and Cultural Services (DECS) should take a lead role in providing encouragement and assistance to food service personnel seeking nutrition education opportunities.

### Current Status

The DECS, the Office of Dental Health, and the Portland School District currently encourage food service personnel to participate in their programs. Funding for the NET Program, however, is not guaranteed beyond 1983. Funding for the Portland City Schools program is due to expire as of July, 1983. The Office of Dental Health receives money from the Legislature for educational activities on a yearly basis.

### GOAL 11.b.3

NUTRITION EDUCATION PROGRAMS IN ALL SETTINGS SHOULD BE ENCOURAGED.

### Rationale

The message of good nutrition can be most effective if it is consistently voiced in the home, community, school and work site.

### Objective 11.b.3.1

Measures should be taken to ensure that elementary and secondary teachers have the basic skills needed to teach nutrition.

### Recommended Action

Courses in the concepts of nutrition are not now required for teacher certification in Maine. Nutrition as a subject is not systematically taught until junior and senior high school when it is incorporated in health courses. A course in the concepts of nutrition should be a prerequisite for certification of new elementary teachers and secondary teachers in the fields of health,

physical education and biology. This would be a practical step towards elevating nutrition into an important subject area in all grades. Continuing education requirements for these teachers should include a nutrition component built upon precertification coursework. All teachers who would benefit from this information should be encouraged to participate in these courses. The Maine Department of Educational and Cultural Services (DECS) should be primarily responsible for developing the State regulations necessary to implement this objective.

The Maine State Board of Education has the authority to establish regulations relating to teacher certification. This State Board has not yet established such a requirement for the course and teachers listed above. The entire issue of certification of teachers is currently under review and this is a key time for appropriate organizations to endorse a nutrition course requirement for selected teachers.

Sponsorship for the "concepts of nutrition" course for many teachers and food service personnel comes from the NET program as do the development funds for a nutrition methods course currently being developed at the University of Maine at Orono. Because federal funding is not guaranteed beyond 1983, methods should be sought to secure the continued funding of the program. The Maine Department of Educational and Cultural Services, Maine Nutrition Council, Maine Dietetic Association, and the Maine State Health Coordinating Council should join in a coordinated campaign to encourage the federal government to continue this program. If federal funding is not maintained, the Department of Educational and Cultural Services should, with the support of the groups named above, seek funding from other public and/or private sources.

#### Resources Required

The Department of Educational and Cultural Services should use current resources to develop the regulations necessary to implement the objective.

Additional financial resources may be required by colleges in Maine to offer those courses. Resources now available under the Nutrition Education and Training Program may be used to underwrite the cost of developing a continuing education curriculum in nutrition based on precertification coursework. Additional resources should be sought from the Maine Legislature and federal grant sources.

### Current Status

Currently, nutrition courses are not required for certification or recertification credits. The University of Maine at Farmington requires one nutrition course as a requirement to obtain an Associate Early Childhood Degree. The School of Human Development in the University of Maine at Orono requires one nutrition course in the baccalaureate degree programs of Child Development, Early Childhood and Elementary Education. Students in the Orono College of Education who major in health, physical education, and recreation programs are required to take a nutrition course. Effective fall, 1983, students choosing a health fitness option are required to take a nutrition course. No other college or university in Maine requires a nutrition course as a prerequisite of graduation for education majors.

The Maine State Health Coordinating Council provided testimony at the Department of Educational and Cultural Services public hearings on the State Board of Education's report on teacher certification. The SHCC also, through a written appeal, encouraged other interested organizations to support the Council testimony at the public hearings.

### Objective 11.b.3.2

There should be more coordination between individuals and groups who are working on guidelines for elementary and secondary school curriculum development and methods of integrating nutrition education into many of the core subject areas.

## Recommended Action

Many of the individuals contacted as part of SHCC's nutrition study expressed dissatisfaction with the traditional methods of teaching nutrition using the basic four food groups. While there are teaching modules available from various groups, such as the American Dairy Council, there does not appear to be anything acceptable to all of the individuals contacted.

Currently several groups in the State of Maine are working on the development of curricula relating to nutrition. The State Department of Educational and Cultural Services currently has nutrition objectives developed for grades 4, 8, and 11. The Department of Educational and Cultural Services should continue and complete the development of these guidelines. When developed, these guidelines will serve as a guide for local school districts in the development of curriculum. The Department of Educational and Cultural Services should lead a coordinated effort of educators and experts including individuals at the University of Maine at Orono and Farmington, the School Health Education Project, Maine Dairy Council, Portland City Schools and others to develop guidelines for teaching nutrition and model curricula for use at the local school level.

Local school districts which are planning to develop nutrition curricula to be used in district schools should be encouraged to do the following:

- 1) Perform, with the assistance of Department of Educational and Cultural Services materials, a nutrition education needs assessment;
- 2) Survey available curricula and teaching strategies;
- 3) Develop a scope and sequence that are compatible with other core subject and sequence plans and utilize all of the previously gathered information;
- 4) Develop curriculum and lesson plans that are integrated, sequential and incorporate local needs.



### Resources Required

The Department of Educational and Cultural Services should serve as the lead body to accomplish this objective. The Department should draw on the knowledge of the nutrition experts in Maine. Additional financial resources may be required.

### Current Status

Currently the Maine Department of Educational and Cultural services provides advice to school districts in the planning for curriculum development. The DECS has a bank of objectives and test items which is available to schools in many subject areas. The DECS is currently also working with faculty at the School of Human Development at the University of Maine at Orono to develop a methods course in nutrition. This course is a follow-up to the ongoing concepts course developed as part of the Nutrition Education Training Program. In addition, the Department of Educational and Cultural Services serves on the advisory boards of several of the organizations currently working on curriculum development. A project in the Portland Schools is developing teaching materials and lesson plans. The School Health Education Project is developing a nutrition module to be used in teacher workshops. It seems probable that these groups working with other nutrition experts at the University of Maine at Farmington, the Dietetic Association and elsewhere can develop guidelines for curriculum development as well as a model school curriculum for nutrition based on materials developed in Maine and nationally which can be endorsed for use in Maine elementary and secondary schools.

### Objective 11.b.3.3

Measures should be developed to motivate individuals on a local level to take an advocacy role in developing nutrition education programs.

### Recommended Action

The community has a major role in bringing effective nutrition education to the schools.

Measures should be taken to assure an active role of key individuals on a community level in the development of effective nutrition education programs.

The Department of Educational and Cultural Services should be responsible for creating the interest and awareness necessary for nutrition education to be adopted as a priority of the local school district. Other agencies of State government and private agencies, including the State Office of Dental Health, Maine Nutrition Council, Maine Dietetic Association, and the Maine Teachers Association, should attempt to create a demand for nutrition education on a local level.

#### Resources Required

Existing resources of the Maine Department of Educational and Cultural Services coordinating with the other groups listed. A newly created health educator position shared between the Maine Department of Human Services and Educational and Cultural Services should have as a major work item the actions required to fulfill this objective.

#### Current Status

Currently there are no formal lobbying efforts ongoing on a local level to advocate for nutrition education.

#### Objective 11.b.3.4

Schools should be encouraged to provide a nutritious choice of foods for sale on school premises.

#### Recommended Action

The Department of Educational and Cultural Services should enforce regulations restricting the sale of foods in competition with school foods. The Department of Educational and Cultural Services should strengthen efforts in association with the Office of Dental Health and other agencies in assisting schools to secure alternative sources of funds to substitute for vending machine

sales. Wherever possible, the Department of Educational and Cultural Services should also encourage schools to provide a reasonable choice of healthful foods and beverages for sale on school premises.

#### Resources Required

The Department of Educational and Cultural Services should provide a leadership role in concert with other organizations in this effort.

#### Current Status

The Department of Educational and Cultural Services has promulgated regulations restricting the sale of foods in competition with the school foods program which say, in part:

"Any food or beverage sold during the normal school day on school property of a school participating in the National School Lunch or School Breakfast Programs shall be a planned part of the total food service program of the school and shall include only those items which contribute both to the nutritional needs of children and the development of desirable food habits. Funds from all food and beverage sales during the normal school day on school property shall accrue to the benefit of the school's non-profit food service program."

The restrictions apply to school hours only. The DECS does not have the authority to regulate activities in school after normal school hours.

Most schools have interpreted this regulation as limiting the sale of food from vending machines during school hours. However, there is little enforcement of the regulation by either the Department of Educational and Cultural Services or schools.

The Department of Educational and Cultural Services currently works with the Office of Dental Health to assist school systems to develop alternate means of fund raising for school projects which do not involve sale of food and beverages from vending machines.

#### Objective 11.b.3.5

To increase nutrition and health education and counseling efforts provided through the statewide Nutrition Program for the Elderly.

### Recommended Action

The Nutrition Program for the Elderly is a major service program for the elderly residing in the community. Nutrition and health education services are two of the recommended services to be provided through this program.

The Bureau of Maine's Elderly should encourage the five Area Agencies on Aging to increase nutrition and health education and counseling efforts at congregate meal sites. Area Agencies on Aging have the discretion to utilize program funds for nutrition and health education services.

These nutrition education efforts should be seen as an integral component of a general health education program for congregate site participants. Consideration should be given to utilizing non-didactic nutrition education methods that address program participants' individual nutritional concerns.

Funding for the Nutrition Program for the Elderly is projected to remain constant over the next fiscal year. In light of increasing costs/meal it is unlikely that major increases in staffing levels will be made in the near future. Area Agencies on Aging could strengthen services through either limited contractual arrangements or increase in voluntary in-service efforts by local nutrition and health education providers, including dietitians, health educators, nutritionists and pharmacists.

### Resources Required

Existing resources of the Bureau of Maine's Elderly, Area Agencies on Aging, and local nutrition education providers.

### Current Status

One Area Agency on Aging currently utilizes program funds for a part-time nutrition education consultant. Local nutrition education providers provide sporadic voluntary nutrition education sessions to the four other Area Agencies on Aging.

### Objective 11.b.3.6

Public and private institutions, and businesses with food service on premises or selling food should be encouraged to provide nutritional information as an educational tool.

### Recommended Action

Businesses with cafeterias, hospitals, colleges, universities, and private schools should consider instituting a program such as that developed by the University of Maine at Orono Residential Life Program. The program provides nutritious foods, educational brochures, analysis of individual diets and counseling services. While the program was developed in a university setting, this model of providing nutrition education is applicable in many settings.

Supermarkets and other food stores should also be encouraged to provide nutritional information on foods sold. Several food chains in Maine are employing various means to provide their customers with information on calories, salt, fat and sugar contents of foods. All businesses that offer food for sale on the premises should be encouraged to provide a nutritious choice of foods.

Efforts to make nutrition education activities an integral component of employee health promotion programs in Maine should be encouraged.

### Resources Required

The Maine Nutrition Council and the Maine Dietetic Association should actively support the development of these programs through expert advice and information on sources of written material.

### Current Status

The University of Maine at Orono Residential Life Program consists of the following components:

- 1) Nutritional education brochures and posters made available to students on site at dining hall;

- 2) Diet Data Days - a small computer is utilized to analyze individual student's diet for compatibility with recommended dietary allowances and measurements of caloric intake during a two-week period. The Food Service Department hopes to make this an ongoing program in one cafeteria, with supervision/counseling provided by students;
- 3) Vegetarian Alternative - vegetarian entrees (for all meals) are available in all 5 dining halls.

At least two supermarkets in Maine, Shop N' Save and Shaws, provide certain nutritional information on their products sold. One fast food chain (Arby's Restaurant) provides certain nutrition information to its customers through brochures.

#### Objective 11.b.3.7

Efforts to maintain existing community nutrition education and food service programs that have displayed potential in aiding nutritionally at-risk populations should be encouraged.

#### Recommended Action

Community nutrition education and food service programs can be an effective means of preventing illness in at-risk populations. For diseases which are nutritionally-related, these programs show great potential for providing a cost effective method of reducing health care costs through reduction in hospitalization. Many of the programs have undergone funding cuts. In order to maintain these programs, organizations throughout Maine, including the Maine Nutrition Council, Maine Dietetic Association, schools, Maine Teachers Association, and the Maine State Health Coordinating Council should join in a coordinated campaign to impress upon federal officials, Representatives, and Senators, the importance of maintaining these programs at acceptable levels. If federal funding is not maintained, the Departments of Educational and Cultural Services and

Human Services, with the support of the groups named above, should seek funding from other public and private sources.

### Resources Required

Funding for each of these programs comes from the federal government. Funding for these programs should be maintained at acceptable levels through public and, if necessary, private sources.

### Current Status

The community-based programs which provide nutrition education for at-risk populations include:

- 1) The Women, Infants and Children's Program services approximately 14,000 individuals of the approximately 50,000 low income, pregnant, breast feeding and post-partum women and children per month in Maine. The program provides vouchers for specific food packages tailored to meet the individual needs of those served. Nutrition education and counseling are also part of the program. The program is completely federally funded. The Maine appropriation was \$5.3 million in FY 1982.
- 2) Programs of the Cooperative Extension Service are designed to meet local needs. Specifically, the Expanded Food and Nutrition Education Program is designed to teach nutrition and consumer skills to low income families.
- 3) The Diabetes and Hypertension Control Programs administered by the Department of Human Services and partially contracted to Medical Care Development, Inc., provide nutrition counseling and education as integral components of their program. Both programs have established education sites, located primarily in hospitals and health centers, throughout Maine. Reimbursement

for the Diabetes Program's educational component is available from the major payers including Medicare, Medicaid, Blue Cross and Union Mutual. The Hypertension Program, which is newer, receives reimbursement from Medicaid and Medicare. It is hoped that the other major payers will allow reimbursement of this service in the near future.

- 4) School Lunch Program, School Breakfast Program, and Child Care Food Programs provide federal reimbursement to schools and certain child day care providers for certain meals served to eligible children. These subsidized food service programs guarantee that at least one nutritious meal is made available to many Maine children each school day. Research studies have indicated that these programs result in improvement in nutritional status, increased attention span and decreased absenteeism, all factors related to an improved learning environment. Federal funding for these programs has decreased under the Reagan Administration and the number of children participating in the programs has also decreased.

#### GOAL 11.b.4

EVALUATION OF THE EFFECTIVENESS OF NUTRITION-RELATED EFFORTS IN ALL SETTINGS SHOULD BE ENCOURAGED.

#### Rationale

Evaluation studies provide an indication of the effectiveness of programs, activities and/or methods of nutrition education. Evaluation efforts of state-wide nutrition-related efforts are currently underdeveloped. Both nationally and in the State, little is known about which nutrition education methods or programs have a significant effect on the health of our citizens.



In this era of fiscal restraint, future funding may be dependent on documentation of the cost-effectiveness of nutrition-related efforts. Further development of third-party reimbursement for nutrition education services must be preceded by solid evidence that nutrition-related programs are effective in preventing and/or treating specific diseases.

#### Objective 11.b.4.1

To maintain existing nutrition-related evaluation efforts and to encourage the development of new evaluation efforts in all settings.

#### Recommended Action

Nutrition surveillance systems provide information regarding a population's nutritional status over a long period of time. This information can be used in planning effective nutrition and health programs. The University of Maine at Orono's School of Human Development and the Division of Maternal and Child Health in the Department of Human Services should continue the development of their nutrition surveillance programs.

The Maine Nutrition Council should lead a coordinated effort, including both public and private providers, to encourage evaluation efforts of other existing nutrition-related programs.

Pilot projects that attempt to assess the effectiveness of nutrition-related programs at preventing and/or treating specific diseases should also be encouraged.

#### Resources Required

Existing resources of the University of Maine at Orono, the Division of Maternal and Child Health, the Maine Nutrition Council and public and private providers.

#### Current Status

The University of Maine at Orono's School of Human Development has a nutrition surveillance system in place in the Glenburn School District. The

Division of Maternal and Child Health (MCH) has developed a nutrition surveillance system for individuals in the WIC Program and is currently exploring the feasibility of extending this program to individuals covered by other MHC programs.

The American Heart Association and Rural Health Associates have developed a one-year pilot project to assess the effectiveness of a nutrition education, exercise and counseling program to adolescents found to be at-risk for developing hypertension.

The Women, Infants and Children's Program has been shown effective in two recent unpublished evaluations. The first utilized a cost benefit comparison of WIC and non-WIC participants in Massachusetts based on the incidence of low weight children. The second measured hematocrit levels of WIC and non-WIC participants in Massachusetts throughout their pregnancy.

Another nutrition program which demonstrated the potential to be effective is the Nutrition Education and Training Program. The General Accounting Office report to the Department of Agriculture states that effective nutrition education in elementary and secondary schools can help people learn to make wise food choices.

The National Nutrition Program for the Elderly has been shown to have a positive effect on the nutritional status of program participants.

The bylaws of the Maine Nutrition Council state that one of the purposes of the Council is to "facilitate impartial evaluation of nutrition education programs in the State of Maine."

## B. Maine Standards for Acute Care Facilities and Services

The guidelines concerning the development of State health plans suggest that State health planning and development agencies consider the National Guidelines for Health Planning as they determine state-wide health needs. Pursuant to this, the State Health Plan for Maine has addressed the national guidelines in a fashion that takes into consideration the unique characteristics of Maine.

The National Guidelines for Health Planning, issued on March 28, 1978, encompass some of the more expensive and technically demanding hospital-based services, including general hospital bed supply and minimum occupancy rates, obstetrical services, neonatal special care units, pediatric inpatient bed supply and occupancy rates, open heart surgery, cardiac catheterization, megavoltage radiation therapy, computed tomographic scanners and end-stage renal disease services.

The National Guidelines emphasize cost containment and the enhancement of the quality of health care. The focus of the Guidelines is based upon the following findings:

- costs must be restrained in order to preserve resources needed for improved prevention, better access to services and higher quality of care;
- more efficient use of resources can be achieved without sacrificing access to or the quality of health care;
- increases in cost of hospital care absorb too many resources; and
- quality can be enhanced by ensuring sufficient volume to maintain highly skilled and experienced personnel.

Several of the national standards have been modified to meet Maine's circumstances and needs and several standards have been developed to supplement the national standards. Of particular interest are Standards 1.a., 1.d., 1.e., 1.f., and 1.g. These Standards are based on the recommendation of two broadly-based study efforts in Maine. The first was the Task Force on Medical/Surgical Bed Occupancy Rates. It was organized by the Maine State Health Coordinating Council in 1980 to study the 1980 State Health Plan's interim standards on medical/surgical occupancy rates. The report of the Task Force led to the Council's adoption of Standard 1.g. in the 1981 Plan.

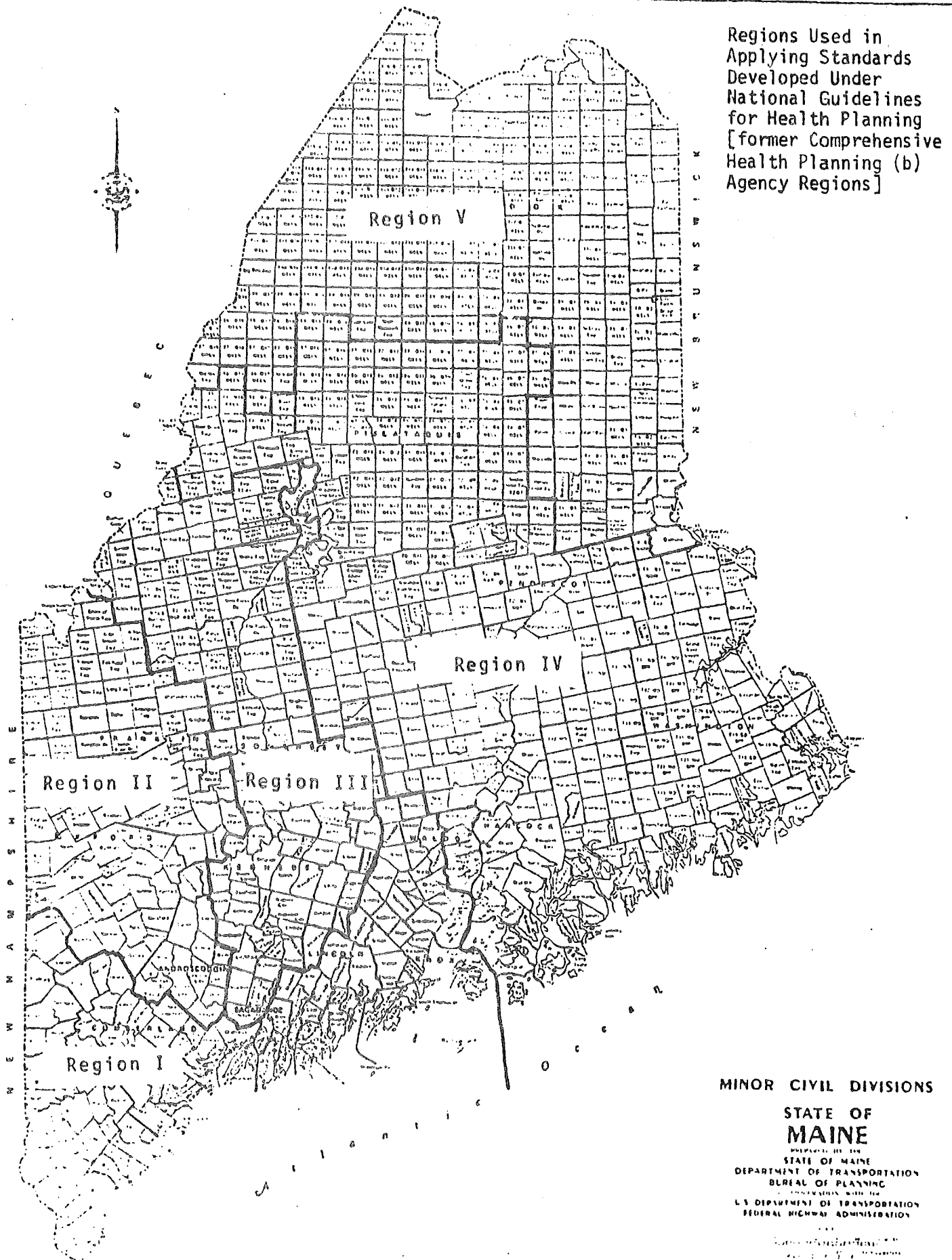
The Maine Health Systems Agency, Inc. organized a Technical Advisory Group in 1980 to study the 1,000 age-adjusted general hospital patient days per 1,000 population standard and determine if that standard could be applied locally. The Task Force recommendations were adopted by the Maine Health Systems Agency, Inc. in its 1981 Health Systems Plan. Those recommendations form the basis for Standards 1.a., 1.d., 1.e., and 1.f. in this Plan. In addition, Standards 1.c. and 1.k. have been revised to reflect these changes.

In carrying out their respective responsibilities in accordance with the provisions of the Maine Certificate of Need Act, Section 1122 of the Social Security Act and Section 1513(g) and 1523 (a)(6) and (b)(3) of the Public Health Service Act, the Department of Human Services and the Maine Health Systems Agency, Inc. are required to take into consideration, among other criteria, the relationship of the health service being reviewed to the State Health Plan. The standards contained in this, as well as other sections of the Plan, will be applied with reason and good judgement. Each review of a proposed new institutional health service will take into consideration the merits of the proposal as well as the provisions of the State Health Plan and other applicable criteria. Any person aggrieved by a decision of the Department under the Maine Certificate of Need Act is entitled to request a

reconsideration and, if necessary, judicial review of the Department's decision. Similar protections apply to Section 1122 of the Social Security Act. Each review of existing institutional health services would entail a thorough review of applicable local circumstances. A clear economic gain or improvement in the quality of care would have to be demonstrated before modifications of existing institutional health services would be recommended. The Department does not have the authority to require the closure or reduction of unnecessary or excess institutional health services.

For the purposes of this section, regions are defined as the former Comprehensive Health Planning (b) Agency regions (see Figure 1). These regions are used for the application of standards relative to obstetrical services, neonatal special care services, megavoltage radiation therapy services, and CT scanning services.

Figure 1



1. General Hospitals - Utilization, Occupancy Rates, and Bed Supply

a. Standard Relating to State-wide Hospital Utilization

- The maximum appropriate state-wide number of general hospital patient days for Maine will be calculated using the following age groups and rates:

<u>Age Group</u>	<u>Days of Acute Care per 1,000 Population in the Age Group</u>
0-14	250
15-44	750
45-64	1,350
65 and older	3,500

- The appropriate number of patient days for Maine will be determined by:
  - (1) Dividing the projected population for each age group listed above by 1,000;
  - (2) Multiplying the resulting quotient for each age group by the number of days of acute care corresponding to that age group listed above;
  - (3) Adding the resulting products. The result is the maximum appropriate number of projected general hospital patient days for Maine.
- Maine Bureau of Health Planning and Development population projections will be used to calculate the appropriate number of patient days for Maine for future years.

Discussion

There are wide variations throughout the United States in the utilization of acute care resources by geographic region, by age and by income. These variations do not appear to be related to any known health risks; rather, they appear to be a function of the way in which acute care services are organized and delivered. The most dramatic

example of the effect of organization on hospital utilization is provided by health maintenance organizations (HMOs) in which most health care services are provided to enrollees on a prepaid basis. That is, HMO participants pay a fixed sum of money at the beginning of a benefit period and are then entitled to receive nearly all of the hospital and medical services they may require during that period without additional charge. Studies have found that for comparable populations, matched for age, sex, and other factors, HMO subscribers use 30-50% fewer hospital days and half as many hospital beds as do persons using the traditional fee-for-service system. In general, HMOs have utilization rates between 400-500 patient days per 1,000 population. Both systems appear to be equally effective in serving the health needs of their populations. Analysts have concluded that 1,000 patient days/1,000 population is a reasonable standard for hospital use and that this rate is entirely consistent with good health care.

The Maine Health Systems Agency, Inc. established a Technical Advisory Group in 1980 to develop a method for projecting patient days for planning for each hospital in Maine. Representatives of the Maine Hospital Association, the Health Facilities Cost Review Board, Maine Blue Cross/Blue Shield, the Voluntary Budget Review Organization, the Maine Health Information Center, the Maine Medical Association, the Maine State Nurses Association, and the Bureau of Health Planning and Development served on the Advisory Group.

This set of standards contains the age groups and their rates of patient days per 1,000 population which were adopted by the Technical Advisory Group and later by the Maine Health Systems Agency, Inc. in its Health Systems Plan. The recommended rates are derived from the



actual use rates of the 1970 United States population in the following manner. The rates of patient days used per 1,000 population in each of the four age groups 0-14, 15-44, 45-64, 65 and older, were calculated. The recommended rates for each age group were then obtained by proportionately adjusting the actual rates downward so that their sum, the total rate for all ages, was 1,000 patient days per 1,000 population.

The following illustrates the application of these standards. The appropriate number of general hospital patient days in Maine for 1984 is calculated as follows using 1984 population projections:

<u>Age Group</u>	<u>1984 Pop. Projected* in Age Group</u>	<u>1984 Pop. Divided by 1,000</u>		<u>No. of Days of Acute Care per 1,000 Pop.</u>	=	<u>Projected 1984 General Hospital Patient Days/Maine</u>
0-14	261,300	261.3	x	250	=	65,325
15-44	543,900	543.9	x	750	=	407,925
45-64	214,400	214.4	x	1,350	=	289,440
65 & older	<u>144,100</u>	<u>144.1</u>	x	<u>3,500</u>	=	<u>504,350</u>
Total Ppp.	1,163,700			Tot. Patient Days		1,267,040

\*Maine Bureau of Health Planning & Development, Populations Projections, 1980 Series.

b. Standard Relating to State-wide Minimum Acceptable Occupancy Rate for Non-Federal Short Stay Hospitals

- The overall minimum acceptable non-federal, short stay hospital bed occupancy rate is 80 percent for the state as a whole. Increases in occupancy rates should result from decreases in bed supply rather than increases in utilization, unless the utilization can be shown to be appropriate.

## Discussion

Bed occupancy rates are a measure of the levels of efficiency at which existing acute care beds are being utilized. While 100 percent efficiency (i.e., 100% occupancy rates) is not desirable, in the interest of conserving limited health care resources, minimum technically achievable bed occupancy rates must be set and implemented.

The overall bed occupancy rate for the State was approximately 72% in 1980. It is certain that a higher rate can be attained. Desired occupancy goals must be defined so that the minimum acceptable occupancy level (80%) does not become the desired occupancy level. This is done through the following standards for specific categories of hospital beds:

- 1.g. - medical/surgical beds
  - 1.h. - psychiatric and alcohol rehabilitation beds
  - 1.i. - ICU-CCU beds
  - 2.c. - obstetrical beds
  - 2.e. - neonatal intensive care beds
- c. Standard Relating to Maximum Number of Non-Federal, Short-Stay Hospital Beds per Thousand Population
- The state-wide maximum number of non-federal, short-stay hospital beds per 1,000 residents will be determined by the following method:
    - (1) Determine Maine's appropriate projected number of general hospital patient days by the method stated in Standard 1.a. above;
    - (2) Divide the appropriate projected number of patient days by the projected State population, divided by 1,000. This produces the projected age-adjusted rate of patient days per 1,000 population for Maine;

- (3) Divide (2) by 365. The quotient is the projected average daily census, per 1,000 population, age-adjusted;
- (4) Divide (3) by eighty percent. The quotient is the maximum appropriate number of projected non-federal, short-stay hospital beds per thousand population. (Short-stay is defined as an average length of stay less than 30 days).

### Discussion

This standard uses Standards 1.a. and b. above to determine the number of non-federal, short-stay hospital beds required to meet the needs of Maine's population. This standard allows the number of beds determined to be necessary to vary with the age of Maine's population. Should the proportion of elderly in Maine's population increase, this standard will reflect that increase by determining that more hospital beds per 1,000 population are needed. Should the proportion of elderly in Maine's population decrease, the standard will reflect that decrease by determining that fewer hospital beds per 1,000 population are needed.

The following will illustrate the application of these standards:

- (1) The Bureau of Health Planning and Development projects Maine's 1984 use rate to be 1,089 general hospital patient days per 1,000 population. This is derived by dividing Maine's projected 1984 patient days (1,267,040) by Maine's projected 1984 population, divided by 1,000 ( $1,267,040 \div 1,000$ ).
- (2) Divide the projected use rate (1,089 patient days per 1,000 population) by 365. The quotient is the projected average daily census (ADC) per 1,000 population. The projected 1984 ADC per 1,000 population equals 2.98.

(3) Divide the projected 1984 ADC (2.98) by the minimum occupancy rate of 80 percent. The quotient is 3.73, the appropriate projected number of general hospital beds per 1,000 population in 1984.

d. Standards Relating to Community Level Hospital Utilization

- A community's maximum appropriate number of projected general hospital patient days will be calculated using the following age groups and rates:

<u>Age Group</u>	<u>Days of Acute Care per 1,000 Population in the Age Group</u>
0-14	250
15-44	750
45-64	1,350
65 and older	3,500

- The appropriate number of projected patient days for a community will be determined by:
  - (1) Dividing the projected population for each age group listed above by 1,000;
  - (2) Multiplying the resulting quotient for each age group by the number of days of acute care corresponding to that age group listed above;
  - (3) Adding the resulting products. The total is the maximum appropriate number of projected general hospital patient days for the community.
- Maine Bureau of Health Planning and Development population projections will be used to calculate the appropriate number of patient days for a community for future years.

- If historical utilization rates for a community are lower than those listed above, they will be used in the computations, unless it can be demonstrated that the lower rate reflects inappropriately low utilization. In many instances, a low utilization rate can be explained by community out-migration to other states or to Canada for hospital services and may not be the result of inappropriately low utilization.

### Discussion

As indicated earlier, the Maine Health Systems Agency, Inc. formed a Technical Advisory Group whose product was a method which used "a 'market share' concept based on patient origin rather than on geographic areas," and "age-specific use rates allowing for sensitivity to differences in population age structure in different areas of the State."<sup>1</sup> This standard incorporates the age groups and use rates recommended by the Technical Advisory Group. This standard and the next two follow the "market share" method of the Group for allocating patient days to hospitals and for determining each hospital's appropriate number of patient day on which to calculate needed beds.

The following illustrates the application of this standard:

Community X is projected to have a population of 20,000 in 1985, of which 5,000 will be aged 0-14, 7,000 will be aged 15-44, 5,500 will be aged 45-64, and 2,500 will be aged 65 or more.

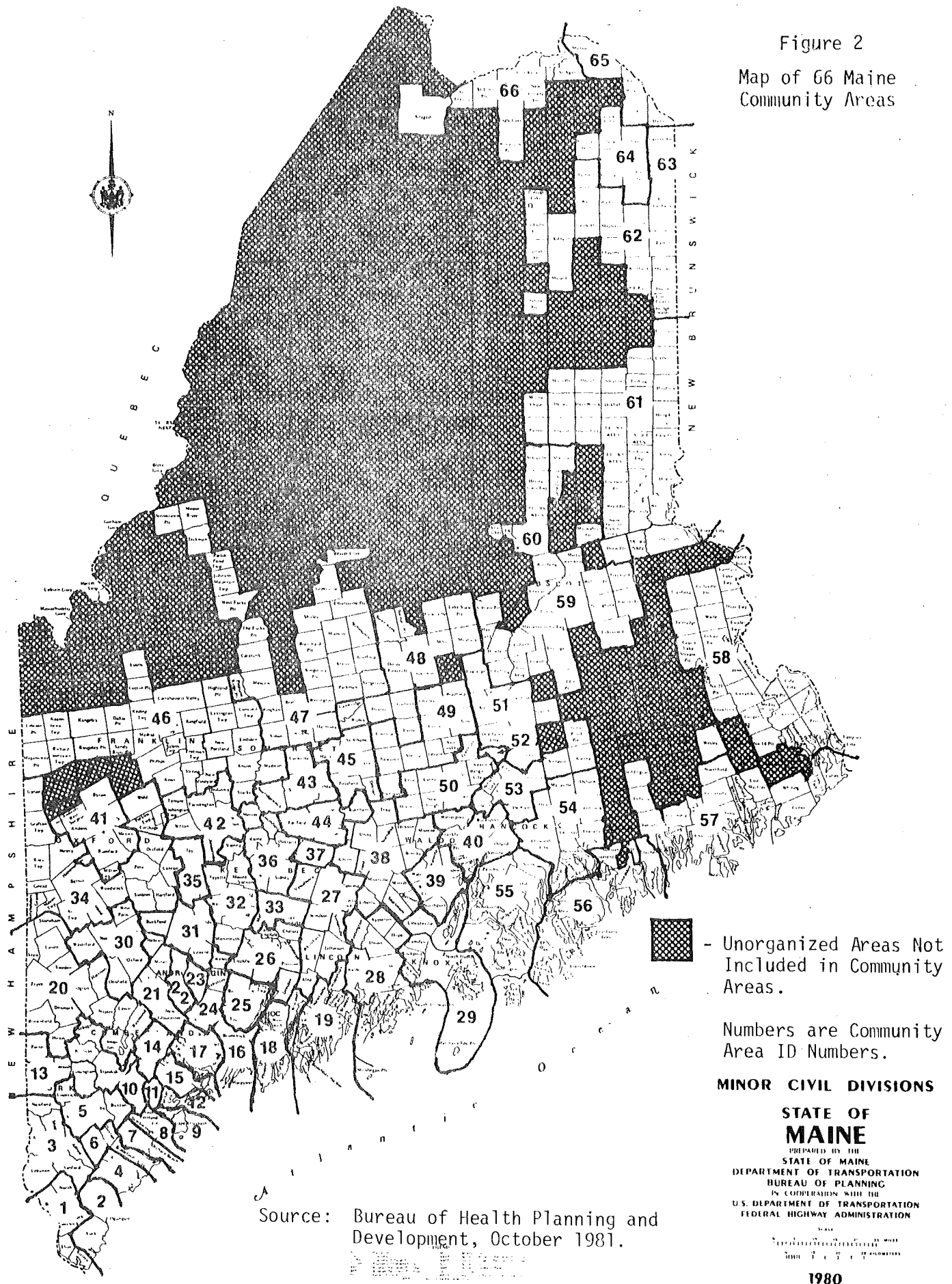
<sup>1</sup>"An Acute Care Bed Need Methodology for Maine." Maine Health Systems Agency, Inc., March 1981.


(1) Age Group	(2) Population projected in Age Group	(3) Population divided by 1,000	(4) Days of Acute Care per 1,000 Population	(5) Product of Columns (3) and (4)
0-14	5,000	5.0	250	1,250
15-44	7,000	7.0	750	5,250
45-64	5,500	5.5	1,350	7,425
65 & older	<u>2,500</u>	2.5	3,500	<u>8,750</u>
Total Pop.	20,000	Total No. of Projected Pat. Days=		22,675

<sup>2</sup> The total of Column (5) is the appropriate number of projected patient days for Community X. Note that if the standard of 1,000 patient days per 1,000 population had been applied without adjusting for age, only 20,000 patient days would have been allocated for Community X.

Maine has been divided into sixty-six community areas to illustrate the application of this standard. These areas are derived from a geographic area analysis done by the Maine Health Information Center (MHIC). The MHIC analysis resulted in 219 geographic areas with minimum populations of at least 5,000 people. The sixty-six areas in this illustration are groupings of the MHIC areas which result in minimum area populations of at least 10,000. The areas are shown on Figure 2 on the following page. Table 1 which follows lists the areas (identified by a town within the area), the general hospital inpatient days used by the residents of the areas in 1978, the number of such days which the residents of each area were expected to use given the rates in this standard, and the age-adjusted use rate for each area. The table shows that age-adjusted use rates varied considerably among areas. Because the rates have been age-adjusted, the variations cannot be attributed to variations in the age structure of the populations.

Figure 2  
Map of 66 Maine  
Community Areas



 - Unorganized Areas Not Included in Community Areas.

Numbers are Community Area ID Numbers.

**MINOR CIVIL DIVISIONS**

**STATE OF MAINE**  
 PREPARED BY THE  
 STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF PLANNING  
 IN COOPERATION WITH THE  
 U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

Source: Bureau of Health Planning and Development, October 1981.

1980

Table 1  
Actual Patient Days, Expected Patient Days  
Applying State Health Plan Use Rate Standards  
and Age Adjusted Rates by Community  
Maine, 1978

COMMUNITY		PATIENT DAYS		PATIENT DAY RATES PER 1,000
ID NUMBER	NAME	ACTUAL NUMBER OF PATIENT DAYS (1)	EXPECTED NUMBER OF PATIENT DAYS APPLYING STATE HEALTH PLAN USE RATE STANDARDS (2)	AGL-ADJUSTED RATES <sup>A</sup> (3)
1	Berwick	9,043	9,431	367.2
2	York	11,863	13,678	565.3
3	Sanford	20,541	22,500	726.9
4	Kennebunk	11,510	10,416	743.8
5	Buxton	8,400	7,917	707.4
6	Biddeford	21,503	23,703	894.7
7	Saco	17,811	19,504	851.6
8	Scarborough	9,038	9,108	815.3
9	South Portland	27,589	32,109	801.0
10	Gorham	7,642	7,794	727.5
11	Westbrook	16,253	15,795	1,029.0
12	Portland	83,148	74,585	1,114.8
13	Baldwin	9,585	10,094	694.2
14	Gray	12,054	11,800	810.1
15	Falmouth	9,148	10,730	661.0
16	Brunswick	19,211	19,666	897.9
17	Freeport	13,034	13,526	769.9
18	Bath	19,934	20,245	984.6
19	Damariscotta	13,367	17,392	768.6
20	Bridgeton	16,957	19,307	870.9
21	New Gloucester	7,817	7,645	689.0
22	Auburn	28,171	25,365	1,110.6
23	Lewiston	51,957	47,085	1,103.5
24	Lisbon	11,367	10,779	832.4
25	Topsham	6,472	6,072	741.8
26	Gardiner	21,905	24,076	885.8
27	Whitefield	11,099	10,974	905.3
28	Waldoboro	16,915	19,412	775.7
29	Rockland	19,497	21,100	924.0
30	Norway	13,241	14,670	859.8
31	Leeds	7,259	7,025	847.5
32	Monmouth	9,449	11,510	820.9
33	Augusta	33,506	32,610	1,027.5
34	Bethel	12,486	12,410	1,006.1
35	Jay	8,439	8,401	839.3
36	Belgrade	9,951	9,921	998.1
37	Waterville	36,772	28,020	1,312.4
38	Brooks	10,691	9,785	1,092.6
39	Belfast	11,720	10,990	1,066.4
40	Bucksport	9,622	9,944	854.2
41	Rumford	20,736	15,910	1,303.3
42	Farmington	10,693	11,258	725.4
43	Skowhegan	16,544	14,115	1,172.1
44	Fairfield	15,491	12,010	1,289.8
45	Pittsfield	11,378	9,570	1,188.9
46	Rangely	16,624	16,815	988.6
47	Greenville	14,445	15,370	939.8
48	Dover-Foxcroft	17,627	18,420	957.0
49	Corinth	13,571	11,975	1,133.3
50	Bangor	46,972	51,119	903.0
51	Old Town	13,023	13,385	938.6
52	Orono	4,170	4,074	386.3
53	Brewer	16,926	18,348	877.2
54	Ellsworth	12,501	11,155	1,120.7
55	Deer Isle	11,382	11,645	977.4
56	Bar Harbor	21,052	16,420	1,282.1
57	Machias	19,429	18,365	1,057.9
58	Calais	21,759	16,045	1,356.1
59	Lincoln	15,020	12,705	1,182.2
60	Millinocket	14,510	13,545	1,071.2
61	Houlton	23,879	20,475	1,166.3
62	Presque Isle	25,588	25,945	986.2
63	Fort Fairfield	10,072	8,376	946.2
64	Caribou	17,086	12,440	1,373.5
65	Madawaska	11,121	10,450	1,064.2
66	Fort Kent	15,382	11,355	1,354.7
	COMMUNITY TOTAL	1,132,948	1,098,396	1,003.7

<sup>A)</sup> Rates are age-adjusted using the indirect age adjustment method. This method calculates the community patient day rate that would exist if the population in each community had the same age distribution and patient day use as a standard population. The standard population used in these calculations is the 1970 U.S. population.

Source: Bureau of Health Planning and Development, October, 1981.



e. Standards Relating to Allocation of Projected Community Patient Days to Specific Hospitals

- The projected patient days for each community as determined under Standard 1.d. above should be allocated to each hospital serving the community, in proportion to that hospital's share of the community's patient days in the most recent year for which patient origin data are available.
- The sum of the proportional allocations of all communities' projected patient days to a hospital is that hospital's appropriate number of projected patient days.
- If a hospital serves communities where there is substantial out-migration to other states and Canada, the communities' use rates will reflect their out-migration in the form of low use rates and adjustments to the hospital's projected patient days due to out-migration are not required. However, adjustments to the hospital's projected patient days due to in-migration from other states and Canada is required. This adjustment is made by calculating the percentage of total hospital patient days due to in-migration occurring in the most recent year for which patient origin data are available. The hospital's adjusted total projected days, allowing for in-migration, is the sum of projected patient days increased by the percentage of in-migration patient days occurring in the most recent year for which patient origin data are available.
- Adjustments to a hospital's total projected patient days may only be made if the hospital can demonstrate significant changes in market shares or inappropriately low historical utilization in the communities it serves.

Discussion

The intent of these standards and those which precede it is to establish hospital planning on a population basis. A traditional method of planning is to assign geographic areas to specific hospitals, so that hospital service areas

or catchment areas are created. This was done in Maine on a plurality basis - an area was assigned to a hospital's service area if that hospital served a plurality of the patients from that area. The use of this method tended to obscure the actual patient use of facilities.

The above standard does not allocate geographic areas to hospitals, but determines projected patient use of a hospital based on historic\* use rates of the communities it serves, adjusted for projected population changes and for appropriate use. By determining the projected use of a hospital in-patient days, the method is sensitive to several important factors which are obscured by the geographic-based method.

The following example illustrates the application of this standard:

	* Historic proportion of Community X's <u>patient days</u>	Projected patient days for Community X	# of projected patient days allocated to Hospital from <u>Community X</u>
Hospital 1	70%	22,675	15,872
Hospital 2	20%	22,675	4,535
Hospital 3	10%	22,675	<u>2,268</u>
			22,675

\*Most recent year for which patient origin data are available.

Hospital 1's total projected appropriate patient days would be determined by adding the 15,872 patient days from Community X to the patient days derived in a similar manner for all other communities the hospital serves.

\*The most recent year for which patient origin data are available.

f. Standard Relating to Determination of Projected Obstetrical Patient Days for a Hospital

- A community's projected number of births will be calculated by multiplying the community's projected population available from the Bureau of Health Planning and Development, by the U.S. birthrate projections available from the U.S. Bureau of Census.
- The projected births for each community will be allocated among the hospitals providing obstetrical services to that community in proportion to each hospital's share of deliveries of the community's births in the most recent year for which data are available.
- The sum of the proportional allocations of all communities' projected births to a hospital is that hospital's appropriate number of projected births. Adjustments may be made for out-of-state births delivered in Maine hospitals.
- The appropriate number of projected obstetrical patient days for a hospital will be calculated by multiplying the hospital's total projected births by the hospital's most recent average length of stay in days for obstetrical services or by 3.5 days, whichever is lower.
- In calculating obstetrical average length of stay, only obstetrics patient days should be used. Days of care in obstetrical beds for patients such as "clean" gynecological and ophthalmological should not be included.
- Level II Referral and Level III hospitals may be able to demonstrate a need for using an obstetrics average length of stay higher than 3.5 days.

- A hospital's appropriate projected number of obstetrical beds will be calculated using its projected obstetrics patient days as determined by this standard and Standard IV.B.2.c. below.

Discussion

This method of projecting obstetrical patient days for a hospital is essentially the method recommended by the Technical Advisory Group created by the Maine Health Systems Agency, Inc. It calls for the allocation of each community's projected births on a market share basis to those hospitals which provide obstetrical services to the community. The allocated births are then summed for each hospital and multiplied by an average length of stay to calculate projected patient days for determining projected need for obstetrical beds.

In 1980, the obstetrical average lengths of stay in Maine hospitals ranged from 2.38 days for Waldo County General Hospital to 5.20 days for Maine Coast Memorial Hospital. The State average was 3.48 days. It should be noted that these lengths of stay were for days spent in obstetrical units, regardless of the patients' diagnoses. The average lengths of stay consequently contain some unknown number of days for patients with non-obstetrics related diagnoses (such as gynecological or ophthalmological).

The following is an example of the application of this method for a hospital with an obstetrical average length of stay below 3.5 days:

	<u>Projected Births</u>	<u>Hospital X's Market Share of Births</u>	<u>Hospital X's Projected Births</u>
Community A	300	75%	225
Community B	500	80%	400
Community C	200	100%	200

Hospital X's total projected births = 825.

Historic obstetrical average length of stay = 3.20 days.

Projected obstetrical patient days = 825 multiplied times 3.20 = 2,640.

g. Standard Relating to Use of Allocated Projected Patient Days to Determine a Hospital's Appropriate Bed Complement

- Projected obstetrical patient days, as determined by Standard 1.f. above, should be subtracted from the hospital's total projected patient days, as determined by Standard 1.e. above. The remainder is to be used to calculate the projected need for non-obstetrical beds for the hospital.
- To determine projected need for non-obstetrical beds for the hospital, the remainder of projected patient days should be allocated to the other bed categories (psychiatric, alcohol rehabilitation, intensive care and cardiac care, and medical-surgical (including pediatrics and medical rehabilitation)) using the following procedure:
  - (1) For the most recent year for which data are available, determine the total patient days and total obstetrical patient days for the hospital;
  - (2) Subtract the obstetrical patient days determined in (1) above from the total patient days determined in (1) above. The remainder is the number of non-obstetrical patient days. Calculate the proportion of those non-obstetrical patient days which were provided in each of the following bed categories:
    - psychiatric
    - intensive care and cardiac care
    - alcohol rehabilitation
    - medical-surgical, pediatric, and medical rehabilitation;
  - (3) Allocate the hospital's projected patient days (after subtracting projected obstetrical patient days) among the above bed categories, using the proportions calculated in (2) above.

- The projected patient days allocated to the above services are then to be used in conjunction with the standards which follow and which apply to those services in determining each hospital's appropriate bed complement.
- Adjustments to the projected patient days allocated to each service at each hospital will be made if it can be demonstrated that historic utilization was inappropriate or that other factors should be considered in determining the appropriate bed complement.

### Discussion

This standard is also based on the work of the Technical Advisory Group of the Maine Health Systems Agency, Inc., but departs in that it uses historical proportions instead of linear trend lines. The standard assumes that each listed service's proportion of a hospital's patient days, as found in the most recent patient origin data, will be the appropriate proportion for projecting needed beds for those services. It also assumes that age adjustments to projected patient days for a community will affect each service proportionately in hospitals serving that community.

The major advantage of this standard is that it establishes a link between appropriate community hospital utilization rates and specific services at specific institutions. It permits the use of the "market shares" concept in allocating community utilization to hospitals which historically have served those communities.

The following example illustrates the use of this standard:

Hospital A has projected that it will provide a total of 50,000 patient days of care in 1984 to the residents of the communities it serves, based on the preceding standards. It projects that 5,000 of those will be obstetrical patient days.

The most recent facility survey\* data show that its historic patient days, after subtracting obstetrical patient days, were divided among its bed complement as follows: psychiatric 10%, ICU/CCU 20%, Alcohol Rehabilitation 10%, medical/surgical and pediatrics 60%.

Bed Categories, Patient Day Allocation, Standards to be Applied

Bed Category	Bed Category's historic proportion of patient days	Projected patient days allocated to service	Standards to be used to determine needed beds
Psychiatric	10%	4,500	Standard 1.i.
Alcohol Rehab.	10%	4,500	Standard 1.i.
ICU/CCU	20%	9,000	Standard 1.j.
M/S, Peds.	60%	27,000	Standard 1.h.

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Total projected patient days  
less obstetrical patient days = 45,000

\*Facility survey data are the Cooperative Facility Resource Inventory, maintained by the Bureau of Health Planning and Development, Division of Data and Research.

h. Standard Relating to Institutional Medical/Surgical Bed Occupancy Rates

- The projected medical/surgical bed occupancy rate for each acute care hospital in Maine for certificate of need reviews shall be established as provided in Table 1, Column 2.
- The medical/surgical bed occupancy rate for each acute care hospital in Maine for internal planning and appropriateness review should be established within its applicable range as provided in Table 1, Column 3.

Definitions

For purposes of this section, medical/surgical beds shall include adult medical/surgical, medical rehabilitation and those pediatric beds suitable for use for children, young adults and adults and shall exclude general intensive care, cardiac intensive care and dedicated burn units.

A. Standard Relating to Certificate of Need Reviews

For purposes of reviewing applications from hospitals proposing the expansion, reduction and/or renovation of medical/surgical bed areas subject to review in accordance with the provisions of the Maine Certificate of Need Act and/or Section 1122 of the Social Security Act, the occupancy rate shown in Table 1, Column 2 ("CON Occupancy Rate Standard"), associated with the applicable projected annual average daily census (ADC) shall be used to determine the appropriate number of beds. This standard shall apply unless:

1. The hospital has elected a higher desired occupancy rate through its internal planning process as discussed in Section B which follows; or



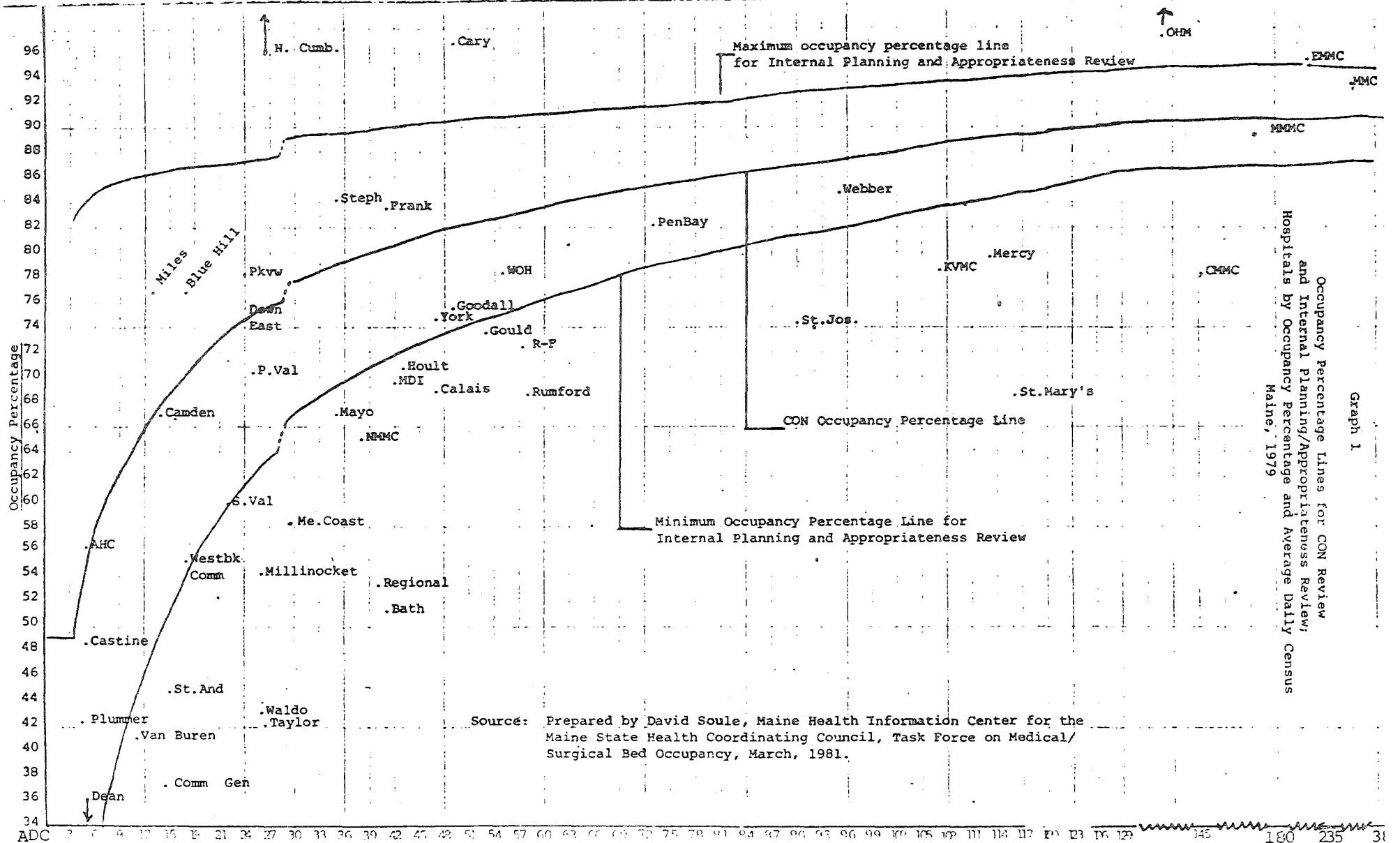
Table 1

Maine's Certificate of Need Medical/Surgical Occupancy Rate Standard  
and Occupancy Guideline for Internal Planning and Appropriateness Review  
and Bed Range by Average Daily Census

Column 1	Column 2	Column 3	Column 4
Projected Med./Surg. Average Daily Census	Certificate of Need Occupancy Rate Standard	Occupancy Range for Internal Planning and Appropriateness Reviews	Medical/ Surgical Bed Range
350+	90%	88% - 94%	389+
178.0 - 349.9	90%	87% - 94%	198 - 388
126.8 - 177.9	90%	86% - 94%	142 - 197
111.1 - 126.7	89%	85% - 93%	126 - 141
97.7 - 111.0	88%	83% - 93%	112 - 125
86.1 - 97.6	87%	82% - 92%	100 - 111
74.9 - 86.0	86%	80% - 92%	88 - 99
65.6 - 74.8	85%	79% - 91%	78 - 87
57.3 - 65.5	84%	77% - 91%	69 - 77
50.0 - 57.2	83%	75% - 91%	61 - 68
43.7 - 49.9	82%	74% - 90%	54 - 60
37.6 - 43.6	81%	72% - 90%	47 - 53
33.1 - 37.5	80%	70% - 90%	42 - 46
28.8 - 33.0	79%	68% - 90%	37 - 41
27.4 - 28.7	78%	67% - 89%	35 - 36
25.4 - 27.3	76%	64% - 88%	34 - 35
22.8 - 25.3	75%	63% - 87%	31 - 33
20.3 - 22.7	74%	61% - 87%	28 - 30
18.6 - 20.2	73%	59% - 87%	26 - 27
16.9 - 18.5	72%	57% - 87%	24 - 25
15.2 - 16.8	71%	55% - 87%	22 - 23
13.6 - 15.1	70%	53% - 87%	20 - 21
12.8 - 13.5	69%	52% - 86%	19
12.0 - 12.7	68%	50% - 86%	18
10.3 - 11.9	67%	48% - 86%	16 - 17
9.6 - 10.2	66%	44% - 86%	14 - 15
8.8 - 9.5	65%	44% - 86%	13

To use this table for certificate of need determinations, calculate medical/surgical beds needed by locating the projected average daily census (ADC) applicable to the hospital (Column 1) and dividing it by the certificate of need occupancy rate standard (Column 2) which corresponds to that ADC. The result is the maximum number of medical/surgical beds allowed under the CON standard to support the projected ADC. This number should be in the range in Column 4 which corresponds to the given ADC. Due to rounding of the breakpoints of categories in Column 1, numbers in Column 4 may vary slightly from the result obtained by the calculations. For internal planning, again begin with the hospital's projected medical/surgical ADC (Column 1). In order to be consistent with the internal planning guideline, the hospital should choose a projected occupancy rate which is within the planning range (shown in Column 3) which corresponds to the projected ADC. To calculate the appropriate number of medical/surgical beds for the projected ADC, divide the projected ADC by the projected occupancy rate. The resulting number of beds will generally fall within the corresponding range displayed in Column 4. A hospital could employ the same procedure and use its current medical/surgical ADC to determine if its current occupancy rate is consistent with the internal planning guideline and to calculate its appropriate number of beds. For internal planning, a hospital may also choose to begin with its existing number of medical/surgical beds and work from right to left to determine the appropriate projected medical/surgical ADC. In this case, a hospital of a given number of medical/surgical beds should choose a projected occupancy rate within the range (shown in Column 3) corresponding to that bed size. The hospital's appropriate projected medical/surgical ADC will be the product of the number of medical/surgical beds and the occupancy rate selected from the range in Column 3. The result will generally fall within the range of ADC's shown in Column 1. Hospitals not achieving the occupancy rates recommended for planning are expected to achieve the recommended rates by decreasing beds rather than by increasing utilization.

Source: Task Force on Medical/Surgical Bed Occupancy of the Maine State Health Coordinating Council, March, 1981.



Source: Prepared by David Soule, Maine Health Information Center for the Maine State Health Coordinating Council, Task Force on Medical/Surgical Bed Occupancy, March, 1981.

Graph 1  
Occupancy Percentage Lines for CON Review and Internal Planning/Appropriateness Review: Hospitals by Occupancy Percentage and Average Daily Census Maine, 1979

-433-

2. Historical data show that the hospital has been operating in excess of the CON occupancy rate standard in which case the higher historical occupancy rate will take precedence unless evidence is presented by the hospital which indicates that the higher historical rate would be inappropriate to the effective and efficient operation of the hospital; or
3. The applicant demonstrates that the hospital's resources, service demands, patient care needs or local conditions justify an exception from the CON occupancy rate standard and derived number of beds as calculated in accordance with Table 1, Column 2.

The Department will give full consideration to all such information provided by the applicant and decide to issue or deny a certificate of need for a proposal based upon the merits of the application.

B. Guideline Relating to Internal Planning and Appropriate Levels of Occupancy

Each hospital in Maine should establish at least a three-year medical/surgical bed occupancy rate goal within the appropriate occupancy rate range listed in Table 1, Column 3\*. This should be based upon the hospital's projected annual average daily census (Table 1, Column 1). Each hospital should provide a rationale for the goal chosen that is consistent with the efficient management of its resources, service demands, patient care needs and local conditions. Each year the hospital should estimate its prospective occupancy rate consistent with its three year goal and, at the end of the year, evaluate its occupancy performance. Hospitals should attempt to adjust the commitment of resources in the short and long terms consistent with the number

\*See also Graph 1.

of beds which they determine to be necessary. Increases in occupancy rates should result from decreases in bed supply rather than increases in utilization, unless the increased utilization is clearly appropriate and based upon such factors as increases in needed health services, the aging of the population, or to correct for demonstrated underservice of the area served by the hospital.

The Bureau of Health Planning and Development and MHS, Inc. should work with other agencies, hospitals and other providers in developing improved data bases, criteria and techniques for measuring and evaluating the relationships between hospital size, geographic location, facilities, physician staff, nursing and other staff, service demands, patient mix, management of resources and occupancy patterns in planning for and achieving optimum occupancy rates. Criteria developed for medical/surgical bed occupancy appropriateness reviews and recommendations for remedial action resulting from such reviews shall be consistent with this section of the State Health Plan.

Hospitals will be considered to be operating at appropriate levels of occupancy if they are operating within the range of occupancy rates which correspond with their projected annual average daily census and utilization at the hospital is appropriate and projected to remain at least at current levels. Any review of the appropriateness of existing institutional services which recommends that remedial action be taken to correct for an over or under supply of medical/surgical beds would entail a thorough review of applicable local circumstances.

## Discussion

Bed occupancy rates measure the levels of efficiency at which hospital beds are being utilized. One-hundred percent occupancy is not desirable. While size, location, facility design, patient mix, and local conditions affect the optimum rate at which individual hospitals should function, in the interests of conserving limited health care resources, achievable bed occupancy rates must be established and implemented. It is desirable for planning agencies, hospitals, and payers of health care services to establish and work towards occupancy rates that will contribute to more efficient use of hospital facilities and which are appropriate to service demands and patient needs.

Given the complexity of the problem and the wide range of conditions facing Maine hospitals, two separate processes are needed to deal with the bed occupancy goals. The first involves a series of certificate of need occupancy rates for use in connection with applications proposing additions, reductions, or renovations in a hospital's medical-surgical bed complement. These occupancy rates are a modification of the interim standard adopted in the State Health Plan for Maine, by the (Maine) State Health Coordinating Council in 1980. The second process involves internal planning and Appropriateness Review as these relate to individual hospitals. These two processes are very closely related. For this reason the information contained in them has been combined into a single table, Table 1 in the standards section. For clarity, however, each process is discussed separately, below.

A. CON Review Standard

Section A of the proposed medical/surgical occupancy rate standards deals with Certificate of Need. The Certificate of Need standards described in that section and Table 1 are recommended as the basis for review of proposals to expand, reduce and/or renovate medical/surgical bed areas subject to review in accordance with the provisions of the Maine Certificate of Need Act and/or Section 1122 of the Social Security Act. The proposal recognizes that the standard may not be applicable in all cases and provides for exceptions.

The CON standard was developed as a result of a nine-month process which began when the State Health Coordinating Council established a Task Force to evaluate the medical-surgical occupancy rate adopted, on an interim basis, in the State Health Plan for Maine, in March, 1980. That medical-surgical standard was based on a theoretical model, developed by the Bureau of Hospital Administration at the University of Michigan.

As part of its continuing study of the Michigan model, the Task Force found that the "recommended occupancy rates" from that model did not, in fact, represent the mathematical line of best fit between the computer simulation model of theoretically attainable occupancy rates and the occupancy rates derived from a Poisson distribution at 99% probability as intended by the investigators. The Bureau of Health Planning and Development has correctly plotted the line of best fit between the two limits. The revised occupancy rates also reflect the use of the Poisson distribution at 95 percent probability for medical-surgical units of less than 36 beds. This revision reflects the fact that the Michigan model did not produce a computer simulation for units of less than 36 beds, so determination of a line of best fit was impossible.

As a result of these investigations, the Task Force recommended adoption of the following for CON review purposes: 1) the Poisson distribution at 95 percent probability as a reasonable standard for facilities with fewer than 36 beds; 2) the maximum occupancy for facilities with more than 142 medical/surgical beds be set at 90 percent; and 3) the variable occupancy rate as shown in Column 2 of Table 1 and on Graph 1, as the line labelled "CON occupancy rate."

B. Internal Planning and Appropriateness Review Guidelines

The range of medical-surgical occupancy rates set forth in Column 3 of Table 1 for internal planning and appropriateness review is intended to initiate a process among Maine's hospitals for setting realistic and desirable occupancy goals applicable to each hospital and to develop and improve measurements of the effect of that process on health care services and costs. As stated in Section B of the narrative relating to the use of Table 1, the guideline will contribute to the evaluation of the appropriateness of existing medical-surgical bed supplies.

The range recognizes variations in circumstances and conditions and has been calculated around the Certificate of Need occupancy rate line described in Section A, above.

i. Standard Relating to Psychiatric and Alcohol Rehabilitation Occupancy Rates

- The minimum acceptable occupancy rate for dedicated hospital psychiatric and alcohol rehabilitation beds is 90%.

Discussion

Hospital care is expensive in part because of the large capital costs involved in building construction. It is important that existing hospital bed capacity will be used efficiently if services are to be provided at reasonable costs to the consumer. Special dedicated bed units treating psychiatric and alcoholism patients are usually found only at the larger hospitals. Little in the literature offers insight into achievable occupancy rates for these two types of bed units. In this situation it seems reasonable to rely on Maine hospital experiences in developing bed occupancy rates in these areas. It appears that high occupancy rates are achievable without sacrificing patient access to these services.

j. Standard Relating to Maximum Number of ICU/CCU Beds per Institution

- Maximum number of beds permitted for ICU's and CCU's is to be determined by the Poisson statistical distribution method with a 95% probability that an empty bed will be available to accommodate an incoming patient. The formula to be applied is  $ADC + 1.64 \sqrt{ADC}$  where ADC equals the projected annual average daily census of the unit based upon appropriate utilization.

Discussion

Most hospitals in the United States have intensive care units (ICU's). Far fewer hospitals have coronary care units (CCU's). Many general intensive care units have an area set aside for coronary patients, however. The general function of these units is to bring together the specialized personnel, equipment, and techniques which are necessary



to monitor patients' vital signs and support or perform their vital functions if necessary. Patients receiving intensive care have either suffered organ failure or are at risk of organ failure as a result of injury, disease, or surgery.

Units which provide intensive care and cardiac care in Maine are identified in different ways at different hospitals. They may be called ICU's, ICU's/CCU's, CCU's, and special care units (SCU's). SCU's are ordinarily general ICU's. The Health Care Financing Administration has recently decided to stop using the term "special care unit" and to use only the term "intensive care unit" for such units. This discussion will follow that usage. Some hospitals have burn care units which are included in this standard. It should also be noted that some hospitals have "intermediate care units," a level of care between that found in intensive care units and that found in routine nursing care units. These are not defined as intensive care units, but are included under general medical/surgical units and are included in the determination of routine costs.

The State Health Plan for Maine presently contains a standard for neonatal intensive care unit beds. These are not included in this standard.

The intensive care unit and cardiac care unit are distinguishable from the ordinary medical/surgical ward not only by the critical condition of their patients but also by their resource requirements. Intensive care units use about three times as many nursing hours per patient day as do medical/surgical wards. The nurses in intensive care units must have special training. Intensive care units also use equipment technicians,

respiratory therapists, clerical help and other supporting staff in greater numbers than the medical/surgical wards. Specialized equipment is more prevalent and X-rays and laboratory tests are done more frequently to patients in intensive care units. Beds in intensive care units require greater space because of the more acutely ill patients, the greater number of personnel, and the more extensive equipment. Many intensive care units have separate nursing stations, offices, waiting rooms, and laboratories. One of the consequences of the greater use of resources is substantially greater cost per day for ICU use. It is estimated that a day in intensive care is at least three times the cost of a day of ordinary medical/surgical care (1, 2, 3, 4, 5, 6). (The numbers in parentheses refer to references on page 400).

Table 1 which follows contains information on ICU's and CCU's in Maine in 1978. It is based on information reported by each hospital to the Cooperative Health Facilities Resource Inventory, maintained by the Bureau of Health Planning and Development. The table is presented to illustrate the application of the method and not to finally determine the number of needed ICU and CCU beds for each institution. Any determination of bed need by the Bureau for a facility will use the projected annual average daily census based on appropriate utilization. The table also illustrates the number of beds needed, given 1978 ADC, for different percentages of probability that a bed will be available on any given day.

Table 1  
Actual ICU/CCU Bed Use in Maine Hospitals and  
Number of Beds Required for Three Levels of Probability of Bed Availability  
1978

Comprehensive Health Planning (b) Region/Hospital	ICU/CCU Utilization Statistics for 1978			Number of Beds Required at Specified Probabilities of Bed Availability		
	Number of Staffed Beds	Av. Daily Census <sup>a</sup>	Percent Occ.	95% <sup>a</sup>	98% <sup>a</sup>	99% <sup>a</sup>
I. Maine Medical Center	40	27	68.3	36	38	39
Osteopathic Hospital	13	9	67.0	14	15	16
Mercy	12	9	75.0	14	15	16
Webber	7	5	67.2	9	10	10
Pen-Bay	6	4	62.2	7	8	9
Regional Memorial	5	4	71.1	7	8	9
Bath	4	2	43.5	4	5	5
H.D. Goodall	6	4	60.6	7	8	9
York	5	3	64.6	6	7	7
Waldo County	4	1	36.2	3	3	3
Parkview	9	n.a.	-	-	-	-
No. Cumberland	4	3	70.9	6	7	7
Hiles	4	1	23.8	3	3	3
Camden	2	<1	21.5	not calculated for <1 ADC		
II. Central Maine Med. Center	23	10	42.7	15	16	17
St. Mary's	16	9	56.1	14	15	16
Rumford	6	4	63.1	7	8	9
Franklin County	4	2	61.3	4	5	5
Stephens	4	2	48.4	4	5	5
III. Mid-Maine Medical Center	24	17	69.6	24	25	27
Kennebec Valley Med. Center	13	9	69.3	14	15	16
Redington-Fairview	4	2	59.8	4	5	5
Waterville Osteopathic	3	2	70.0	4	5	5
Sebasticook Valley	2	1	54.8	3	3	3
IV. Eastern Maine Med. Center	20	17	85.6	24	25	27
St. Joseph's	7	3	41.8	6	7	7
Calais	4	1	30.8	3	3	3
Maine Coast Memorial	6	5	75.0	9	10	10
Mt. Desert	3	2	54.9	4	5	5
J.A. Taylor	3	1	38.7	3	3	3
Mayo Regional	4	n.a.	-	-	-	-
Millinocket	4	2	49.0	4	5	5
Penobscot Valley	5	2	38.1	4	5	5
Blue Hill	4	1	35.2	3	3	3
Castine	1	<1	48.5	not calculated for <1 ADC		
Eastport	2	<1	4.5	not calculated for <1 ADC		
V. A.R. Gould	8	3	38.8	6	7	7
Houlton	7	2	31.0	4	5	5
Northern Maine Med. Center	4	2	39.0	4	5	5
Cary	6	4	66.7	7	8	9

Note: The illustrations of the application of the Poisson Distribution Method in this table do not distinguish among hospitals with specialized intensive care units. As a result, if facilities have units which provide care to patients who are not interchangeable, the Poisson formula would be applied to each such unit and the number of needed beds shown in the table would be understated for that facility.

n.a. Not available.

<sup>a</sup>Figure is rounded to the nearest whole number.

Source: Cooperative Health Facilities Resource Inventory, Bureau of Health Planning and Development, Division of Data and Research, 1980.

There are three important qualifications to the general application of this standard. First, the standard should be applied to individual intensive care units within a hospital (such as an ICU, or CCU, or a burn care unit) only where it can be shown that patients normally receiving care in those units cannot appropriately be assigned to another intensive care unit in that hospital. Second, in determining the proper size of intensive care units (ICU's, CCU's and burn care units), projected annual average daily census should be based on the projected level and kind of services being offered in the hospital which would affect appropriate utilization of those units. Third, the application of the standard should also consider responsibilities which a hospital has as a result of designation for delivery of specialized care.

k. Standard Relating to Minimum Space Requirements for Intensive Care Unit Patient Rooms

- Clearance between beds in multibed rooms shall be not less than 7'0" (2.13m). Single-bed rooms or cubicles shall have a minimum clear area of 120 square feet (11.15 square meters) and a minimum dimension of 10'0" (3.05m).

Discussion

This space standard is one of the minimum requirements of construction and equipment for hospital and medical facilities established by the U.S. Department of Health and Human Services. This is also a requirement for licensure by the Maine Department of Human Services. It is desirable to include this standard to assist in planning for ICU's and CCU's.

Goal for Intensive Care Units

HOSPITALS WHICH HAVE INTENSIVE CARE UNITS SHOULD ESTABLISH CLEAR WRITTEN CRITERIA FOR PATIENT ADMISSION TO AND TRANSFER FROM SUCH UNITS. THE HOSPITALS SHOULD REVIEW THE CRITERIA ANNUALLY.

## Discussion

Recent research outside of Maine has suggested that some patients may be admitted to intensive care units unnecessarily and that others may be kept in those units longer than medically necessary. The Maine State Health Coordinating Council adopted this goal to help insure that patients are properly placed and to reduce the likelihood of improper utilization of intensive care units in the future. This goal encourages each facility to examine carefully its own needs and capabilities and to establish or to review and update criteria consonant with those needs and capabilities. It should be noted that the Joint Commission on Accreditation of Hospitals states in its Accreditation Manual for Hospitals:

Written criteria for patient admission to and discharge from a special care unit, including priority determination, shall be developed by the medical staff, with participation of the nursing service...

Special care unit is the term used in the manual to identify intensive care units.

Selected Bibliography  
on Intensive Care and Coronary Care Units

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1. Standards Relating to Conditions for Hospital Bed Expansion and Renovation

- Until such time as the State of Maine has achieved an appropriate bed-to-population ratio as determined by Standards 1.a., 1.b., and 1.c., no hospital bed expansion nor replacement will be permitted unless the applicant hospital can clearly demonstrate the following:
  1. Local joint planning efforts have been aggressively pursued.<sup>a</sup> The object of joint planning is for two or more hospitals to earnestly and productively engage in sincere discussions of their respective goals, objectives and plans for the purpose of maximizing the quality and minimizing the cost of the health care system. Participants must engage in such discussions with a willingness to compromise and to modify and/or abandon their respective plans to avoid and/or eliminate unnecessary duplication or underutilized health care resources;
  2. There are no underutilized licensed beds of the same type (e.g., obstetric, pediatric) within 20 miles of the facility applying for the new or replacement beds<sup>a,b</sup>;
  3. The hospital has initiated patient admission scheduling systems for a sufficient period of time to achieve maximum utilization of its own facility.

Discussion

The State of Maine and its residents have made a very large investment in hospital resources. The set of planning standards advocated by the Maine Health Systems Agency, Inc. and the Bureau of Health Planning and Development are intended to help protect both current and future investment in these facilities by encouraging cooperative, community-wide planning among hospitals. Effective cooperation should seek to reduce unnecessary duplication of expensive services and to promote efficient

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<sup>a</sup>Consideration will be given to differences between allopathic and osteopathic medicine.

<sup>b</sup>A hospital proposing to add or replace beds will distribute a copy of its Certificate of Need application to each hospital situated in the service area claimed by the applicant.

use of capacity. Problems of services duplication and/or low bed occupancy exist in several Maine communities. Standards adopted by both agencies require hospitals wishing to add new or replace existing bed capacity to pursue alternatives to these actions with other hospitals in the immediate area.

The third standard, regarding admission scheduling systems recognizes the desirability of utilizing an individual hospital's bed capacity as efficiently as possible. Variability in bed demand from day to day, and from month to month, is quite large in some hospitals. In such instances, many more beds must be maintained than are filled on average in order to accommodate high demand occurring at certain times. Some of this variability can be eliminated by scheduling elective admissions in such a way as to smooth out demand. Thus, bed demand will be shifted from a usually busy time (beginning of the week) to a low use time (the end of the week and the weekend). While such action will have little effect on patient access to care (and in some circumstances may actually improve it), it may result in substantial savings in health care costs.



## 2. Obstetrical and Neonatal Inpatient Services

### a. Standard Defining Four Levels of Obstetrical and Newborn Care

- The concept and definitions of four levels of obstetrical and newborn services developed by the state-wide Task Force on Perinatal Care be used in all future planning for these services.

### Discussion

The National Foundation, March of Dimes, Committee on Perinatal Health, prepared a monograph describing the levels of maternal and newborn care. Entitled Toward Improving the Outcome of Pregnancy, it provided the conceptual framework for distinguishing among: routine (Level I), intermediate (Level II), and intensive (Level III) units and the staff and facility needs required for each. The report also discussed the relationships and responsibilities among cooperating hospitals comprising the perinatal and newborn care network.

In 1976, Maine's three largest hospitals established the Task Force on Perinatal Care. Its general charge was to identify shortcomings in services provided to mothers and newborns in Maine hospitals and to develop appropriate remedies. The Task Force defined the perinatal period to encompass the twentieth week of gestation through the first seven days of life. The neonatal period was defined to be from birth through twenty eight days. One recommendation was that future planning efforts should recognize four rather than three levels of care. In contrast to the National Foundation, the Task Force saw the need for two types of Level II institutions in Maine. A facility defined as a Level II intermediate care facility would provide intermediate and Level I

care to newborns born only in that hospital. A Level II referral center, on the other hand, would receive intermediate level patients from Level I hospitals in surrounding communities as well as provide intermediate and Level I care to newborns born in that hospital. It would also offer convalescent care to infants returning from the state's single Level III facility. In Maine, there is currently one Level III facility located at Maine Medical Center. There are four Level II referral facilities. These are at the Maine Medical Center, Central Maine Medical Center, Mid-Maine Medical Center and Eastern Maine Medical Center.

b. Standard Relating to Regionalization

- Neonatal and obstetrical services shall be planned on a regional basis.

Discussion

Regionalization of sophisticated medical services has been suggested as a means of providing accessible, high quality care in a cost-effective manner. Local hospitals are encouraged to provide the highest level care consistent with their capabilities; cases requiring more intensive treatment should be referred to regional facilities. Regionalization promotes the efficient use of resources and improves the quality of care.

Obstetric and newborn services are easily adapted to regionalization. It is estimated that only five percent of all newborns need more than routine care. Of these, 40 percent require intensive Level III care and 60 percent intermediate Level II care. With regionalization, costly buildings, equipment and the highly skilled staff necessary for the provision of quality obstetrical/neonatal intensive care can be concentrated at several of the larger medical centers.

A system of regionalized obstetrical and neonatal care already exists in Maine. As defined by the Task Force on Perinatal Care, Maine hospitals offer four levels of perinatal care, ranging from basic obstetric and newborn

services (available in most hospitals) to a single Level III neonatal intensive care center. The Level III unit, located at the Maine Medical Center, provides specialized care to the entire state. Transport to a facility capable of providing the appropriate level of care is an integral part of a regionalized system. The optimal arrangement is to transport the high risk mother to an appropriate level facility for delivery there. In Maine, transport of infants requiring more intensive care to appropriate facilities should be performed by the Level II referral centers. Local hospitals should stabilize infants until the arrival of a transport team from the Level II hospital. This team should transport the child either to the Level II hospital or directly to the Level III hospital. Inter-facility agreements should exist to facilitate the transfer of patients between local and regional hospitals.

The staff in Level II (referral) and III units do more than provide direct services. They aid in developing and implementing protocols for prenatal screening and emergency transportation; they are a focus of continuing educational opportunities for all levels of providers and they are available for consultation services.

A regional network has many responsibilities geared to maintaining high quality care. Among these, a major activity is to improve maternal and newborn services in all the State's hospitals. It is important, for example, to ensure that a hospital's pediatric service is capable of caring for the newborns delivered in the obstetrical unit.

c. Minimum Standard Related to Obstetrics Bed Occupancy

- Maximum number of beds permitted for maternity units of Level I, Level II referral, Level II non-referral and Level III hospitals is to be determined by the Poisson statistical distribution method with a 95% probability that an empty bed will be available to accommodate an incoming patient. The formula to be applied is  $ADC + 1.64\sqrt{ADC}$  where ADC equals the projected Average Daily Census of the unit.

## Discussion

Because obstetric admissions occur somewhat randomly, it is important to establish needed number of beds by a method which takes this into account. The method to be used in calculating the number of beds required in obstetrical units should consider:

1. The greater need for beds as the number of births increase; and
2. The greater effect of fluctuations in census experienced by small units.

The daily census of obstetrical units tends to conform to the Poisson distribution. The Poisson distribution is an accepted means of predicting the maximum number of beds necessary to meet a given demand where that demand occurs randomly. It is clearly more appropriate than a fixed occupancy rate because it allows for the variance in volume among hospitals. The Poisson distribution method adjusts the maximum required unit size in accordance with the projected average daily census of the unit.

The State Health Plan determines obstetrical bed needs in such a way that an empty bed should be available to accommodate incoming patients 95% of the time (or approximately 347 days per year). Once the maximum bed size of the unit has been determined, the minimum acceptable occupancy rate may be easily calculated.

The following table, using 1980 provisional data, illustrates the application of the above standard. The table is provided for illustrative purposes only. It should be noted that the column entitled "patient days" may include days of care for non-obstetrical patients who occupied an obstetrical bed (e.g., gynecological patients) and it may not include obstetrical patient days which were provided in medical-surgical and other non-obstetrical beds. Although many hospitals in this example appear to have too many or too few obstetrical beds, this does not necessarily mean that those units are inappropriately sized, nor does it imply that beds should be added or removed.

Table 1

Application of Standard IVb.2.c. to  
Obstetrical Units in Maine, 1980

Unit	Patient Days	ADC	Beds	Maximum # Beds Needed <sup>a</sup>	Minimum Occupancy Rate <sup>b</sup>	Actual Occupancy Rate
Aroostook Med. Ctr.	1,813	4.97	11	9	55.22	45.18
Bath Mem. Hosp.	Not Available		10			
Calais Reg. Hosp.	980	2.68	7	6	44.67	38.29
Camden	325	.89	7	3	29.66	12.71
Cary Med. Ctr.	1,642	4.50	9	8	56.25	50.00
Central Maine Med. Ctr.	4,392	12.03	20	18	66.84	60.15
Charles A. Dean Mem. Hosp.			3			
Down East Com. Hosp.	1,251	3.43	6	7	49.00	57.17
Eastern Maine Med. Ctr.	7,007	19.20	29	27	71.11	66.21
Franklin Mem. Hosp.	1,231	3.37	6	7	48.14	56.17
Goodall Hospital	1,882	5.16	10	9	57.33	51.6
Houlton Reg. Hosp.	1,410	3.86	8	8	48.25	48.25
J.A. Taylor Osteo. Hosp.	362	.99	4	3	33.00	24.75
Kennebec Valley Med. Ctr.	4,456	12.21	19	18	67.83	64.26
Maine Coast Memorial Hosp.	629	1.72	9	4	43.00	19.11
Maine Med. Ctr.	10,118	27.72	32	37	74.92	86.63
Mayo Regional Hosp.	912	2.50	8	6	41.67	31.25
Mercy Hospital	4,108	11.25	20	17	66.18	56.25
Miles Memorial Hosp.	473	1.30	6	4	32.50	21.67
Millinocket Regional	848	2.32	4	5	46.40	58.00
Mid-Maine Medical Center	3,861	10.58	17	16	66.13	62.24
Mt. Desert Isle	498	1.36	5	4	34.00	27.20
No. Cumberland Mem.	614	1.68	6	4	42.00	28.00
No. Maine Med. Ctr.	805	2.21	8	5	44.20	27.63
Osteo. Hosp. of Maine	2,135	5.85	10	10	58.50	58.50
Parkview Mem. Hosp.	3,033	8.31	9	14	59.36	92.33
Redington-Fairview	928	2.54	10	6	42.33	25.40
Rumford Community Hosp.	610	1.67	8	4	41.75	20.88
St. Mary's Hosp.	3,697	10.13	12	16	63.31	84.42
Stephen's Memorial	696	1.91	4	5	38.20	47.76
Waldo County General	504	1.38	6	4	34.50	23.00
Webber Hosp.	2,954	8.09	12	13	62.23	67.42
Waterville Osteopathic	617	1.69	6	4	42.25	28.17

<sup>a</sup>Determined from the formula: Number of Beds = ADC + 1.64VADC (see text).

<sup>b</sup>Computed by dividing ADC by number of beds needed.

Source: Bureau of Health Planning and Development, Division of Data and Research, 1981 (1980 provisional data).

A hospital should use the Poisson distribution method contained in this standard when it does its internal planning for obstetrical bed needs. To use the formula, it is necessary to determine projected appropriate obstetrical patient days. These projected days should be limited strictly to obstetrical days and should exclude days of use by other patients (such as gynecological). The hospital may wish to ask its internal utilization review mechanism to carefully study historic obstetrical use to assist in projecting appropriate patient days. One indicator of appropriate utilization is average length of stay. If the hospital's projected obstetrical length of stay varies significantly from the state average for similar hospitals, the hospital should determine whether the projected patient days could be reduced without adversely affecting quality of care. The projected appropriate annual obstetrical patient days should then be divided by 365 to determine the projected average daily census for obstetrics. The projected average daily census should then be used with the Poisson formula to calculate the appropriate number of obstetrical beds for that projected average daily census.

The recommendations for projecting the appropriate size of the hospital's obstetrical unit should not be interpreted to mean that obstetric beds should not be used by non-obstetrical patients. Hospitals must consider many factors in placing their patients so that their care is of acceptable quality and the use of the bed complement is efficient. In Maine hospitals, non-obstetrical patients are often placed in licensed obstetrical beds and this use is entirely consistent with the recommendations for sizing the hospital's obstetrical unit.

d. Standard Relating to Minimum Number of Births Required for Level II Referral and Level III Units.

- Level II referral and Level III maternal and newborn special care hospitals should perform at least 1,000 deliveries annually except in Aroostook County where the following standard shall apply; there shall be only one Level II referral unit in Aroostook County.

Discussion

This standard is intended to maintain the quality of care and economic efficiency of specialized and referral obstetric and newborn services by discouraging the development of units in areas lacking a minimum number of births annually. Given the relative isolation and small number of people residing in many of the population centers in Maine, a minimum standard of 1,000 deliveries, annually, in Level II referral units and Level III units appears reasonable. The current geographic distribution of the existing Level III and Level II referral units throughout the State assures reasonable regional access to care. The exception for Aroostook County allows development of a single needed service, although no single hospital will have 1,000 deliveries annually.

e. Standard Relating to Neonatal Special Care Beds

- There should be no more than 3.2 newborn referral special care beds per 1,000 live births in the State of Maine.

Discussion

After careful study and discussion with neonatologists, the Maine State Health Coordinating Council established this standard which sets a realistic limit to the growth of newborn referral special care beds. Currently, there are 38 Level II (referral) and Level III neonatal intermediate and intensive care beds or 2.3 beds per 1,000 live births in Maine (Table 2).

Two of the hospitals in Aroostook County have applied for a certificate of need to establish a Level II referral unit to provide for the entire county. As stated above in Section d., only one such unit is needed. It can thus be anticipated that a single application will be approved.

Table 2

CURRENT LEVEL II REFERRAL AND  
LEVEL III NEONATAL INTERMEDIATE AND INTENSIVE CARE BEDS  
BY REGION AND HOSPITAL

Maine, January, 1980

Area	Hospital	Level	Beds Available
Tri County	CMMC	II (referral)	10
Southern Maine	MMC	III	12
		II (referral)	10
Kennebec	MMMC	II (referral)	2
Eastern Maine	EMMC	II (referral)	4
Northern Maine	--	II (referral)	<u>0</u>
TOTAL			38

Rate of 2.3 beds per 1,000 live births, based on 16,474 births in 1980.  
Source: Bureau of Health Planning and Development,  
Maine Department of Human Services, September 1981.



f. Standard Relating to Minimum Number of Births State-wide Required for Level III Neonatal Care Units

- No new Level III maternal and newborn special care programs considered until the state-wide number of births reaches 20,000 annually.

Discussion

Level III maternal and newborn special care units provide the most costly and sophisticated services in the regional system. Expansion of Level III capability must be such that neither quality nor costs of services are adversely affected.

Applying national estimates to Maine suggests that at a minimum, 20,000 births annually are necessary to support two Level III units. Level III units thus require service areas which generate 8,000-12,000 annual births in order to maintain quality of care and keep costs at acceptable levels. In 1980, there were 16,474 births in Maine. This represents a slight increase over the number of births in 1979.

United States Bureau of Census data predict that the number of births will continue to increase peaking around 1995. Thereafter, the number is expected to decline. Bureau of Health Planning and Development projections indicate that there will be approximately 19,000 live births in Maine by 1985. Consequently, consideration of new Level III programs should be delayed until such time as there are 20,000 births in Maine. At that time, future birth projections can be used to more accurately determine future birth levels and related need.

### 3. Pediatric Inpatient Services

#### a. Standards Relating to Pediatric Inpatient Units and Pediatric Utilization

- Pediatric beds shall be pooled with adult medical/surgical and medical rehabilitation beds in determining medical/surgical occupancy rates.
- A separate pediatric unit is desirable in facilities providing services to the 0-14 population. This unit should be so designed that, when not in use by pediatric patients, the beds can be used by patients in other age groups.
- Consolidation of pediatric units should take place in regions where several units are in proximity to each other.
- Patient day use rate for pediatric hospitalization for Maine should not exceed 250 days of hospitalization per 1,000 children aged 0-14.

#### Discussion

Twenty-seven of Maine's hospitals had pediatric beds in 1980. There was a total of 299 pediatric beds with a state-wide occupancy of 51% (see Table 1). Seventeen of the units had ten or fewer beds. Only three units had occupancy rates above 50% in 1980. Nine of the twenty-seven units had more than ten beds. Six of these nine units had occupancy rates above 50% in 1980.

The first standard is designed to encourage Maine hospitals with pediatric units to be organized so that beds can "swing" between pediatric and medical/surgical patients according to need where physically and operationally practical. Using pediatric beds as "swing" beds enables them to be a part of the medical/surgical bed complement. This improves overall utilization of the pediatric beds.

Table 1

Pediatric Beds and Inpatient Days  
by Hospital and Health Planning Region  
Maine, 1980

Health Planning Region/Hospital	Number of Pediatric Beds	Pediatric Inpatient Days	Percent Occupancy
State Total	299	55,373	50.74
<u>Region I</u>			
Bath Memorial	10	488	13.37
Henrietta D. Goodall	8	753	25.79
Maine Medical Center	52	13,863	73.04
Mercy	16	3,061	52.41
Miles Memorial	2	117	16.03
Osteopathic Hospital of Maine	12	1,399	31.94
Regional Memorial	7	1,110	43.44
Waldo County General	4	487	33.36
Webber	<u>10</u>	<u>2,219</u>	60.79
Region Total	121	23,497	
<u>Region II</u>			
Central Maine Medical Center	19	3,678	53.04
Rumford Community	12	1,859	42.44
St. Mary's General	<u>34</u>	<u>3,501</u>	28.21
Region Total	65	9,038	
<u>Region III</u>			
Kennebec Valley Medical Center	15	2,773	50.65
Mid-Maine Medical Center	24	6,684	76.30
Sebasticook Valley	6	159	7.26
Waterville Osteopathic	<u>3</u>	<u>1,015</u>	92.69
Region Total	48	10,631	
<u>Region IV</u>			
Calais Regional	6	883	40.32
Charles A. Dean Memorial	3	NA	NA
Down East Community	2	339	46.44
Eastern Maine Medical Center	23	6,250	74.45
Maine Coast Memorial	6	841	38.40
Millinocket Community	NA	NA	NA
Mt. Desert	5	579	31.73
James A. Taylor	<u>3</u>	<u>295</u>	26.94
Region Total	48	9,167	
<u>Region V</u>			
Cary Memorial	5	1,588	87.01
Arthur R. Gould Memorial	8	1,245	42.64
Van Buren Community	<u>4</u>	<u>187</u>	12.81
Region Total	17	3,020	
NA = Not Available - facility did not respond to this item.			
Source: Cooperative Health Facilities Resource Inventory Bureau of Health Planning and Development Maine Department of Human Services, November 1981.			

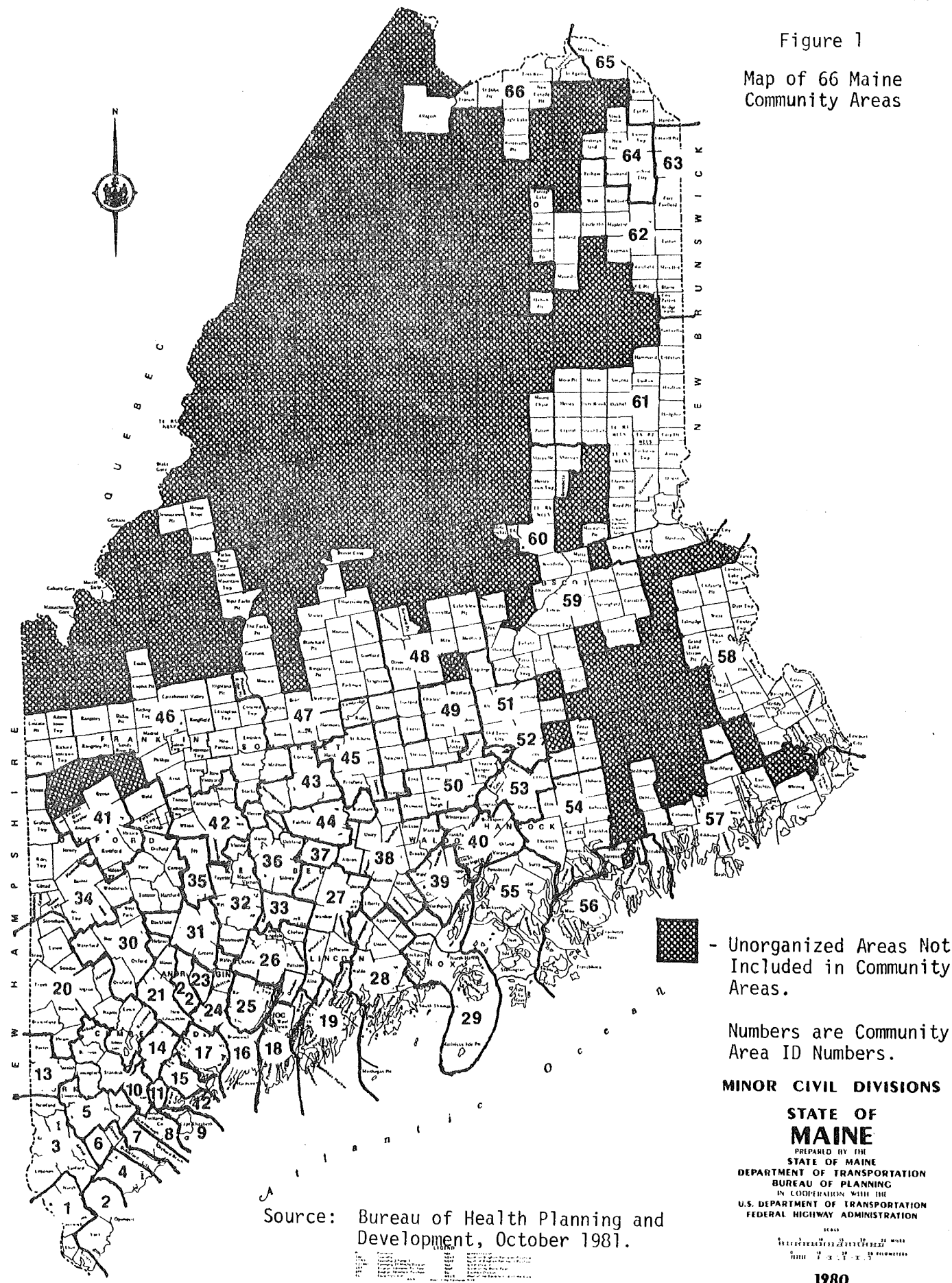
While recognizing that pediatric units should be integrated into the medical/surgical unit for proper utilization, it is at the same time important to have an identifiable area for children. This will help maintain quality of care and promote psychological well-being of children. This concept is recognized in the second standard. There are, however, cost and quality incentives for the consolidation of units in facilities in close proximity. Wherever possible, regions containing more than one facility with a pediatric unit should establish arrangements for coordinating and consolidating services. The third standard encourages consolidation.

Patient day use rates are the number of days of hospitalization per 1,000 people. In Maine, in 1980, pediatric use occurred at a rate of approximately 252 days of hospitalization per 1,000 children aged 0-14. To illustrate the variation in pediatric use rate among substate areas, Maine was divided into sixty-six communities with a minimum population of 10,000 people. These are shown on the following page. Pediatric use rates have been calculated for 1980 for each of the communities. These are shown in Table 2.

<u>Pediatric Patient Days per 1,000 Population Aged 0-14</u>	<u>Number of Communities</u>	<u>Percent of Total</u>
150 or less	9	13.6
151-200	17	25.8
201-250	13	19.7
251-300	10	15.2
301-350	8	12.1
351 or more	9	13.6
	<u>66</u>	<u>100.0</u>

The wide variation among the community use rates strongly suggests that further study be undertaken to determine the causes of the variation. Objective 5.4.2 of the Pediatric Care section of the 1981 State Health Plan for Maine is "To conduct a study of pediatric hospital utilization in Maine (by 1981)."

Figure 1  
Map of 66 Maine  
Community Areas



Source: Bureau of Health Planning and Development, October 1981.

MINOR CIVIL DIVISIONS  
STATE OF MAINE  
PREPARED BY THE  
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF PLANNING  
IN COOPERATION WITH THE  
U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

1980

Table 2 Patient Day Rate for the Pediatric Population  
Aged 0-14 in 66 Maine Communities<sup>a</sup>  
1980

Community		Age Group 0-14 Years		
ID NUMBER	NAME	Patient Days <sup>b</sup>	Population <sup>c</sup>	Patient Day Rate Per 1000 Population
1	Berwick	393	6300	62.4
2	York	405	3200	126.6
3	Sanford	1055	6300	167.5
4	Kennebunk	345	2300	150.0
5	Buxton	504	3100	162.6
6	Biddeford	978	5800	168.6
7	Saco	834	4700	177.4
8	Scarborough	375	2500	150.0
9	South Portland	1142	6400	178.4
10	Gorham	397	2000	198.5
11	Westbrook	716	3600	198.9
12	Portland	2975	14100	211.0
13	Baldwin	553	3200	172.8
14	Gray	622	3600	172.8
15	Falmouth	417	2300	181.3
16	Brunswick	775	5300	146.2
17	Freeport	628	3500	179.4
18	Bath	1040	4700	221.3
19	Damariscotta	395	2900	136.2
20	Bridgeton	711	4200	169.3
21	New Gloucester	793	2800	283.2
22	Auburn	1781	5300	336.0
23	Lewiston	2905	9700	299.5
24	Lisbon	781	3900	200.3
25	Topsham	636	2900	219.3
26	Gardiner	1335	5900	226.3
27	Whitefield	918	3200	286.9
28	Waldoboro	734	4700	156.2
29	Rockland	621	4500	138.0
30	Norway	581	3500	166.0
31	Leeds	654	2400	272.5
32	Monmouth	735	3300	222.7
33	Augusta	1636	5600	292.1
34	Bethel	936	2700	346.7
35	Jay	437	2700	161.9
36	Belgrade	771	2600	296.5
37	Waterville	3737	5500	679.5
38	Brooks	1081	2700	400.4
39	Belfast	677	2700	250.7
40	Bucksport	681	3000	227.0
41	Rumford	2032	3000	677.3
42	Farmington	430	3200	134.4
43	Skowhegan	1176	3400	345.9
44	Fairfield	1293	3200	404.1
45	Pittsfield	1146	2600	440.8
46	Rangeley	712	3700	192.4
47	Greenville	1040	3200	325.0
48	Dover-Foxcroft	1018	3800	267.9
49	Corinth	990	3500	282.9
50	Bangor	3745	11500	325.7
51	Old Town	838	3700	226.5
52	Orono	246	1200	205.0
53	Brewer	1058	4300	246.0
54	Ellsworth	786	2500	314.4
55	Deer Isle	541	2200	245.9
56	Bar Harbor	1204	3500	344.0
57	Machias	1022	4200	243.3
58	Calais	1321	3700	357.0
59	Lincoln	1058	3500	302.3
60	Millinocket	639	3900	163.8
61	Houlton	1726	4600	375.2
62	Presque Isle	1663	6800	244.6
63	Fort Fairfield	608	4800	126.7
64	Caribou	931	3600	258.6
65	Madawaska	969	2400	403.8
66	Fort Kent	1621	2800	578.9
	COMMUNITY TOTAL	67,503	268,400	251.5

a) Patient day and population data for newborns are excluded from this tabulation.

b) Patient day data supplied by Maine Health Information Center.

c) Population data are 1980 projections produced by the Division of Data & Research, Bureau of Health Planning & Development, 1980 series.

Source: Bureau of Health Planning & Development Div. of Data & Research, January 1982.

This objective should be implemented in 1982 and the groups involved in its implementation should be expanded to at least include the Maine Medical Association, the Maine Hospital Association and the Health Facilities Cost Review Board.

Different standards for pediatric hospital use rates have been proposed, primarily for bed need planning and regulation.<sup>1</sup> Most of these suggest between 200 and 280 days of hospitalization per 1,000 children.<sup>2</sup> It seems reasonable that Maine can achieve and maintain a use rate of no more than 250 pediatric patient days per 1,000 population aged 0-14. The fourth standard is consistent with Standard 1.d. above for appropriate community inpatient use rates.

#### Footnotes

1. Pediatric Care Program Plan, Bureau of Health Planning and Development, Maine Department of Human Services, Augusta, Maine, 1979, p. 24.
2. Ibid, p. 26.

#### 4. Open Heart Surgery Services

##### a. Standard Relating to Development of Adult Open Heart Surgical Services

- No new adult open heart surgery program shall be approved in Maine unless it can be clearly demonstrated that such a program would perform a minimum of 200 adult open heart procedures per year within 3 years of initiation.

##### Discussion

Open heart surgery is a relatively new technique for the treatment of heart disease. It is an extremely complex procedure which can only be undertaken in a sophisticated hospital setting and with a highly practiced surgical team. Technical precision and acute decision-making skills are requisites of open heart surgery. These are best attained through comprehensive training and continuing experience. To maintain skill levels, each team must have a sufficiently large workload. Proliferation of open heart surgery programs could result in low volume programs and attendant staff inadequacies.

Open heart surgery is also very expensive. The nonpersonnel costs of establishing a program are in excess of \$1 million. Added to this are the personnel costs of the surgical teams as well as the costs of a wide range of ancillary and support services. For these reasons it is essential to restrict the development of open heart surgical programs to large, well-equipped, medical centers whose patient volumes are sufficient to ensure financial viability and high quality of care. A minimum level of activity of 200 procedures was recommended by the Inter-Society Commission for Heart Disease Resources and The Maine Regional Medical Program.<sup>1,2</sup> This is also the standard proposed nationally as a National Guideline for Health Planning.



The Maine Medical Center (MMC) in Portland is the only hospital offering open heart surgical services in Maine. Between 1972 and 1980, the annual number of open heart surgical procedures grew from 125 to 566. It is anticipated that in 1981, the number of procedures will increase to at least 630. (See Table 4). Virtually the entire increase has been the result of expansion in Cardiac Artery Bypass Graft (CABG) operations.

Table 4

<u>Year</u>	<u>Total Procedures</u>	<u>CABG Procedures</u>	<u>Non-CABG Procedures</u>
1972	125	3	122
1973	184	57	127
1974	238	127	111
1975	256	139	117
1976	336	212	124
1977	371	246	125
1978	427	286	141
1979	517	355	162
1980	<u>566</u>	<u>423</u>	<u>143</u>
Total	3,020	1,848	1,172

Source: Table originally prepared by the Maine Health Systems Agency, Inc., Revised September 1981, as follows:  
 1976-1979, MMC Discharge Database.  
 1980, Cardiac Surgery Department Database, MMC.

Maine Medical Center has received a Certificate of Need authorizing it to proceed to develop an additional eight intensive care unit (ICU) beds. The availability of these additional beds will enable MMC to perform a maximum of 1,000 open heart procedures a year. MMC is expected to be able to accommodate Maine's demand for open heart surgical services for the foreseeable future.

Ease of geographic access is not a critical concern in planning for open heart surgical services. The procedure is generally elective and it is extremely rare for a patient to require more than a single intervention of this type. Development of open heart surgical services at various geographic locations is not recommended at this time.

Maine Medical Center reports that its post-operative mortality rate for open heart surgical procedures (adult and pediatric combined) was 3.6% in 1978, 4.3% in 1979, and 4.9% in 1980. (Source: Cardiac Surgery Department Database, MMC).

Despite the apparent success generated by these outcome measures, considerable controversy surrounds the use of CABG. Since the early 1970's, increases in the number of open heart operations in this country have been due primarily to increased usage of the CABG procedures.<sup>3</sup> While CABG has been advanced as a major new therapy for victims of coronary heart disease, important questions remain regarding its true value. Some experts believe that medical, rather than surgical, management may be just as effective in preventing heart attacks.<sup>4</sup> There are two instances, however, where surgery appears to be the preferred treatment: (1) It is widely accepted that CABG surgery is superior to drug therapy in eliminating or reducing, at least temporarily, the pain associated with angina pectoris; and (2) surgery is preferable to medical management in the treatment of severe

blockage of the left main coronary artery, particularly if right coronary artery disease and/or impaired functioning of the left ventricle are also present.<sup>5</sup>

Studies are now underway to more clearly identify the value of CABG surgery as a treatment modality. The National Heart, Lung, and Blood Institute (NHLBI) is currently sponsoring a comprehensive study. Preliminary results from the NHLBI Project should be available within a year or two.

b. Standard Relating to Development of Pediatric Open Heart Surgical Procedures

- No new pediatric open heart surgery programs shall be approved in Maine unless it can be clearly demonstrated that such a program would perform a minimum of 100 pediatric heart operations per year, at least 75% of which should be open heart procedures.

Discussion

Open heart surgery for children is usually done to correct or moderate any number of congenital anomalies. The procedures are very complex and should be provided only in institutions offering a comprehensive array of services specifically for the care of sick children. Limiting procedures to sophisticated medical centers will help ensure sufficient volume to maintain financial viability and high quality care.

For reasons offered in the Discussion of Standard 4.a. above, regular and frequent performance of open heart surgical services and of ancillary support services and procedures are necessary to maintain programs of high quality. It is thus important to restrict the development of additional programs which might diminish the workload and consequently the quality of the existing programs.

Pediatric open heart surgery is presently provided only at the Maine Medical Center. The current annual caseload is approximately 36 procedures. (Source: Cardiac Surgery Department Database, MMC). This is not expected to vary greatly in the foreseeable future. No additional development of pediatric open heart surgical services is recommended at this time.

c. Standard Constraining the Development of Open Heart Surgery Services

- No new open heart surgery programs shall be approved in Maine until each existing program is performing, and is expected to continue to perform, at least 500 adult and 200 pediatric open heart procedures annually.

Discussion

It is the aim of this standard to constrain the development of new programs by encouraging existing programs to operate at full capacity. Geographic access to care, consequently, will be limited. Access, for the reasons mentioned earlier, is a far less important consideration than those relating to quality of care and costs, both of which can be maintained at a desirable level by limiting the number of programs.

For reasons offered in the Discussion of Standard 4.a. above, regular and frequent performance of open heart surgical services and of ancillary support services and procedures are necessary to maintain programs of high quality. It is thus important to restrict the development of additional programs which might diminish the workload and consequently the quality of the existing programs.

In addition, facilities make financial commitments to the establishment of open heart surgery programs. It is thus reasonable to expect all programs to operate at levels approaching service capacity and it would be uneconomical to permit the development of programs which would be underutilized or which might result in significant reductions in existing program workloads.

## REFERENCES

1. Inter-Society Commission for Heart Disease Resources, "Optimal Resources for Cardiac Surgery - Guidelines for Program Planning and Evaluation," *Circulation*, Vol. 52: (November, 1975).
2. Maine Regional Medical Program, Report of the Cardiovascular Standards Committee, Subcommittee on Standards for Cardiac Surgery, March 25, 1974.
3. Brown, Johathan B., Issues in Planning and Regulating Cardiac Surgery and Diagnosis Program in Massachusetts, A Preliminary Working Paper for the Task Force on Acute Care Standards and Measures. Massachusetts Office of State Health Planning, February 9, 1979.
4. McIntosh, H.D., and Garcia, J.A., Special Article: The First Decade of Aorto-coronary Bypass Grafting, 1967-1977: A Review. *Circulation* 57:405 (1978).
5. Takaro, T., Hultgren, H.N., et.al., The VA Cooperative Randomized Study of Surgery for Coronary Occlusive Disease, II. (Suppl. III): III-107 (1976).
6. Source: December 6, 1978 letter from Dr. Clement A. Hiebert to Dr. Peter J. Leadley, Medical Director, Pine Tree Organization for Professional Standards Review, Augusta, Maine.

### Description of the Coronary Artery Bypass Graft Procedure

Coronary artery disease is the end result of narrowing of the arteries serving the heart muscle. Gradual narrowing or occlusion of the arteries comes about as fatty substances in the blood are deposited in the arterial walls. The process of deposit buildup is called atherosclerosis and may be observed to have begun in children as young as 3 years of age. With growing occlusion of the coronary artery, blood flow is reduced to tissues lying beyond the point of blockage. If blockage becomes severe, affected tissues become ischemic, or deprived of blood. At some point, some or all of the heart tissues fed by the afflicted artery may die and eventually become scar tissue.

Recently, a new operation has been developed to help victims of coronary artery disease (CAD), the process of atherosclerotic buildup in the coronary arteries. This is called the coronary artery bypass graft (CABG) operation. The technical objective of CABG surgery is to reroute the blood flow around, or bypass, the portions of the artery with atherosclerotic deposit buildup, thereby increasing the volume of oxygenated blood available to the heart muscle. This is accomplished by attaching (grafting) one end of a vessel taken from elsewhere in the patient's body to the aorta (the large artery leading directly out of the heart), and the other to the coronary artery at a site beyond the point of obstruction.

## 5. Cardiac Catheterization Services

### a. Standard Relating to Minimum Caseload for Adult Cardiac Catheterization Units.

- Minimum of 300 cardiac catheterizations, of which at least 200 should be intra-cardiac or coronary artery catheterization performed per year in an adult unit within 3 years of initiation.

### Discussion

Cardiac catheterization is a unique tool for diagnosing certain types of heart conditions and diseases. Cardiac catheterization is costly. Sufficient patient volume must be maintained because the procedure must be performed regularly and frequently in order to maintain physician proficiency. Additionally, catheterization of the heart and coronary arteries is only one of several procedures used in comprehensive cardiac diagnosis and treatment programs. The availability of a variety of other professional and ancillary support services is requisite to the provision of high quality care. For these reasons the service should be concentrated at a small number of major institutions.

The costs of catheterization services depend heavily on facility and equipment expenses. A well equipped procedure room costs nearly \$1 million. This includes building space, X-ray equipment, cameras, generators, an electrocardiograph and film processor. Procedure related expenses can be greatly reduced, however, if catheterizations are done in a general angiography suite, rather than in a dedicated room. A general angiography suite can be augmented to perform catheterizations by the addition of a sophisticated movie camera, costing about \$50,000.

Currently, three hospitals in Maine offer adult cardiac catheterization services: Central Maine Medical Center (CMMC) in Lewiston; Eastern Maine Medical Center (EMMC) in Bangor; and Maine Medical Center (MMC) in Portland. Eastern Maine and Central Maine offer this procedure in general angiography suites; Maine Medical Center, on the other hand, has two dedicated rooms. Table 5 shows the number of adult procedures performed at these three sites from 1978 to 1981. Physicians performing cardiac catheterizations are all either board certified or board eligible.

Table 5

	<u>CY 1978</u>	<u>CY 1979</u>	<u>CY 1980</u>	<u>CY 1981</u>
MMC	723	763	844	900 <sup>b</sup>
EMMC	286	473	619	724 <sup>b</sup>
CMMC <sup>a</sup>	55	120	148	121 <sup>c</sup>

<sup>a</sup>Procedures recorded by FY, July-June.

<sup>b</sup>Projections based on first six months of CY 1981.

<sup>c</sup>One of the two cardiologists left during the year; this affected the number of procedures; recruitment efforts are underway.

Although not without risk, cardiac catheterizations are a relatively safe procedure. Procedure-related mortality was non-existent at CMMC, although a morbidity rate of between 3.0 and 5.0 percent was reported. MMC reported a 0.3 percent mortality rate and EMMC reported a 0.4 mortality rate. These figures compare favorably with experiences reported at other institutions.<sup>1</sup>

Geographic accessibility to services is a major concern in a rural state such as Maine. Slightly less than 40 percent of the State's population resides more than one hour drive to the hospitals now offering cardiac catheterization services.



Only 25 percent live more than 1-1/2 hours away from the existing sites. The current workload of the three hospitals and their geographic locations suggest that neither quality nor accessibility of care will be jeopardized by the adopting of this standard.

b. Standard Relating to Minimum Caseload for New Pediatric Cardiac Catheterization Units

- A minimum of 150 pediatric cardiac catheterizations performed per year at new units within three years of unit initiation.

Discussion

Pediatric cardiac catheterizations are generally provided at institutions offering comprehensive special medical and surgical services for children. Only at these facilities will procedure volumes be sufficient to support quality services at reasonable costs.

The Maine Medical Center (MMC) in Portland is the sole provider of pediatric cardiac catheterization services in Maine. The MMC also operates the state's single Level III neonatal special care unit and has specialists in pediatric cardiology, anesthesiology and surgery on its medical staff. In 1978, 1979, and 1980 respectively, 192, 173, and 147 pediatric cardiac catheterizations were performed. These are in addition to the adult procedures, shown on Table 5 above. Although there appears to be a gradual downward trend in demand for invasive procedures because of the increased availability of noninvasive procedures, it is clearly important that cardiac catheterization be available in-state to Maine's children. Due to the relative infrequency of demand for this service, the costs of providing it, and the desirability of locating it at hospitals which deliver a variety of other special services for children, no additional development of pediatric cardiac catheterization service programs is recommended at this time.

c. Minimum Standard Relating to Numbers of Procedures Required for Establishment of Cardiac Catheterization Unit

- No new cardiac catheterization units shall be approved until each existing adult unit is performing 500 procedures per year, and the pediatric unit is performing 250 procedures.

Discussion

This standard recognizes the desirability of limiting the number of cardiac catheterization labs in order to both ensure high quality of care and financial viability.

As noted in the Discussion of Standard 5.a. above, regular and frequent performance of cardiac catheterization is essential to the maintenance of high quality programs. It is thus important to restrict the development of programs which might diminish the workload and consequently the quality of existing programs.

The financial investment in existing labs must also be considered. It would be wasteful of increasingly scarce health care resources to permit the development of new programs which would diminish the workload in existing units. New laboratories can only be approved if current usage levels warrant expansion. Consequently, the minimums in the above standard have been set considerably higher than those set for the establishment of an initial catheterization unit.

Footnotes

1. Hansing, C.E., "The Risks and Costs of Coronary Angiography in Satellite Laboratories," Circulation, pp. 57-58 (Sub II:II-80); 1978; and Bourassa, M.C., and J. Noble, "Complication Rates of Coronary Arteriography: A Review of 5,240 Cases Studied By A Percutaneous Femoral Technique," Circulation 53:106, 1976.



### Description of the cardiac catheterization procedure.

Cardiac catheterization is accomplished by inserting a catheter ( a hollow plastic tube) into a blood vessel and sliding it through the vessel until the tip of the catheter enters the heart. The usual points of entry of the catheter into the circulatory system are in the thigh (the femoral artery) or one of the brachial veins running through the upper arm.

A catheter inserted into the femoral artery will enter the left side of the heart while entry through the veins will lead to the right side chambers. As desired, the catheter may be moved into an auricle or ventricle, or into the site of commencement of the pulmonary artery or of one of the coronary arteries.

The catheterization procedure collects two basic kinds of data on the heart, physiologic and anatomic. Physiologic studies include gathering information on intracardiac blood pressures, blood samples, and electrical impulses. Detailed understanding of the internal structures of the heart can only be done by cardiac catheterization. Radiopaque dyes (impenetrable by X-rays) are injected through the catheter tip into the desired area. An X-ray of the heart then outlines in fine detail the portion of the heart under study. A television, movie camera (cine camera) or spot camera (single pictures) records the images generated by the X-rays. Moving pictures of the heart as it operates help evaluate performance of the heart valves, the heart walls and the flow of blood through the heart. Imaging can be done to determine the presence and extent of arteriosclerotic deposits in the coronary arteries. This procedure is called coronary angiography or coronary catheterization.

## 6. Megavoltage Radiation Therapy Services

### a. Standard Relating to Minimum Number of Cases Served Annually

- A megavoltage radiation therapy program should serve a population of at least 150,000 persons and treat at least 300 new cancer cases annually, within 3 years after initiation.

#### Discussion

This standard aims to concentrate sophisticated and expensive radiation therapy services at several large regional hospitals both to enhance the quality of care and contain the cost of services.

Radiation is one of three basic therapies for treating cancer. The others are surgery and chemotherapy. Selection of appropriate treatment depends on the type, location and progression of the disease. Trends in cancer treatment indicate an increased preference for utilizing two or more consecutive or concurrent therapies.

The relative scarcity of physicians trained in the treatment of cancer makes it difficult for hospitals to offer a well integrated multi-treatment program. Because an integrated multi-treatment program is clearly beneficial, megavoltage units should be limited to institutions offering a comprehensive cancer care program.

Substantial capital costs are required to develop megavoltage radiation programs. Apart from building space, three additional major expenses are for purchasing a treatment device, a therapy simulator and provision of computer planning capability. Megavoltage therapy machines vary in their sophistication. A linear accelerator can generally be purchased for between \$300,000 and \$400,000 and a cobalt-60 unit for about \$160,000. A treatment simulator, used to accurately define the boundaries of the tumor site, costs about \$250,000.

Megavoltage radiation therapy services are provided at seven Maine hospitals. Table 6 displays the number of new radiotherapy patients, the total patients and the number of treatments for 1980.

Table 6  
New Patients, Total Patients and  
Total Treatments at Radiotherapy Units  
Maine, CY1980<sup>a</sup>,

<u>Hospitals</u>	<u>New Patients</u>	<u>Total Patients</u>	<u>Total Treatments</u>
Maine Medical Center	925	1,311	17,171
Central Maine Med. Center	158 <sup>b</sup>	173	3,675 <sup>b</sup>
St. Mary's Gen. Hospital	82 <sup>b</sup>	120	2,896
Kennebec Valley Med. Center	69	187	5,054
Mid Maine Medical Center	142	186	2,383
Eastern Maine Med. Center	-	401	9,099 <sup>c</sup>
Aroostook Medical Center	58	71	1,468

<sup>a</sup>Unless otherwise noted, data acquired directly from hospital.

<sup>b</sup>Data taken from CON applications.

<sup>c</sup>EMMC's linear accelerator was only in operation for 8 months during 1980.

Source: Bureau of Health Planning and Development, Maine Department of Human Services, October, 1981

Several years ago Maine's largest hospitals cooperated in the creation of a state-wide Radiation Therapy Task Force. Its purpose was to identify the need for radiation therapy services in Maine. One of its recommendations was that each megavoltage device be supported by at least 300 new patients annually.<sup>1</sup> This recommendation is in conformity with the standard proposed by the National Guidelines for Health Planning but is somewhat more stringent in suggesting that the standard

be based on new patients rather than all patients. As the total number of radiotherapy patients treated at an institution is generally 10 to 30 percent greater than the number of new patients, a larger minimum workload was recommended by the Task Force. It is the Task Force's recommendation which is the basis for this standard.

Costs of service and quality of care must be weighed against the need to ensure reasonable accessibility. This is an important element in health care planning in a rural state. Slightly less than 29 percent of all Maine residents live more than one hour travel time from one of the seven hospitals offering megavoltage therapy. Only 12 percent live in excess of an hour and a half drive from these seven sites. With the exception of Aroostook County, each region meets the minimum patient volume to support a single megavoltage device.

The 1980 and 1981 State Health Plan for Maine dealt with the need for a single radiation therapy program in the Lewiston (Region II) area. The Plan encouraged the two area hospitals, St. Mary's and Central Maine Medical Center (CMMC), to undertake a joint planning effort and to submit a joint Certificate of Need application for the provision of megavoltage radiation therapy. The hospitals undertook a joint planning effort, became committed to a single facility, but were unable to agree on the location of that facility. The hospitals submitted competing certificate of need proposals and requested that the Department of Human Services resolve the dispute, both for the good of the community and so that work could proceed on the provision of this service.

At a public hearing conducted by the Department of Human Services prior to the review decision, each applicant stated that should it not be awarded the certificate of need, it intended to phase out its radiation therapy services. This was in recognition of the fact that new equipment would provide superior service and that physicians would refer patients to the best available service.

On September 4, 1981, Commissioner Petit approved the CMMC application and disapproved the application from St. Mary's. Bureau of Health Planning's analysis of the proposals showed them to be roughly equal relative to annual operating cost to the community. The decision was thus based on a variety of other considerations; these are enumerated in detail in the analysis.

b. Standard Relating to Approval of Additional Programs

- No new megavoltage therapy programs should be approved in a region if, by their creation, the patient volume in existing programs would be reduced to less than 300 new cases per year, either initially or within three years of the new installation.
- There should be no additional megavoltage units approved unless each existing megavoltage unit in the health planning region is performing at least 6,000 treatments per year.

Discussion

These standards were established to control the purchase of costly equipment. In conformity with the National Standards for Health Planning, this standard assures that the development of new megavoltage radiation therapy programs will not result in workload reductions, below a minimum volume, at existing units.

The standards also recognize the need for regionalization by imposing the 6,000 treatment standard per unit only within each program's clearly defined service area rather than state-wide. Therefore, a megavoltage device in Portland which is generating fewer than 6,000 annual treatments will not prevent the approval of new equipment elsewhere in the state if the need for such equipment can be demonstrated in that region.



c. Standard Relating to Minimum Support Personnel.

Minimally, a radiation therapy program should have available:

- Medical consultation to each patient by a multidisciplinary team of health professionals;
- At least one full-time radiotherapist;
- Full-time support specialists such as radiation therapy technicians; and
- Part-time services of a qualified radiophysicist.

Discussion

These standards represent minimum expectations for either a developing or an ongoing radiation therapy program. Similar positions have been taken by numerous groups studying radiation therapy services, including the Radiation Therapy Task Force.<sup>2</sup>

d. Recommendations for Region V

- The existing radiation therapy capability in A.R. Gould Hospital on Region V should be maintained, but not expanded.
- Formal professional support and referral systems be established between Aroostook County physicians and those at other radiation therapy installations to insure that quality radiation therapy services are available to Region V residents.

Discussion

These recommendations, drawn verbatim from the Radiation Therapy Task Force Report<sup>3</sup>, recognize that special circumstances surround the provision of services to the residents of Aroostook County. While there is a megavoltage radiation therapy program already in operation in Region V (A.R. Gould Memorial Hospital), it is underutilized when standards used to measure the workloads at other units are applied.

The great distances between A.R. Gould in Presque Isle and other cities in Aroostook, as well as the distance between Presque Isle and its nearest megavoltage unit in Bangor, make it appropriate to maintain the A.R. Gould Program despite its low utilization. Currently, many Region V cancer patients, for whom radiotherapy is a possible course of treatment, are sent to the Maine Medical Center (MMC) in Portland for initial evaluation and design of a treatment regimen. In addition, radiotherapists at the MMC provide regular consultation services to the general radiotherapist at A.R. Gould Memorial Hospital.

#### FOOTNOTES

1. "A Program for Megavoltage Radiation Therapy Services in the State of Maine," The (Maine) Radiation Therapy Task Force, February, 1978.
2. Ibid.
3. Ibid.

## Descriptive Information Taken From the 1981 State Health Plan

### Description of Radiation Therapy

The use of ionizing radiation in the treatment of human cancers is best described in relationship to other treatment modalities. In addition to radiation therapy, surgery, toxic drugs and the body's own natural immune system may be employed to arrest cancers. Because of the important differences in cancer type, and tumor location and size, each patient must be treated somewhat differently. To determine the appropriate course of treatment, a cancer is staged, or evaluated as to its progress. The stage of a cancer will depend on how deeply it has penetrated an organ and the degree of spread to neighboring and distant structures. In general, the more advanced the cancer (the higher its stage), the lower the probability of complete cure of the disease. Unfortunately, 60% to 70% of all newly diagnosed cancers have already metastasized, making treatment more difficult and cure less likely. Using the stage of the cancer and knowledge of the peculiar characteristics of the cancer as guides, under ideal circumstances a group of physicians representing skills in surgery, radiotherapy, internal medicine and pathology devise an appropriate course or care.

Exposure to ionizing radiation kills cancer cells, as well as normal cells. Little is understood concerning the exact working of this process, but the ultimate effect of radiation is to critically damage the cell's ability to reproduce and replace itself. Radiation also may destroy cells indirectly by destroying the microscopically small blood vessels which serve them. Different tissues exhibit different sensitivities to radiation. That is, the cells of some tissues (such as muscle) can absorb greater amounts of radiation without internal damage than can others (such as bone marrow). The objective of radiation therapy is to deliver a dose of radiation of sufficient strength to destroy cancerous tissues without unduly injuring healthy neighboring tissues. Some normal

tissue around the tumor will always be irradiated because of radiation scatter and because of the difficulty in precisely defining the boundaries of the tumor.

Two characteristics of cancer cells play an important part in determining the amount of radiation used in therapy. First, cancer cells are more sensitive to radiation than are the normal cells in the same tissue. This means that the therapist can choose an amount of radiation which is just high enough to kill the cancer cells, but not so high as to cause lethal damage to surrounding normal cells. Second, cancer cells which have not been fatally damaged by radiation recover less rapidly than do damaged normal cells. Knowing that damaged cells are much more sensitive to radiation, the therapist will irradiate the tumor again at a time before the damaged cancer cells have repaired themselves, but after the previously injured normal cells have recovered.

## 7. Computed Tomography Services

- a. Standard relating to the determination of level of patient need for CT scanning.

THE LEONARD METHODOLOGY SHALL BE USED TO FORECAST ESTIMATED NEED FOR CT SERVICES BY PATIENTS IN A HOSPITAL OR IN A GROUP OF HOSPITALS.

### Discussion

When considering the concept of need for a service, an important distinction must be made between the need of a particular population for the service and the ability and propriety of a particular provider to provide the service in a high quality fashion at a reasonable cost to a sufficient number of patients to justify the establishment of the service. The need of some number of patients for a service can often be shown to exist, although the level of need may not be sufficient to warrant establishing a service as a means of meeting the needs of those patients. Such a level of need may be more appropriately met by other means (e.g., by referring patients to existing services) or may only be met at a cost which is considered excessive in relation to the benefits of the proposed service. This distinction must be kept in mind when considering the need for CT services. The most generally accepted method for measuring the need of a particular population for CT services is the Leonard Methodology.<sup>1</sup> This method utilizes historical hospital inpatient records (discharge data) to estimate the level of CT services which will appropriately be needed by the hospital's patients in the future. Thus, any hospital, no matter

<sup>1</sup>The Leonard Methodology was developed by Sheldon Leonard, a physicist and ultrasonographer employed by General Electric Corporation.

how small, will show through its discharge data some number of patients who will benefit from (or need) CT services. The Leonard Methodology merely permits an estimate to be made of that level of predicted utilization or need. The method does not imply or state that a service should be established to meet that utilization or need. It is necessary to supplement the Leonard Method with other standards regarding such criteria as minimum utilization, cost, quality of care, and availability of CT services elsewhere in order to determine if the establishment of a new CT service is justified.

The Leonard Methodology has been shown to be an accurate predictor of utilization at facilities which house a CT service. The methodology states the need for CT scanning by patients in a facility as either patient procedures or Head Equivalent CT Units (HECTs). The Leonard Methodology is adaptable because it allows new diagnoses to be added to the list of diagnoses for which CT is an appropriate diagnostic tool as changes in the technology are introduced. The facility proposing to house the CT service may use its own discharge data alone or combine its discharge data with those from other nearby hospitals to show the estimated need by patients in an area. Hospitals which combine their discharge data to forecast a patient need which meets a minimum utilization level for a CT service are obligated to demonstrate to the Department of Human Services that each facility providing discharge data participated in joint planning and agreed to joint use of the CT service.

b. Standard relating to the unit of measurement for CT utilization and need.

FORECASTED UTILIZATION DETERMINED BY THE LEONARD METHODOLOGY SHALL BE EXPRESSED IN HEAD EQUIVALENT CT UNITS (HECTs).

Discussion

The short history of CT use in this country has witnessed major advancements in the technology of CT scanners and an evolutionary change in the terminology associated with it. The early term used to describe CT use and need was patient procedure. Many felt that a more precise term was needed which would account for time variations associated with performing various kinds of scans. In response to the need for a more accurate measurement, the National Electrical Manufacturers Association proposed a more standardized measure which has received wide acceptance nationally. That measure, the Head Equivalent CT unit or HECT, takes into account time variations in the performance of head and body scans and the use of contrast material. A head scan without contrast is used as a baseline and given a weight of 1.00. All other scans require more time and are weighted accordingly.

The HECT formula can be applied when the number of enhanced, unenhanced, and dual CT studies is known or when information is available on the number of head, body, or total studies. A factor of 1.70108 is applied when the only known factor is the total number of patient procedures.

c. Standard relating to minimum acceptable utilization.

A MINIMUM ANNUAL UTILIZATION OF 4,000 HECTS MUST BE ACHIEVED WITHIN THREE YEARS OF UNIT INSTALLATION. FACILITIES MUST DEMONSTRATE A THEORETICAL ANNUAL UTILIZATION OF AT LEAST 4,000 HECTS BASED ON ESTIMATED UTILIZATION AS CALCULATED ACCORDING TO STANDARD "A" AND EXPRESSED ACCORDING TO STANDARD "B" ABOVE AT THEIR OWN UNIT OR AGGREGATED FOR SEVERAL COOPERATING HOSPITALS. HOSPITALS AGGREGATING THEIR DISCHARGE DATA MUST BE ABLE TO DEMONSTRATE JOINT PLANNING AND A JOINT PLAN FOR THE USE OF THE PROPOSED CT SCANNER. EXCEPTIONS TO THIS MINIMUM UTILIZATION TO THE LEVEL OF 3,500 HECTS SHALL BE CONSIDERED FOR FACILITIES WHICH CAN PROVIDE THIS SERVICE WITHIN THE COST PARAMETERS ESTABLISHED IN STANDARD F.

Discussion

Establishing a minimum acceptable utilization requirement for CT scanners is necessary because of the high purchase price and operating costs associated with CT scanner services and to insure that the CT scans performed are of high quality. The proposed minimum acceptable utilization attempts to strike a balance between the benefits and costs of CT. The operation of the unit at an acceptable utilization will assure that the very high capital and operating costs of CT are spread out over an appropriate number of patients. The minimum utilization level in the standard is sufficient to assure that the service will be available for emergencies and support the highly trained staff required by a high quality CT scanner service. At the same time, the need survey performed by Sheldon Leonard for the Maine Health Systems Agency, Inc. Appropriateness Review Task Force indicated that a sufficient number of Maine hospitals, either using their own data or aggregating data from nearby hospitals, will satisfy this utilization requirement to assure increased accessibility to CT in Maine.

Table 1 displays 1980 utilization information. It includes the number of hospital inpatients expected to benefit from a CT scan and estimated utilization expressed in procedures and HECTs. The table also includes data on other facility-related characteristics. As expected, Maine's



largest institutions have the greatest expected utilization of CT. These hospitals are also most likely to have a staffed emergency room available to support the necessary 24-hour emergency availability of the CT scanner. Figure 1 is a graphic presentation of the estimated utilization information for Maine hospitals. Maine's present scanning capability is also shown.

The 4,000 HECT minimum utilization figure is based on a review of national guidance, estimated facility utilization in Maine, and a theoretical model of CT unit performance based on a series of fixed and varied assumptions. The model was developed as part of the Maine State Health Coordinating Council's study of CT and has received wide review and acceptance. As seen in Table 2, the model demonstrates that units operating fifty weeks per year (allows for holidays); six days per week; eleven hours per day, with approximately five percent down time during scheduled hours of operation, could perform 4,053 HECTs if the unit has a 75 percent saturation\* level. The table also indicates that a greater performance level may be achieved by either increasing hours of unit operation or seeing a greater number of patients (increasing percent of unit saturation) during scheduled hours.

The standard requires that hospitals which aggregate their estimated utilization data to achieve the minimum utilization level engage in joint planning for the initiation of the CT service and the cooperative use of the machine. Joint planning is important because it helps assure that the area's estimated utilization level is achieved, thus assuring an appropriate level of care for area residents. Traditionally, inpatients

\*Saturation refers to the percentage of time of unit operation that patients are seen.

at facilities without a scanner located on-site do not receive scanning services at the same level as inpatients at facilities with scanners on-site. Cooperating hospitals should thus be able to demonstrate that inpatients at all sites have equal access and pay similar rates for use of the CT scanner.

The standard contains an exception for facilities whose estimated utilization level is at least 3,500 HECTs and which can meet the cost criteria in Standard F. The exception recognizes that cost is a key reason for establishing minimum utilization levels. It recognizes that scanners may be purchased and operated under widely varying costs. However, by stating an absolute minimum utilization level, the standard acknowledges that the quality of patient care may become inadequate at low machine volumes. Facilities which meet the cost minimum at the lower volume must also demonstrate that this cost level can be maintained on a long-term basis.

d. Standard relating to establishing new units.

NO NEW SERVICES SHALL BE ESTABLISHED IF, BY THEIR ESTABLISHMENT, EXISTING SERVICES WILL HAVE THEIR UTILIZATION LOWERED BELOW THE RELEVANT MINIMUMS ESTABLISHED IN STANDARD C. ABOVE OR THEIR COSTS RAISED ABOVE THE MAXIMUMS ESTABLISHED UNDER STANDARD F. BELOW.

Discussion

This standard helps to insure that health care resources will be used in an economical and efficient manner. Communities cannot afford to support costly services which duplicate existing services. It would thus be imprudent to develop additional CT scanning services which would reduce workloads of existing services below minimum utilization levels or raise average procedure costs of existing services above reasonable levels.

Table 1

CT Utilization Estimate for the State of Maine  
 Prepared by Sheldon Leonard, January 1982  
 Based on 1980 Hospital Discharge Data

Hospital & Town	Beds	I.P.* Admissions	1980 % Occupancy (Acute Care)	# I.P. Requiring CT	Tot. CT Procedures	Total HECTs
<u>Androscoggin County</u>						
Central Maine Medical Center Lewiston	239	9,220	67.51	758	2,221	4,136
St. Mary's General Hospital Lewiston	233	7,967	62.83	474	1,484	2,805
<u>Aroostook County</u>						
Cary Medical Center Caribou	65	3,474	89.08			
Houlton Regional Hospital Houlton	75	2,659	62.09			
Northern Maine Medical Center Fort Kent	70	2,630	56.59			
The Aroostook Medical Center Presque Isle	110	4,057	61.37			
Van Buren Community Hospital Van Buren	29	781	46.28			
				All Aroostook Hospitals		
				1,148	3,095	5,737
<u>Cumberland County</u>						
Maine Medical Center Portland	525	21,455	90.61	1,965	5,912	11,390
Mercy Hospital Portland	176	7,198	78.57	549	1,649	3,225
Northern Cumberland Mem. Hospital Bridgton	34	1,967	73.18	154	436	806
Osteopathic Hospital of Maine Portland	160	6,547	89.31	573	1,686	3,275
Parkview Memorial Hospital Brunswick	58	2,735	68.64	153	454	956
Regional Memorial Hospital Brunswick	90	3,220	61.21	290	836	1,535
Westbrook Community Hospital Westbrook	30	817	61.77	37	127	242

\*I.P. = Inpatient

Table 1 (Con't.)

Hospital & Town	Beds	I.P. Admissions	1980 # Occupancy (Acute Care)	# I.P. Requiring CT	Tot. CT Procedures	Total HECTs
<u>Franklin County</u>						
Franklin Memorial Hospital Farmington	60	2,962	77.12	187	485	890
<u>Hancock County</u>						
Blue Hill Memorial Hospital Blue Hill	24	1,534	89.79	87	240	449
Castine Community General Castine	12	306	40.08	47	109	177
Maine Coast Memorial Hospital Ellsworth	64	1,943	51.27	199	540	990
Mount Desert Island Hospital Bar Harbor	66	2,452	68.09	201	550	1,016
<u>Kennebec County</u>						
Kennebec Valley Medical Center Augusta	220	9,274	71.37	852	2,435	4,625
Mid-Maine Medical Center Waterville	301	12,088	84.20	853	2,452	4,592
Waterville Osteopathic Hospital Waterville	78	3,449	75.29	206	562	1,059
<u>Knox County</u>						
Camden Community Hospital	33	1,177	55.55	108	280	510
Penobscot Bay Medical Center Rockland	106	4,663	75.43	381	1,027	1,958
<u>Lincoln County</u>						
Miles Memorial Hospital Damariscotta	36	1,221	44.42	108	301	549
St. Andrews Hospital Boothbay Harbor	32	943	46.50	91	240	427
<u>Oxford County</u>						
Rumford Community Hospital Rumford	97	3,275	60.91	217	614	1,147
Stephens Memorial Hospital Norway	50	2,465	85.72	190	556	1,067
<u>Penobscot County</u>						
Eastern Maine Medical Center Bangor	349	13,810	89.18	1,496	4,280	7,838

Table 1 (Con't.)

Hospital & Town	Beds	I.P. Admissions	1980% Occupancy Acute Care	# I.P. Receiving CT	Tot. CT Procedures	Total HECTs
James A. Taylor Osteo. Hospital Bangor	60	1,269	38.60	51	169	335
Millinocket Community Hospital Millinocket	50	2,191	59.02	179	467	840
Penobscot Valley Hospital Lincoln	44	2,145	67.23	115	300	529
Plummer Memorial Hospital Dexter	13	295	31.92	22	58	102
St. Joseph's Hospital <sup>1</sup> Bangor	130	5,135	80.97			
<u>Piscataquis County</u>						
Charles A. Dean Mem. Hospital Greenville	14	205	25.36	11	25	42
Mayo Regional Hospital Dover-Foxcroft	52	2,964	76.79	210	522	992
<u>Sagadahoc County</u>						
Bath Memorial Hospital Bath	92	2,440	42.25	202	564	1,040
<u>Somerset County</u>						
Redington-Fairview Gen. Hospital Skowhegan	92	3,572	69.26	267	746	1,389
Sebasticook Valley Hospital Pittsfield	36	1,203	57.44	106	276	487
<u>Waldo County</u>						
Waldo County General Hospital Belfast	58	1,916	52.71	164	431	789
<u>Washington County</u>						
Calais Regional Hospital Calais	77	3,161	61.22	187	512	920
Down East Community Hospital Machias	38	1,846	85.47	394	963	1,771
Eastport Memorial Hospital Eastport	8	35	5.25			

Table 1 (Con't.)

Hospital & Town	Beds	I.P. Admissions	1980 % Occupancy (Acute Care)	# I.P. Receiving CT	Tot. CT Procedures	Total HECTS
<u>York County</u>						
Henrietta D. Goodall Hospital Sanford	82	3,121	66.52	204	603	1,127
Webber Hospital Biddeford	150	5,544	80.91	509	1,378	2,571
York Hospital York	68	2,608	74.74	225	565	1,029
TOTAL	4,486	175,939		14,170	40,150	75,364

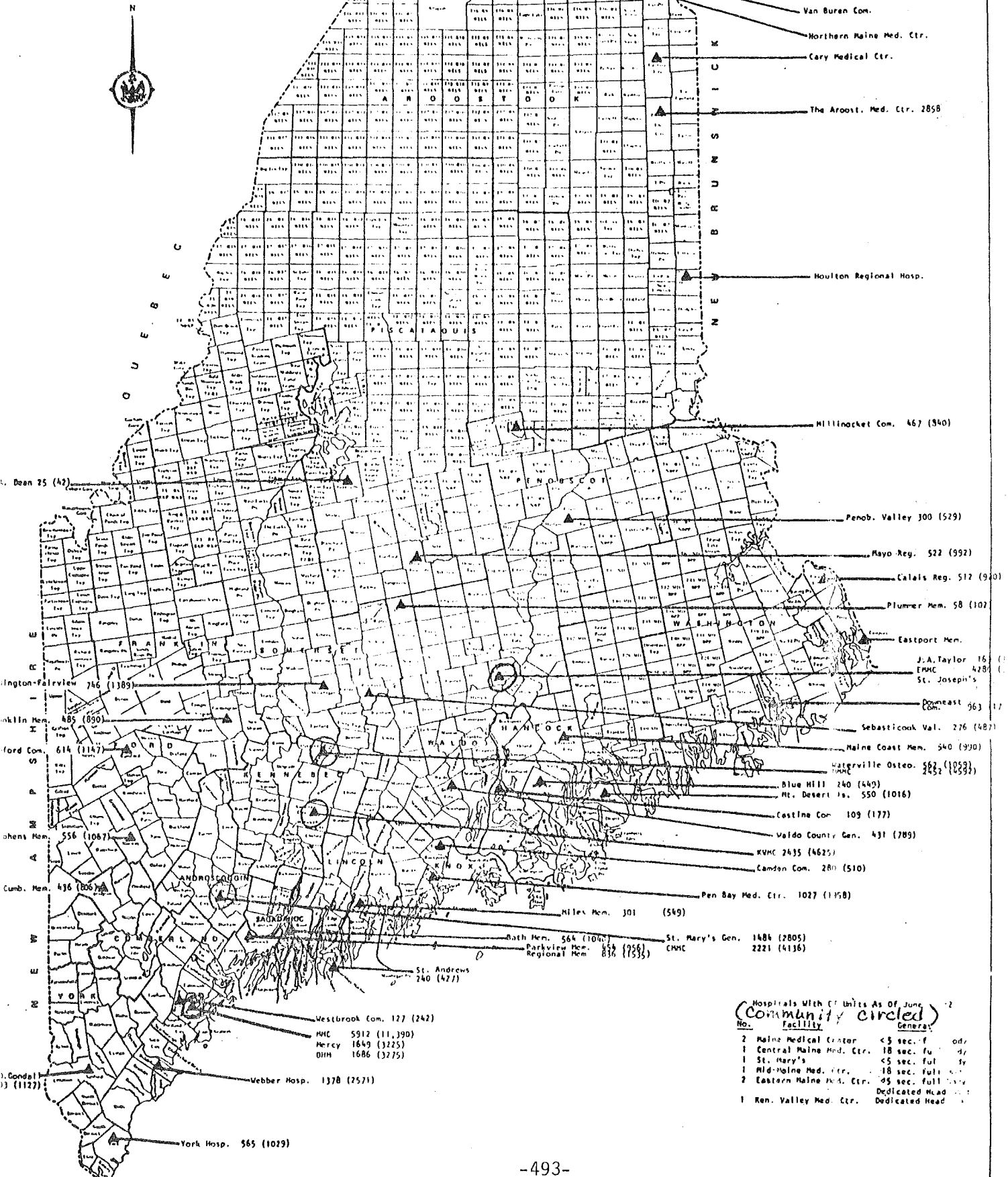
Source: Data in columns 1, 2, 3: Maine Health Facilities Resources and Utilization, 1980, Bureau of Health Planning and Development, Division of Data and Research.

Data in columns 4, 5, 6: Summarized from information presented to the Maine Health Systems Agency Appropriateness Review Task Force on CT scanning by Sheldon Leonard of the General Electric Corporation.

<sup>1</sup> St. Joseph's Hospital did not participate in the need study performed by the Maine Health Systems Agency's Appropriateness Review Task Force. This facility has since requested a CT need analysis based on 1981 data. The estimated need for St. Joseph's Hospital based on its 1981 data is 1,671 patient procedures and 3,285 HECTS.

Figure 1

Map 1  
 Estimated Utilization in Procedures & (HECTs)  
 of CT Units in Maine Prepared for the  
 Maine Health Systems Agency  
 CT Appropriateness Review Task Force  
 Using 1980 Discharge Data by Sheldon Leonard  
 Jan. 1982



Hospitals With CT Units As Of June 1982  
 (Community Circled)  
 No. Facility General

2	Maine Medical Center	< 3 sec. full	od
1	Central Maine Med. Ctr.	18 sec. full	dy
1	St. Mary's	< 5 sec. full	dy
1	Mid-Maine Med. Ctr.	18 sec. full	dy
2	Eastern Maine M.A. Ctr.	< 5 sec. full	dy
1	Ken. Valley Med. Ctr.	Dedicated Head	dy

Table 2

Number of HECTs Which Can be Performed  
At CT Units Based on the Following Assumptions\*

- 1) Units operate 50 weeks per year
- 2) Units operate 6 days per week
- 3) 1 HECT = 35 minutes = .58 hours
- 4) % of scheduled time machine is down = 5%

	Hours of Operation per Day			
	10	11	12	14
Total hours per year	3000	3300	3600	4200
Hours per year assuming 5% down time	2850	3135	3420	3990

## 75% Saturation\*\*

# of hours	2137.5	2351	2565	2992.5
# of HECTs	3685	4053.4	4422.4	5159

## 85% Saturation

# of hours	2422.5	2664.8	2907	3391
# of HECTs	4176.7	4594.4	5012	5847.4

## 95% Saturation

# of hours	2707.5	2978.3	3249	3790.5
# of HECTs	4668.1	5135	5601.7	6535.3

- \* a. Assumptions 1,2,3 have been used to develop minimum utilizations by the National Council on Health Planning.  
b. Assumption 4 is an estimate of unscheduled down time, primarily for repairs.

\*\* The term saturation refers to the percentage of time of unit operation that patients are seen.



e. Standard relating to operation of mobile units.

MOBILE UNITS SHOULD BE SCHEDULED TO BE AVAILABLE TO EACH HOSPITAL IN THE CIRCUIT AT LEAST TWO DAYS PER WEEK WITH AT LEAST TWO DAYS BETWEEN EACH VISIT.

Discussion

Mobile CT units were developed as a means of providing CT services to several institutions which individually may not have the volume necessary to justify a fixed CT scanner. Generally these would be the smaller hospitals in Maine. Mobile CT may also play a role in providing CT services to moderate and large institutions, especially when the institutions are located in close proximity to one another.

For smaller institutions, mobile CT is a means of providing greater access to CT for their patients. Because patients are admitted each day of the week, substantial patient waiting time could result while the patient waits for the scheduled visit of the scanner. This wait could result in a greater than optimal time requirement for diagnosis, necessitate a greater length of stay in the hospital, and delay transfer to a higher level of care for those requiring it. This situation may result in lower quality of medical care and increased health care cost. It is, therefore, desirable for a mobile CT scanner to be available at least two days a week with several days between visits so that patient waiting time and costs are maintained at a reasonable level.

f. Standard relating to cost.

1. FIXED SCANNERS - THE ANNUAL AVERAGE COST PER PROCEDURE AS DEMONSTRATED IN THE SECOND YEAR COST SHALL NOT EXCEED \$210 PER PROCEDURE IN 1982 DOLLARS FOR THE FOLLOWING CATEGORIES PROVIDED IN CERTIFICATE OF NEED APPLICATIONS: DEPRECIATION OF EQUIPMENT CALCULATED OVER 8 YEARS FOR NEW EQUIPMENT AND SOME LESSER REASONABLE NUMBER OF YEARS FOR USED EQUIPMENT; DEPRECIATION OF FACILITY CALCULATED OVER 8 YEARS; MAINTENANCE CONTRACT; SUPPLIES; SALARIES OF TECHNOLOGISTS; MAINTENANCE/HOUSEKEEPING (PLANT OPERATION); AND ADMINISTRATION/GENERAL; AND WITH EITHER ACTUAL OR IMPUTED INTEREST EXPENSE ON 100% OF THE EQUIPMENT COST CALCULATED OVER 8 YEARS. THE FACILITY HOUSING THE CT UNIT SHALL, IN THOSE CASES WHERE AN INPATIENT IS REFERRED FROM ANOTHER MAINE HOSPITAL, BILL THE PATIENT'S PAYOR DIRECTLY, WHEREVER POSSIBLE, IF THE NECESSARY BILLING INFORMATION IS PROVIDED BY THE REFERRING HOSPITAL AT THE TIME OF REFERRAL.
  
2. MOBILE SCANNERS - THE ANNUAL AVERAGE COST PER PROCEDURE FOR HOSPITAL OWNED MOBILE SCANNERS SHALL NOT EXCEED \$280 IN 1982 DOLLARS AS DEMONSTRATED BY CIRCUIT COSTS FOR THE SECOND YEAR INCLUDING: DEPRECIATION OF EQUIPMENT CALCULATED OVER 8 YEARS FOR NEW EQUIPMENT AND SOME LESSER REASONABLE NUMBER OF YEARS FOR USED EQUIPMENT; CT VEHICLE MAINTENANCE; SALARIES; MAINTENANCE CONTRACT; INSURANCE; TAXES/LICENSING; MAINTENANCE/HOUSEKEEPING (PLANT OPERATION); ADMINISTRATION/GENERAL AND, HOSPITAL COSTS INCLUDING: SUPPLIES; SALARIES; DEPRECIATION OF BUILDING CALCULATED OVER 8 YEARS; AND EITHER ACTUAL OR IMPUTED INTEREST EXPENSES ON 100% OF THE EQUIPMENT COST CALCULATED OVER 8 YEARS. THE COST OR CHARGE SCHEDULE DEVELOPED FOR THE CT UNIT SHALL CONTAIN A UNIFORM PRICING ARRANGEMENT FOR ALL CIRCUIT FACILITIES. THE AVERAGE TOTAL PROCEDURE CHARGE FOR MOBILE CT SERVICES WHICH ARE NOT ON A COST BASED REIMBURSEMENT SYSTEM (THE VENDOR IS NOT A HOSPITAL) SHALL NOT EXCEED \$280, IN 1982 DOLLARS.

Discussion

The Maine State Health Coordinating Council's study of CT has demonstrated the large expense of purchasing and operating CT units. Hospitals which are considering the installation of a CT service because their estimated utilization of CT meets the minimum utilization standard established above should provide this service in a cost effective manner.

This proposed standard allows the institution to use its discretion in determining the type of machine purchased within bounds

determined by the cost of providing the service. The standard has been proposed in this manner because of the recognition of variable purchase prices for the machinery and the importance of the actual or imputed interest expense associated with the machine purchased. The standard also recognizes the wide variation in cost and features among the manufacturer of sub-two second scanners. Another consideration was the market price fluctuations for used and refurbished scanners. Finally, the relatively greater average cost of providing mobile CT services is recognized in the standard.

The actual cost figure used in the standard is based on several cost models developed during the SHCC's study of CT. It includes the common cost categories used in certificate of need applications and attempts to standardize this information by setting schedules, imputing interest expense, and stating this figure in constant dollars. As indicated in Table 3, the maximum cost per procedure may be achieved by units desiring to initiate fixed services with various volumes, different levels of variable costs, and different machine purchase prices to allow maximum flexibility for the hospital initiating the service. The maximum cost per procedure limit for mobile units, as indicated in Table 4, may be satisfied by units costing 1.3 million dollars at a minimum utilization of 4,000 HECTs.

Table 3

Cost Per Procedure of CT Scanning  
for Fixed Units with Machines of Various Purchase Price and Units of Varying Volume  
(Second Year Costs)

FIXED COSTS-(SECOND YEAR)									
Cost Categories	Purchase Price of Scanner								
	\$600,000			\$800,000			\$1,000,000		
Depreciation of Equip.	75,000			100,000			125,000		
Depreciation of Facility	10,000			10,000			10,000		
Interest	63,000			84,000			105,000		
Maintenance Contract	75,000			75,000			75,000		
Maint./Housekeeping/ Plant Operation	16,000			16,000			16,000		
Administration/General	26,000			26,000			26,000		
Subtotal - Fixed Costs	265,000			311,000			357,000		
VARIABLE COSTS - (SECOND YEAR)									
Cost Categories	Utilization Level								
	3,500 HECTS (2,059 Procedures)			4,000 HECTS (2,354 Procedures)			4,250 HECTS (2,500 Procedures)		
Salaries	48,000			54,600			58,000		
Supplies	61,770			70,620			75,000		
Subtotal - Variable Costs	109,770			125,220			133,000		
TOTAL COSTS - (SECOND YEAR)									
Cost Categories	Utilization Level and Purchase Price								
	3,500 HECTS (2,059 Procedures)			4,000 HECTS (2,354 Procedures)			4,250 HECTS (2,500 Procedures)		
	\$600,000	\$800,000	\$1,000,000	\$600,000	\$800,000	\$1,000,000	\$600,000	\$800,000	\$1,000,000
Fixed Costs	265,000	311,000	357,000	265,000	311,000	357,000	265,000	311,000	357,000
Variable Costs	109,770	109,770	109,770	125,220	125,220	125,220	133,000	133,000	133,000
TOTAL COSTS	374,770	420,770	466,770	390,220	436,220	482,220	398,000	444,000	490,000
Cost per Procedure	182.01	204.35	226.69	165.77	185.31	204.85	159.20	177.60	196.00

Source: Bureau of Health Planning and Development, Maine Department of Human Services, April, 1983.

Table 4

Cost Per Procedure of CT Scanning for a Mobile CT Circuit Costing \$1,300,000,  
Involving Three Hospitals and Performing at Several Utilization Levels  
(Second Year Costs)

CIRCUIT - FIXED COSTS (SECOND YEAR)			
Cost Categories	Cost		
Depreciation of Equipment	\$ 162,000		
Maintenance Contract	80,000		
CT Vehicle Maintenance	14,200		
Insurance	10,890		
Taxes/Licensing	23,232		
Maintenance/Housekeeping/Plant Operation/Administration/General	42,000		
Interest Expense	136,560		
Subtotal - Fixed Circuit Costs	\$ 468,882		
CIRCUIT - VARIABLE COSTS (SECOND YEAR)			
Cost Categories (Salaries)	Utilization Levels		
	3,500 HECTS (2,059 Procedures)	4,000 HECTS (2,354 Procedures)	4,250 HECTS (2,500 Procedures)
Coordinator	\$ 20,000	\$ 20,000	\$ 20,000
Technician	46,000(2.3 FTE)	52,000(2.6 FTE)	56,000(2.8 FTE)
Driver	16,999(1.0 FTE)	24,000(1.5 FTE)	24,000(1.5 FTE)
Subtotal-Variable Circuit Costs	\$ 82,000	\$ 96,000	\$100,000
HOSPITAL - FIXED & VARIABLE COSTS (SECOND YEAR)			
Cost Categories	Utilization Levels		
	3,500 HECTS (2,059 Procedures)	4,000 HECTS (2,354 Procedures)	4,250 HECTS (2,500 Procedures)
Depreciation of Facility	\$ 2,500	\$ 2,500	\$ 7,500
Salaries (Receptionist)	16,000	16,000	16,000
Supplies-(\$30 per procedure)	61,770	70,620	75,000
Subtotal- Costs per Hospital	\$ 80,270	\$ 89,120	\$ 98,500
TOTAL COSTS (SECOND YEAR)			
Cost Categories	Utilization Levels		
	3,500 HECTS (2,059 Procedures)	4,000 HECTS (2,354 Procedures)	4,250 HECTS (2,500 Procedures)
TOTAL COSTS	\$631,152	\$654,002	\$667,382
Cost Per Procedure	306.53	277.83	266.95

Source: Bureau of Health Planning & Development, Maine Department of Human Services,  
April, 1983.

g. Standard relating to supervision, education and training of staff.

1. FACILITIES WHICH PROPOSE TO ESTABLISH CT SERVICES USING IONIZING RADIATION MUST DEMONSTRATE THAT THE PHYSICIAN IN CHARGE OF THE CT SERVICE WILL BE A BOARD CERTIFIED OR BOARD ELIGIBLE RADIOLOGIST WHO HAS HAD:
  - a. TRAINING IN CT AS AN INTEGRAL PART OF HIS OR HER RESIDENCY TRAINING PROGRAM, OR
  - b. SIX MONTHS SUPERVISED CT EXPERIENCE, OR
  - c. AT LEAST THREE MONTHS FELLOWSHIP TRAINING, OR ITS EQUIVALENT, IN CT, OR
  - d. AN APPROPRIATE COMBINATION OF CT EXPERIENCE AND FELLOWSHIP TRAINING EQUIVALENT TO a, b, or c ABOVE.
2. IN EVALUATING THE QUALIFICATIONS OF THE PHYSICIAN IN CHARGE OF THE PROPOSED CT SERVICE, THE DEPARTMENT OF HUMAN SERVICES SHOULD OBTAIN THE ADVICE OF A PANEL OF QUALIFIED PHYSICIANS APPOINTED FROM THE MAINE RADIOLOGICAL SOCIETY. THE DEPARTMENT SHOULD ALSO DETERMINE THAT THE SERVICE WILL BE IN CONFORMANCE WITH THE PERTINENT JOINT COMMISSION ON ACCREDITATION OF HOSPITALS (JCAH) STANDARDS FOR RADIOLOGICAL SERVICES.
3. A NEW OR ESTABLISHED CT SCANNING SERVICE SHOULD MAINTAIN OR SUPPORT AN ORGANIZED CONTINUING EDUCATION PROGRAM FOR ITS PHYSICIANS AND TECHNICAL STAFF.

Discussion

Individuals supervising the CT unit should be well qualified in the general practice of radiology and in the performance and interpretation of CT scans. The SHCC study of CT scanning has determined that minimum training requirements for the head of the CT service are desirable to insure a high quality CT service. The actual requirements listed are consistent with minimum qualifications in place at several institutions in Maine. The requirements listed in the standard relate to minimum levels of training. Based on an institution's specific needs, hospitals may wish to establish further training or experience requirements.

The minimum training requirement should apply to all institutions, whether participating in a mobile circuit or housing a fixed unit on site. In the case of a mobile circuit, the physician in charge of the service may be a staff radiologist at each institution or a radiologist employed by the circuit who has responsibility for supervising the CT services performed at circuit hospitals.

In addition to minimum training and/or experience, continuing education should be made an integral component of the scanning service. Changes in the machinery and new diagnostic and interventionist uses for CT scanners continue to appear. Continuing education programs also provide an opportunity for the physician and technical staff to benefit from the research and experience of their peers.

The standard also addresses the need for appropriate exchange of information between the radiologist and clinician by requiring that the service comply with JCAH standards for radiologic services. It recognizes the importance of consultation prior to performing the patient workup and in the interpretation of the scan in the functioning of an efficient, high quality CT service.

h. Standard relating to the need to establish program audit.

A DATA COLLECTION AND PROGRAM AUDIT SYSTEM SHOULD BE SET IN PLACE AT FACILITIES ESTABLISHING A CT SERVICE.

Discussion

Because CT is a relatively new and evolving service, it is important to monitor machine utilization. This process can have an educational and innovative benefit as new uses for CT are developed and implemented in Maine. Data should be kept and tabulated on the number of: inpatients and outpatients utilizing the CT service;

inpatients from other hospitals referred to the CT unit; unenhanced and enhanced head and body studies; and HECT units. Information relating to the diagnostic classification indicating the need for the scan, and the cost per procedure should also be maintained. The system is being proposed with the understanding that additions and deletions of diagnostic categories for CT use will be based on continued study by the physicians involved in the performance of CT scanning.



Application of the Standards  
Relating to Computed Tomography

The following is a description of current CT capacity and additional locations which may meet the standards described above.

A. Locations with Present Scanning Capability		B. Areas not Described in A Which may Meet the Standards Listed
<u>Area/Facility</u>	<u>Machine</u>	
Portland Maine Medical Center	Technicare 2060HR Technicare 2010HR	Bath-Brunswick
Mercy Hospital	Picker Synerview 600S	Western Interior (includes Oxford, Southern Franklin, and Somerset counties)
Osteopathic Hospital	Picker Synerview 600	York County Bangor (additional)
Lewiston Central Maine Med. Ctr. St. Mary's	Technicare 2060HR Technicare 2020HR	
Augusta Kennebec Valley Medical Center	Technicare 2020HR	
Waterville Mid Maine Medical Ctr.	GE9800	
Rockland Pen Bay Medical Center	Prizer 0200FS	
Bangor Eastern Maine Medical Center	Technicare 2060 Omni*	
Aroostook County/ 4 Hospitals	Toshiba TCT-80A	

\*This scanner is owned and operated by Medi-Maine Corporation. The scanner is housed in rented space within Eastern Maine Medical Center.

As indicated above, the standards may allow the eventual addition of scanners in up to four locations in Maine. In the case of new fixed or mobile units, the development of CT services in an area will depend on close cooperation among facilities.

## 8. End Stage Renal Disease Services

### a. Standard Related to End-Stage Renal Disease Services

- End Stage Renal Disease Services should be consistent with standards and procedures contained in the DHHS regulations governing conditions for coverage of suppliers of end-stage renal disease services (20CFR part 405, Subpart U).

### Discussion

On July 1, 1973, the federal government assumed financial responsibility for the treatment of chronic kidney disease. The magnitude and costs of this program demanded the promulgation of stringent federal regulations to be followed for reimbursement purposes. Included are the requirements that: (1) facilities be organized into designated network areas serving defined populations; (2) utilization rates be set for renal transplantation and dialysis centers; (3) a demonstrated need be established prior to further expansion of services. It is in this last requirement that local planning agencies participate. They are responsible for making recommendations to the Department of Health and Human Services concerning need.

Three facilities in Maine currently provide chronic dialysis services, two are hospital based and one is a free standing unit. The Veterans Administration Center at Togus, a fourth site, provides care for eligible veterans. It must be considered separately due to its veteran status. All the programs in Maine participate in the federal program and meet the standards defined by the regulations.

Maine Medical Center (Portland) is the single transplantation facility in the State.







## V. Inter-Agency Coordination

Early in its activities, the Bureau of Health Planning and Development decided to adopt the principle of seeking the active involvement of other organizations and agencies in fulfilling its planning responsibilities. The adoption of this operating principle was based on the recognition that credible and implementable plans could only be developed if interested and affected groups were included in the planning process.

Sound health planning depends on information and knowledge which often can only come from organizations or agencies other than the Bureau of Health Planning and Development. Although the Bureau has an excellent in-house research and data analysis capability, much of the data must be acquired from other sources. Provider organizations and other groups in the health care field are frequently sources of information and knowledgeable advice which are unavailable elsewhere. The participation of both public and private health organizations in the Bureau's health planning process makes the plans more credible and realistic.

Involvement of health care agencies and organizations in the development of the Bureau's plans also makes the resulting plans more acceptable to those agencies and organizations. By seeking the active participation of these groups, the Bureau avoids the possibility of being perceived as an aloof State bureaucracy developing plans in isolation from those very groups which are most interested in and affected by the consequences of the plans. The Bureau has thus shown these organizations that it will involve them in plan development, that their information and suggestions are given deliberate consideration, and that the planning process is responsive to their concerns.

Finally, the involvement of such groups in the development of plans will further the likelihood of implementing the plans. Successful implementation often depends upon many public and private organizations in the health care

field. By providing groups with an opportunity to influence the plans, by showing a commitment to high professional standards in plan development, and by adopting realistic and credible recommendations, the Bureau has increased the probability of implementing those recommendations which are finally approved by the Maine State Health Coordinating Council in the State Health Plan.

The importance of working with appropriate agencies and organizations is also recognized in the Bureau's regulatory activities. This is an important field of plan implementation and the maintenance of good working relations with other agencies is essential for responsible regulation.

The remaining sections of this chapter summarize the Bureau's coordinative relationships with other groups and agencies, both public and private. It will be organized according to the three divisions of the Bureau: Data and Research, Planning and Administration, and Project Review.

#### A. Division of Data and Research

This division is responsible for the acquisition, maintenance, and analysis of data and information for policy and plan development, program implementation, decision-making and regulation. By agreement with the Maine Health Systems Agency, the Bureau, in general, and this Division, specifically, has the lead function in the provision of data needed by both agencies. The MHSA made extensive use of data provided by the Division of Data and Research. The Data Division coordinates and promotes ongoing data development in a variety of ways and with diverse public and private agencies. Division staff coordinate activities with the following State organizations:

- (1) Division of Research and Vital Records, Maine Department of Human Services.

Division of Data and Research staff works jointly with this Division in the development of population estimates, vital statistics analyses and federal contract implementation. These two divisions are

collaborating in a study of the accuracy of reporting on birth certificates. In addition, the Division of Data and Research provides analyzed data in the form of age adjusted rates. The Division of Research and Vital Records is a major data source, providing considerable information on births and deaths, fetal and infant deaths, abortions, and summary reports on Medicaid recipients.

(2) Bureau of Health.

The Data Division provides analyzed data for purposes of program development and planning to many of the Bureau of Health program managers (e.g., Maine Dental Health Plan, Maternal and Child Health Plan). In addition, the Data Division performs analytical and statistical consultation for the Bureau of Health.

(3) The State Planning Office.

This Office provided consultation to the Bureau of Health Planning in the generation of population estimates and projections for the years 1970-1985, by age (in five year intervals) and sex. Coordination with the State Planning Office also facilitates the routine acquisition of data on income, employment, and migration patterns.

(4) Legislature.

The Data Division provides data and analysis to legislative staffs, legislators and their constituents.

(5) Division of Medical Care Audit, Maine Department of Human Services.

The Health Care Audit Division is a primary source of expenditure information for hospitals, nursing homes, and boarding homes.

Data are utilized for aggregate expenditure analyses and plan components involving the above health care facilities.

(6) Bureau of Medical Services, Maine Department of Human Services.

The Data Division collaborates with this Bureau on projections of Medicaid expenditures and eligibles, and provides statistical and



technical assistance in analyzing data from the Maine Medical Information System (MMIS). In addition, the Bureau provides the Division of Data and Research with specific Medicaid reimbursement data for inclusion in various plan components.

(7) Division of Financial Services, Maine Department of Human Services.

The Division of Financial Services is a major source of financial data for expenditure analyses of the Department of Human Services carried on by the Division of Data and Research.

(8) Thirteen Boards of Registration and Licensure for Health Professions (e.g., State Board of Nursing, Board of Registration in Medicine).

Providers of health care in Maine, including licensed professionals and all health facilities, are identified through the Health Resources Inventories, produced by the Cooperative Health Statistics System (CHSS), Manpower and Facilities components, operating within the Data Division. Much of the information needed for health planning purposes is obtained through annual surveys conducted by the CHSS project with the cooperation of the various licensure boards. The Division coordinates this data collection and submits the analyzed data and statistical reports back both to the licensure boards and to the public at large. The Division generates periodic reports on nurses (RNs and LPNs), physicians (D.O. AND M.D.), physical therapists, podiatrists, chiropractors, dentists, dental hygienists, optometrists, nursing home administrators, pharmacists, and veterinarians as well as hospitals and long term care facilities.

(9) Division of Licensing and Certification, Maine Department of Human Services.

Information on nursing and boarding care homes, incorporated into the Health Resources Inventories, is obtained from the quarterly Statistical Reports this Division receives from all such facilities. A supplemental questionnaire has been developed by the Division of Data and Research

to capture additional data elements needed for planning and as part of the cooperative Health Statistics System minimum basic data set. This supplement is distributed annually with one of the regular quarterly Statistical Report cycles in an effort to reduce the reporting burden on health facilities.

(10) Health Facilities Cost Review Board.

Established by L.D. 2136, the Board is authorized to assemble and analyze relevant data and report to the legislature on the cost of services delivered by health facilities. As well, it is also charged with recommending, if appropriate, mechanisms to control these costs.

The Division of Data and Research provides staff assistance to the Board in the area of facility data compilation and cost analysis as well as providing substantial statistical and technical consultation.

Division staff also coordinate activities with the following public, quasi-public, or private organizations:

(11) The Maine Health Information Center (MHIC).

This private non-profit corporation is a consortium of the major health data providers and users in Maine. The Bureau provides substantial assistance to this organization, both through direct staff support and through grants for general core activities and specific projects. In turn, the MHIC constitutes an important resource for the Bureau in data development and analysis. It also provides a forum for coordination and data policy development.

(12) Maine Health Systems Agency, Inc.

The single HSA in the state worked closely with the Bureau in the development of preliminary health status system indicators during its first year of operation. This list has been expanded significantly

by Bureau staff in the course of preparing specific state health plan components.

The Bureau provides the HSA with demographic information and other socio-economic data as well as summary statistics, various health status indicators and data on health resources. In 1978, the HSA performed a midnight census of nursing homes which contained questions on patient origin, disability levels, and patient needs. This was extensively analyzed by Bureau staff together with similar data collected by the Division of Data and Research in 1979; ultimately these became a major data source for the Rehabilitation and Maintenance plan component.

A recent cooperative project resulted in an update and analysis of data required for health manpower shortage area determination (physician distribution, population, vital statistics, etc.).

Finally, by mutual agreement, the Bureau has the lead function in the provision of data needed by both agencies in carrying out their designated responsibilities.

(13) Maine Health Data Service (MHDS).

MHDS has provided the Bureau with hospitalization data. The MHDS maintains a 100 percent file on all hospital discharges from Maine hospitals. This file contains information on patient origin, diagnosis, frequency of specified procedures, expected source of payments, etc. Bureau staff employ these data to analyze utilization information (by region, age, sex, etc.) for Maine.

(14) There is public access to reports describing the health status of Maine citizens and the health resources of the State. Many reports are published and distributed. Bureau staff regularly respond to assorted data requests. In addition to requests from the Legislature,

the Maine Health Systems Agency, Inc., and other previously mentioned bodies, requests are also received from health care providers and potential providers (those contemplating submitting a Certificate of Need Proposal for a new service or facility), professional and institutional associations, educational agencies, and the interested public.

(15) Governor's Commission on Mental Health Manpower.

The Commission has utilized various files maintained by the Division as well as requesting specific technical assistance, thus reducing duplication in data collection, dissemination, and analysis.

For example, the Commission requested a number of tables designed to identify those health professionals who deliver mental health services in Maine and the settings in which they practice; these data were drawn from the Cooperative Health Manpower Resource Inventories. In addition, the Commission used the Inventory as a sampling frame for surveying primary care physicians to determine the amount of mental health care delivered by them and to assess the need for and interest in additional training in this area.

Other staff of the Division of Data and Research have worked with staff and subcommittees of the Commission to determine the feasibility of developing a funds flow analysis of expenditures for mental health in Maine. The Division has provided extensive consultation and analysis in the area of expenditures and funding of mental health services in the state.

(16) Sub-Committee on Medical Manpower  
State Advisory Committee on Medical Education

Data on the distribution of physicians in Maine have been supplied to the subcommittee, and extensive tabulations have been prepared for individual subcommittee members interested in analyzing the dynamics

of physician supply in more detail. The interest of the sub-committee in identifying manpower shortage areas based on criteria specifically relevant to Maine is being incorporated into a similar project planned for implementation by the Division within the coming year. Results of the study will have specific implications for the planning of physician education programs for Maine in future years.

(17) Maine Hospital Association.

Division staff are working with the MHA Vice-President for Data Management to modify the design and form of the hospital survey carried out annually by the Division as part of the Cooperative Health Facilities Resource Inventory. The goal is to develop a single form which will incorporate the information requested on the American Hospital Association's annual survey as well as the additional data elements required by the Division for planning purposes and for the minimum basic data set of the Facilities Resource Inventory. The MHA Council on Data Management has endorsed this unified approach to hospital data collection.

(18) Diabetes Control Project.

This project has made substantial use of data available through the Division, such as vital statistics and population, as well as seeking technical assistance and consultation from the Division's statistical staff. Division staff also participate on the Data and Evaluation Committee of the project. Such staff contacts, both formal and informal, are invaluable in promoting consistency of definitions and data sets, minimizing duplication, and enhancing the full use of available data.

(19) Hypertension Survey.

The Department of Human Services was awarded a five-year NIH contract for a "Hypertension Coordination Project". As an integral part of this project, a household interview survey will be carried out in the first and the fifth years. The purpose of this survey is to determine the prevalence of hypertension in the population as well as the occurrence of various related characteristics. Division staff are participating in the development of questions to be included in the survey, thus ensuring that it does not duplicate information available elsewhere and that definitions and coding structures are consistent with those used by other data sources in the state.

(20) Pine Tree Organization for Professional Standards Review

Staff from the Division are working with Maine's PSRO in order to identify data elements and specific reports produced by the PSRO which could be made available in aggregate form to the planning agencies, both the Bureau and the Maine Health Systems Agency. We expect this to culminate in a substantial sharing of information on the delivery of acute care in Maine.

B. Division of Planning and Administration

The introductory chapter to this plan described the coordination between the Maine Health Systems Agency and the Bureau of Health Planning and Development in the writing of the preliminary State health plan. As noted, the Bureau assumed primary responsibility for several sections of that plan. The organizations, agencies, and individuals with which Bureau staff coordinated will be briefly described below.

(1) Dental Health Care

Bureau staff coordinated with the following in the development of this plan:

- The Office of Dental Health, Maine Department of Human Services provided extensive and continuous guidance in the development of this plan. The plan utilized data provided by the Office; the Project Director collaborated in writing major sections of the plan.
- The Maine Dental Health Council provided substantial assistance in conceptualizing the plan and in its recommendations. The Council is created by State legislation to generally provide policy advice to State government on dental care. The Council reviewed and commented on each draft of the plan and adopted the plan as the State plan for dental health for Maine. The Council participated in the priority setting procedure of the Maine State Health Coordinating Council.
- The Maine Dental Association provided information and technical advice during the development of the plan. The Executive Council of the Association reviewed drafts of the plan and made many useful recommendations. It authorized the American Dental Association to provide special tabulations of Maine data to the Bureau for the plan. The Executive Council participated in the priority setting procedure of the Maine State Health Coordinating Council.
- David Heid, D.D.S., Coordinator for Dental Education, Cooperative Health Education Program, Veterans Administration Center, Togus, Maine, provided invaluable liaison

between the Bureau and the Maine Dental Association. He also made many useful suggestions for the plan.

- Bureau of Economic Research and Statistics, American Dental Association, provided data from surveys of Maine dentists for use in the dental plan. Staff from the ADA met with Bureau staff in Maine to clarify questions concerning the data.

(2) Specialized Medical Care: End Stage Renal Disease

Bureau staff coordinated with the following in the development of this plan:

- The Kidney Foundation of Maine provided continual guidance and consultation throughout the development of this plan.
- Edmund Lowrie, M.D., an internist specializing in nephrology, who is also a professor at Harvard Medical School, served as project consultant. He specifically aided in developing and executing a facility survey, examining the availability of dialysis and in generating a plan based on his findings.
- Input on the availability of services was sought from the three Maine hospitals providing dialysis service, the single free standing clinic, and a fourth hospital which hopes to provide dialysis services in the near future. These facilities cooperated with the State Agency and its consultants in describing the current system and planning for long-term needs.
- Coordination activities occurred among the various states contained in the federally designated Network 28, to which Maine belongs. These federal networks are the regional planning bodies charged with coordinating services for persons in each network. Their purpose is to help areas avoid



duplication and ensure availability of services. States in Maine's network were active in supporting the development of the State's ESRD plan component.

(3) Emergency Medical Care

This plan was written with coordination from a number of public and private agencies, including:

- Emergency Medical Services Project, a federally funded demonstration, was involved in all aspects of the plan's development. The EMS project coordinates all emergency medical care in Maine. It was thus able to provide the detailed data and information essential to this plan component.
- The Office of Emergency Medical Services, Maine Department of Human Services, is the State Agency responsible for licensing of ambulances, ambulance personnel, and emergency medical technicians. This office is the repository of all state regulations and specifications. It was, therefore, capable of providing historical information and documentation concerning the expansion of emergency medical care in Maine. This agency was invaluable in describing the current state of Maine's emergency medical care.
- Information relating to hospital emergency services was solicited from four Maine hospitals. Problems relating to staffing, finances, and transfer of patients were discussed and suggestions for possible and partial solutions offered.
- Bureau staff worked closely with the Maine Department of Transportation to obtain information in such areas as vehicle

specifications and the availability of financial support resulting from the 1968 Federal Highway Safety Act.

- Maine Bureau of Public Safety provided Bureau staff with background data on the incidence and prevalence of motor vehicle accidents and the mortality and morbidity which resulted.

(4) Perinatal Care (Obstetrics and Newborn Care)

The Bureau's staff, in preparing this plan received input and collaboration from a number of public and private agencies, including:

- The Perinatal Task Force provided important information and advice to Bureau staff. The Task Force, chaired by Dr. Edmund Ervin of the Mid-Maine Medical Center, is composed of physicians, hospital administrators, and planners. The Executive Committee of the Task Force reviewed, commented on, and suggested modifications in several drafts of the plan. The Task Force also worked closely with the Maine State Health Coordinating Council in the development of priorities for perinatal care in Maine. Bureau staff provided extensive staff support for the activities of the Task Force.
- Staff from the Maine Medical Center -- reviewed draft versions of the plan component and made presentations to the Maine State Health Coordinating Council on the status of perinatal care in Maine.
- The Bangor Maternal and Child Health Council reviewed and made suggested modifications in draft versions of the plan. The Council also made a presentation to the Maine State Health Coordinating Council on family centered approaches to obstetric care.

- Review and comment were solicited and received from the Maine Health Systems Agency, Inc.
- Comments from the Family Planning Association were also solicited. This Agency's input was helpful in suggesting changes to the plan's goals and objectives.
- The Division of Child Health, Department of Human Services, was actively involved in the development of the plan's section on Health Problems. Raw data relating to childhood diseases were provided by the program's manager to Bureau staff, who analyzed it to generate information on incidence, prevalence, morbidity and mortality of childhood diseases. Analytic work was done by the Bureau of Health Planning and Development, Division of Data and Research.

(5) Pediatric Care

This component was written with the collaborative efforts of two agencies:

- The Maine Chapter of the American Academy of Pediatrics, Committee on Health and Planning (AAP-CHP) assisted in the identification of issues, reviewed early drafts, and suggested changes both in the text and in the goals and objectives. Members of the AAP-CHP made presentations to the Maine State Health Coordinating Council and helped set priorities among the numerous goals and objectives.
- The Maine Health Data Service, an organization which collected and organized all (100 percent) hospital discharge data in Maine, provided data on pediatric hospitalizations. These data were analyzed by the Bureau of Health Planning and Development, Division of Data and Research, for inclusion in this plan component.

(6) Rehabilitation and Maintenance

This plan component dealt principally with the long term care needs of Maine's elderly. The target population and the sources of funding for these services demanded the involvement of a large and varied number of agencies -- both governmental and nongovernmental, public and private.

- Bureau of the Maine's Elderly, Maine Department of Human Services, was consulted to obtain information on the needs and service requirements of the elderly. Various members of the Bureau provided information on utilization of nursing homes, alternatives to nursing homes, and services whereby independence and self-sufficiency might be promoted. In addition, assistance in the review of concepts and approaches useful to serving the elderly was provided by Bureau of Maine's Elderly staff. They continued to provide information and assistance throughout the development of the plan.
- Division of Licensing and Certification, Maine Department of Human Services, provided information on the rules and regulations which must be followed for nursing home and home health agency licensing and certification which are requisite if Medicare and Medicaid reimbursements are to be allowed.
- Division of Medicaid Surveillance, Maine Department of Human Services, supplied Bureau staff with information on reimbursement schedules for patients requiring different levels of nursing home care. Medicaid Surveillance staff

also provided information on Maine's Medicaid system, including such items as ICF bed waiting lists and placement decision-making.

- Division of Audit, Maine Department of Human Services, worked with Bureau staff to supply information on expenditures for nursing homes. The staff of the Division explained the state-federal funding ratio and many other details of the principles of reimbursement for nursing homes.

#### Private Associations and Agencies

- Maine Health Care Association provided insight on many of the problems besetting nursing home operators. Information on solutions for remedying some of these were also offered. A new proposal for reimbursement is being developed by MCHA and Bureau input was solicited.
- Nursing home operators were questioned as to their perception of major problem areas and methods of alleviating these. Some discussion on the development of new principles of reimbursement was also undertaken.
- Home health agency directors discussed with Bureau staff the organization and service delivery mechanisms of their agencies, ways in which services might be expanded, and applicability of the Certificate of Need review for service expansion.

#### Other States' Agencies

Bureau staff consulted with agencies in several other states, including:

- Massachusetts -- much discussion was undertaken with the long term care planner at the Massachusetts Bureau of Health Planning.

- Utah -- the Utah Department of Social Services provided information on their innovative Alternatives Project. This individualized program has saved Utah a considerable amount of money and could be altered to serve the needs of Maine.
- Vermont -- the long term care health planner at the State Agency described the nursing home situation in that State making possible a comparison with long term care in Maine.
- New Hampshire -- As with the Vermont Agency, the long term care health planner described nursing home availability and useage so that comparisons with Maine could be made.

Although the Maine Health Systems Agency had primary responsibility for the development of plans in the areas of Primary Medical Care, Mental Health, and Substance Abuse Services, staff of the Bureau of Health Planning and Development assumed major coordinative roles in each area. Those inter-agency coordination activities are briefly described below.

(7) Substance Abuse Services

Subsequent to the receipt of the plan component on Substance Abuse Services prepared by the Maine Health Systems Agency, Bureau staff coordinated its activities with the following organizations and groups:

- Office of Alcoholism and Drug Abuse Prevention (OADAP), Maine Department of Human Services, provided additional information and technical advice to Bureau staff and to the Maine State Health Coordinating Council on substance abuse services. Bureau staff assisted OADAP in the preparation of a new goals section for the Substance Abuse Services Plan. That section was approved with

little change by the Maine State Health Coordinating Council. OADAP also coordinated the educational sessions for the Council on substance abuse.

- The Second Friday Management Group assisted in the formulation of the goals section mentioned above. This group is composed of the Executive Committee of the Maine Association of Substance Abuse Programs, the Association of Regional Councils (on alcoholism and drug abuse), the National Council on Alcoholism in Maine, the Bureau of Resource Development (which administers Title XX in the Maine Department of Human Services), and OADAP. This group participated in the priority-setting procedure used by the Maine State Health Coordinating Council.

(8) Mental Health

Subsequent to the receipt of the plan component on Mental Health prepared by the Maine Health Systems Agency, Bureau staff coordinated its activities with the following:

- Bureau of Mental Health, Maine Department of Mental Health and Corrections provided review and comment on the draft mental health plan. It also provided more recent information and proposed a revision in the goal section of the plan. The revision was accepted by the Maine State Health Coordinating Council.
- Office of Children's Services, Maine Department of Mental Health and Corrections provided information on children's mental health services in Maine. The Director of the Office discussed those services with the Maine State

Health Coordinating Council. The Office also prepared a set of goals and objectives for these services which was then approved by the Council.

- Community Support Systems Project, Maine Department of Mental Health and Corrections reviewed and commented on the draft plan. The project director discussed the draft plan with the Maine State Health Coordinating Council and was influential in the Council's action on the plan.

(9) Primary Health Care

Staff of the Bureau of Health Planning and Development prepared a draft plan on Primary Medical Care. This plan was then provided to the Maine Health Systems Agency for use in its Primary Health Care Plan. In preparing the Primary Medical Care Plan, Bureau staff worked with the following groups:

- The Maine Osteopathic Association was contacted for information relating to the osteopathic medical college and residency programs. Input was also received from representatives of each program regarding number of graduates and number of graduates choosing to establish practices in Maine.
- The family practice residency programs, operating as satellites to Augusta General Hospital, Central Maine Medical Center, Maine Medical Center, and Eastern Maine Medical Center, provided information on numbers of graduates, numbers electing to remain in Maine, and the numbers of graduates choosing to practice in underserved rural areas.



- The State Department of Education and Cultural Affairs provided Bureau staff with information on Maine's contractual arrangements with Tufts, Dartmouth, and the University of Vermont Medical School to purchase "seats" for Maine's medical students.
- The New England Board of Higher Education was also contacted to obtain historical information on the evolution of the contractual agreements listed above.
- Family Nurse Associate Program in Portland provided Bureau staff with information relating to nurse practitioners, manpower, curriculum, and the geographic dispersion of their graduates.
- Representatives from all institutions graduating RNs were contacted for information on curriculum, manpower, geographic dispersion and working patterns, (i.e., full-time or part-time status).
- Attorney General's Office, Human Services Division, interpreted Maine's new Administrative Procedure Act as it related to delicensing of physicians.

The staff of the Division of Planning and Administration also provided assistance to the Bureau of Health, Maine Department of Human Services for its planning activities. This coordination is described below.

(10) State Plan for Public Health

The staff of the Division of Planning worked closely with the Deputy Commissioner, Office of Health and Medical Services, Department of Human Services and the Division Directors in the Bureau of Health to identify the various public health programs of the Bureau of Health. Nineteen separate programs were so identified.

Division of Planning staff then assisted the program managers of those nineteen programs to develop plans for their programs using the format approved by the Maine State Health Coordinating Council. Subsequent to this effort, staff of the Bureau of Health unified the nineteen plans into the State Plan for Public Health Services.

The staff of the Division of Planning and Administration also has important coordinative roles with several other planning efforts presently under way.

These include:

(11) Governor's Commission on Mental Health Manpower

The Director of the Division has been designated by the Deputy Commissioner for Health and Medical Services to serve on this Commission. The Commission is studying the supply and training of mental health manpower, the distribution of services, and the financing of mental health services in Maine.

(12) Alcohol and Drug Abuse Committee, Maine Department of Human Services

The Director of the Division has been appointed to this Committee. The Committee's responsibility is to develop a coordinated approach to planning and implementing a prevention program for Alcoholism and Drug Abuse in the Department of Human Services.

(13) Hypertension Survey

The Director of the Division serves on the technical advisory committee of the Hypertension Control Project, Maine Department of Human Services. This committee provides technical advise in the planning, development, and implementation of a statewide survey which will provide extensive health and socio-economic data on Maine's residents.

(14) Governor's Task Force on Long Term Care

The long term care planner of the Division of Planning and Administration serves as principal staff to the subcommittee on Services and Alternatives of this task force. The task force will draw up legislative and administrative proposals for the long term care system in Maine. The Rehabilitation and Maintenance Program Plan prepared by the Bureau of Health Planning and Development will be a resource and policy document for this task force.

(15) Governor's Task Force on Maternal and Child Health

One of the maternal and child health planners of the Division is a member of this task force and provides some staff assistance to the subcommittee on administration. The task force will draw up legislative and administrative proposals for maternal and child health in Maine. The plans on pediatric care and perinatal care prepared by the Bureau of Health Planning will be important resources and policy documents for this task force.

C. Division of Project Review

The regulatory activities required by Maine's Certificate of Need Act of 1978 (Section 305) and federal Certificate of Need (CON) legislation are conducted by the Bureau of Health Planning and Development, Division of Development and Control, in conjunction and consultation with the plan review work of the Maine Health Systems Agency, Inc.

The Maine CON Act requires facilities subject to the requirements of the Act to file service and capital requirement plans with the Bureau.

The Bureau coordinates activities with a number of agencies and organizations in carrying out the CON mandate:

(1) The Maine Health Systems Agency studies each proposal and submits a recommendation which is considered by the Bureau prior to making a final recommendation to the Commissioner of Human Services on the viability of a proposed project.

Pertinent sections of the Health Systems Plan and Annual Implementation Plan are taken into consideration when reviewing applications under the CON/1122 programs.

(2) The Bureau works closely with provider applicants prior to and during the CON process. The Bureau supplies both information and technical assistance to potential providers to help them fulfill the requirements of the CON process.

The Bureau also works closely with a number of state agencies in its regulatory activities. Information and expertise are obtained from the following agencies:

(3) Division of Licensing and Certification, Maine Department of Human Services.

Provides information on the numbers and locations of licensed and/or certified beds available throughout the State. Population data available from the Division of Data and Research are used in the generation of bed to population ratios. Where possible, these are compared to federal standards; where unavailable, the State average is used as a baseline for comparison. The methodology is suitable for determining area need for hospital and nursing home beds. This aids in determining the most appropriate locations for and sizes of new facilities. This office also provides assurances regarding compliance with construction standards for projects reviewed under the CON/1122 programs.

Financial advantages for the developer can result from new capital expenditures. These are associated with the debt depreciation on new buildings. For this reason, objective information on facilities is necessary to prevent unwarranted replacement. The Fire Marshal's Office provides the information necessary for making accurate and reliable determinations or facility obsolescence.

(4) Health Care Audit, Maine Department of Human Services.

This agency provides the Bureau with information relating both to provider reimbursement and to the recapture of depreciation on projects for transfer of ownership.

(5) State Fire Marshal's Office, Maine Department of Public Safety.

As facilities become obsolete and unsafe, they must be replaced. Because large capital expenditures are involved in replacement, providers are required to obtain Certificates of Need.

(6) Bureau of Public Improvements.

Provides architectural and engineering consultation for CON/1122 reviews.

(7) Office of Alcoholism and Drug Abuse Prevention.

Consults on programs dealing with alcohol and drug abuse during CON/1122 process.

(8) Bureau of Health.

Staff make on-site visitations to assist in determining appropriateness of site location of proposed new health care facilities.

(9) Office of Energy Resources.

Provides technical consultation on CON/1122 reviewable projects for energy conservation.

(10) Department of Mental Health and Corrections.

Provides technical consultation on CON/1122 reviewable projects on behalf of mentally ill and/or mentally retarded persons.









## VI. Implementation Strategies

The guidelines for the development of a State health plan suggest that one of the components should be "Implementation Strategies." That component should focus on implementation activities of the State Health Planning and Development Agency and the State-wide Health Coordinating Council. Accordingly, this chapter will summarize the implementation strategies of the Bureau of Health Planning and Development and the Maine State Health Coordinating Council.

As indicated in Chapter I, the State Health Plan for Maine will have several uses. Some of those uses will involve implementation of the plan. One of the principal uses of the plan for both the Bureau of Health Planning and Development and the Maine State Health Coordinating Council will be in the conduct of their review responsibilities. The Bureau must review applications for new health services, facilities, or equipment under the provisions of the Maine Certificate of Need Act and Section 1122 of the Social Security Act. The Bureau is also charged with conducting reviews of institutional services to determine if they are appropriate to the institution offering them. The Council must review certain mental health and substance abuse plans and applications for funds. The State Health Plan for Maine will be one of the standards used by both bodies in conducting such reviews. By using the plan for these review purposes, the Bureau and the Council will be implementing the plan.

The plan will be self-implementing in certain respects relating to the review activities of the Bureau and the Council. Groups, organizations, or government agencies which wish to gain approval for their proposals from either the Bureau or the Council must take the goals, objectives, and standards in the plan into consideration before making their proposals.

The State Health Plan for Maine will strongly affect the nature of applications submitted to the Bureau and the Council.

During the spring of 1981, the Council formalized their implementation efforts through the creation of an Implementation Committee. The creation of this committee, on an equal footing with the two standing committees for review and planning, recognized the commitment of the Council to implementation.

The Implementation Committee has made several starts at developing a workable strategy. The Committee instructed staff of the Bureau of Health Planning and Development to prepare a status report on high priority objectives in the State Health Plan. Using this report, the Committee chose several objectives which might be brought to fruition through Committee action. Individuals from agencies who worked in the area covered by the objectives appeared before the Committee to discuss Council actions which would help in the implementation of the objectives. The Committee was unable to discover activities in these two fields which would lend themselves to Council involvement. The Committee members agreed to pursue these objectives individually and recommended that all Council members do so. On a Committee level, however, it appeared that another strategy would need to be developed to pursue implementation.

The Committee is currently pursuing several different avenues of implementation. A joint effort between staff and Council members is being made to monitor health initiatives before the Legislature. Both staff and Committee members have committed themselves to alerting each other if they learn of health-related bills. The actual number of bills receiving thorough attention by the Committee will be limited to maximize the consideration each bill receives.

The Committee agreed that the State Health Plan should focus attention on implementation. To accomplish this, the Committee has instructed staff to write goals and objectives with implementation in mind. Wherever possible the State Health Plan should identify agencies which would take the lead in implementing objectives. The development of plan sections and presentations before the Council will provide an opportunity to negotiate with interested parties to commit themselves to implementation of plan components.

In this same vein, the Committee suggested to the Council that the number of priority objectives be more limited. This would aid the implementation effort and help focus public comment and involvement on those objectives which the Council will be working to implement.

Another important implementation strategy will be to work closely with those groups or organizations which will have responsibility for implementing the goals and objectives in the State Health Plan for Maine. Successful plan implementation will depend upon good working relationships and clear understandings with the organizations which must implement the plan. As described in Chapter V ("Inter-Agency Coordination"), the Bureau and the Council have developed an extensive network of coordinative relationships with many groups and organizations in health care in Maine. These relationships will be maintained during the coming year and will provide a sure foundation for implementing the recommendations in the plan. In an important sense, the process for implementing the plan has begun with the establishment of these ties.

The Council has carefully considered issues in health over a four year period. The recommendations it has adopted are based on extensive research and analysis by the Bureau of Health Planning and

Development and the Maine Health Systems Agency, Inc. Organizations, groups, and the Legislature will find the Council's proposals are well-documented, and this will increase the likelihood of implementation.

One measure of the progress of efforts to implement the State Health Plan is the "status" of its objectives. As mentioned earlier, objectives in Chapter IV.A. have had a section added to the revised components entitled "Current Status". This information summarizes implementation effort for specific objectives.

## Glossary of Terms Used in the State Health Plan

Acceptability	In connection with the provisions of P.L. 93-641, the satisfaction which consumers experience in receiving health care services. Specifically, it is the manner and ease with which services are received and the confidence felt by the consumers in the providers of the services.
Accessibility	In connection with the provisions of P.L. 93-641, the degree to which an individual's entry to the health care system and receipt of services is inhibited or facilitated. Factors include such things as insurance coverage and transportation.
Acute Care	Treatment of an injury or disease of a short term nature within a medical/surgical hospital.
Admission Rate	The number of persons admitted annually to health care facilities within a community, usually expressed as a number per 1,000 persons in the community. It also may be based on the population served by a particular institution.
Advanced Life Support Services	Intensive care delivered by emergency medical service personnel.
Ambulatory Care	Health care delivered to patients who transport themselves and do not occupy a hospital bed.
Allopathic Physician	Usually used in contrast to osteopathic and homeopathic. A physician practicing a philosophy of medicine which views the role of the physician as an active interventionist who attempts to counteract the effect of a disease by using surgical or medical treatments which produce effects opposite to those of the disease. The practice of an osteopathic physician, on the other hand, is based on the theory that diseases are due chiefly to loss of structural integrity which can be restored by manipulation of body parts in combination with therapeutic measures. A homeopathic physician generally uses a drug therapy which reinforces the body's natural self-healing process.
Ambulatory Surgical Facility	A facility, not part of a hospital, which provides surgical treatment to patients not requiring hospitalization. This term does not include the offices of private physicians or dentists, whether in individual or group practice.
Anemia	A condition that occurs from a lack of red blood cells, hemoglobin or from reduced blood volume.

Annual Implementation Plan	The Health Systems Agency's annual statement describing the objectives to be pursued in the coming year which will achieve the goals identified in its health systems plan.
Aorta	The major artery of the body through which blood flows from the heart via branch arteries to all parts of the body.
Appropriation	The allocation of government funds to a project or organization.
Atherosclerosis	A form of arteriosclerosis. The inner layers of artery walls are made thick and irregular by deposits of fatty substance. The internal walls of the artery become narrowed, and blood supply is reduced.
At Risk	An insurance concept that refers to a group or community's potential to experience health problems. For example, a group of elderly persons would be expected to experience more health problems than a younger population.
Availability	In connection with the provisions of P.L. 93-641, the degree to which the supply of health resources and services exists to meet the needs or demands of a community.
Basic Life Support Services	Basic medical services delivered by emergency medical personnel.
Bed	Where a patient resides while being treated in all forms of hospital, nursing and boarding facilities.
Bed Capacity	The number of beds that a health care facility is licensed to operate.
Bed Complement	The number of beds that a health care facility is actually operating.
Bed Need Formula	A mathematical formula projecting the number of hospital, nursing or boarding beds needed for a defined community's population.
Birthing Center	A free-standing facility for the delivery of children, normally emphasizing delivery by midwife. No such facilities exist at present in Maine, although "birthing" rooms have been established in several hospitals.
Birth Rate	The number of births in a given population per 1,000 persons in that population during a specified period of time (usually one year).
Boarding Care Facility	A home that is primarily engaged in providing to three (3) or more persons:

(Boarding Care Facility con't.)	<ol style="list-style-type: none"> <li>a. Personal care, supervision and social services for defectives, dependents, delinquents, aged, blind or other persons 16 years of age or over who are ambulatory and who do not have such an illness, disease, injury or other conditions as to require the degree of care and treatment which a hospital or skilled nursing facility or intermediate care facility is designed to provide;</li> <li>b. Such care and services under the supervision of sufficient personnel to provide adequate care for its residents during all hours of each day and all days of each week.</li> </ol>
Cancer	A malignant tumor or neoplasm.
Capital Expenditure	An expenditure, including a force account expenditure, which under generally accepted accounting principles is not properly chargeable as an expense of operation and maintenance and, for the purposes of certificate of need, shall include capitalized interest on borrowed funds and the fair market value of any property or equipment which is acquired under lease or comparable arrangement or through donation. Generally, an expenditure which benefits more than one accounting period, which is generally one year in length.
Capitation	A method of payment for health services in which an individual or institutional provider is paid a fixed per capita amount for each person served without regard to the actual number or nature of services provided to each person. Capitation is characteristic of health maintenance organizations.
Cardiac Catheterization	A diagnostic procedure in which a long plastic tube (catheter) is inserted into a vein or artery and then slid through the vessel until the tip of the catheter enters the heart or the commencement of one of the coronary arteries. Data on the anatomy and physiology of the heart and the coronary arteries can be obtained through this technique.
Categorically Needy	Under Medicaid (Title XIX), persons aged, blind, disabled, or a member of a family with children under 11 with one parent absent, incapacitated or unemployed.
Cerebrovascular	Of or involving the brain and the blood vessels supplying it.
Certificate of Need (CON)	<p>A statutory procedure for granting authority for the development of:</p> <ol style="list-style-type: none"> <li>1. Any new health service proposed to be offered or developed within the State. A "New Health Service" includes only the following:</li> </ol>



(CON con't.)

- A. The construction, development or other establishment of a new health care facility;
  - B. Any expenditure by or on behalf of a health care facility in excess of \$150,000 or more which, under generally accepted accounting principles consistently applied, is a capital expenditure. When a person makes an acquisition by or on behalf of a health care facility under lease or comparable arrangement or through donation, which would have required review if the acquisition had been by purchase, the acquisition shall be deemed a capital expenditure subject to review;
  - C. Any change in the existing bed complement of a health care facility which:
    - (1) Increases or decreases the licensed bed capacity of the health care facility by more than 10% or more than 5 beds, whichever is less;
    - (2) Increases or decreases the number of beds licensed by the department to provide a particular level of care by more than 10% of that number or more than 5 beds, whichever is less; or
    - (3) Relocates more than 10% of the health care facility's licensed beds or more than 5 beds, whichever is less, from one physical plant to another, and
  - D. Health services which are offered in or through a health care facility or health maintenance organization and which were not offered on a regular basis in or through the health care facility within the 12-month period prior to the time the services would be offered; and
2. Predevelopment activities. Any expenditure of \$150,000 or more for predevelopment activities proposed to be undertaken in preparation for any project which would itself require a certificate of need.

Chronic Care	Health care for diseases or problems that are characterized by permanence, residual disability, non-reversible pathological alteration, special rehabilitation or prolonged duration.
Computerized Axial Tomography (CAT) Scanner	A diagnostic imaging device which uses a computer to analyze the differential strength of X-ray beams passed through body tissues in order to locate and identify abnormalities.
Congenital	A condition existing at or from birth, as in "congenital heart disease."

Congregate Housing	A residential environment which provides support services, such as meals, housekeeping, health care, etc. It is designed to assist impaired, but not ill, elderly to maintain (or return to) a semi-independent life style.
Consumer	Someone who uses the health care system.
Continuity	In connection with the provisions of P.L. 93-641, the concept that people who experience disease or injury should have some agent (either a person or an organization) which assumes responsibility for assuring the provision of needed care. As needs of the patient are addressed, the person is not passed from one provider to another with no overall care management.
Coronary Artery	The artery serving the heart muscle.
Coronary Artery Bypass Graft Procedure	A surgical procedure in which a blood vessel taken from another part of the body is attached (grafted) to the aorta and a point on a coronary artery past the point of atherosclerotic buildup.
Dedicated Bed	A hospital bed assigned to a specific use. For example, a psychiatric bed or an alcohol rehabilitation bed.
Diabetes Mellitus	A metabolic disease characterized by inadequate secretion or utilization of insulin, excessive excretion of urine, excessive amounts of sugar in the blood and urine, and by thirst, hunger and loss of weight.
Eligibility	Condition that must exist or be met if a person is to qualify for a government program.
Emphysema	A condition of the lung marked by distension.
End Stage Renal Disease	The stage of renal, or kidney impairment that is virtually irreversible and that requires either permanent dialysis or kidney transplantation in order to ameliorate uremic systems and to maintain life.
Epidemiology	The study of the nature, cause, contact and determinants of the frequency and distribution of diseases and disability in human populations.
Fiscal Year	Any yearly period at the end of which a firm, government, etc. determines its financial condition without regard to the calendar year.
Fluoridation	The addition of optimal quantities of fluoride to drinking water to reduce tooth decay.
Generic Drug	A pharmaceutical compound not marketed under a brand name.

Genetics	A branch of biology that deals with the heredity and variation of organisms.
Gonorrhoea	A contagious inflammation of the genital mucous membrane caused by the gonococcus bacterium. A form of venereal disease.
Health Maintenance Organization	A public or private organization which: <ul style="list-style-type: none"> <li>A. Provides or otherwise makes available to enrolled participants health care services, including at least the following basic health services: Usual physician services, hospitalization, laboratory, X-ray, emergency and preventive health services and out-of-area coverage;</li> <li>B. Is compensated, except for copayments, for the provision of the basic health services to enrolled participants on a predetermined periodic rate basis; and</li> <li>C. Provides physicians' services primarily through physicians who are either employees or partners of the organization or through arrangements with individual physicians or one or more groups of physicians.</li> </ul>
Health Service Area	A geographic area appropriate for the effective planning and development of health services.
Health Shortage Area	A geographical area or group of communities that lacks an adequate number of one or more of the various health professions.
Health Systems Agency	Not-for-profit corporations or public agencies established in every state in accordance with the National Health Planning and Resources Development Act of 1974. In Maine, the Maine Health Systems Agency, Inc.
Health Systems Plan	The Health Systems Agency's statement of the goals for the health care system of the State and the strategies for achieving these goals.
Home Health Care	Health services rendered to an individual as needed in the home.
Homemaker Services	Services provided by a person employed by a health or welfare agency to furnish home help to families with children; to convalescent, aged, acutely or chronically ill and disabled persons; or to all of these. The primary functions are the maintenance of household routine and the maintenance or creation of wholesome family living in times of stress.
Hospital	An institution which is primarily engaged in providing to inpatients by or under supervision of physicians, diagnostic services and therapeutic services for medical diagnosis,

treatment, and care of injured, disabled or sick persons, or rehabilitation services for the rehabilitation of injured, disabled or sick persons.

Hypertension	Abnormally high blood pressure.
Incidence	The frequency of occurrence of events (e.g., new cases of disease, surgical procedures in a population per 1,000 persons during a specified period of time (usually one year).
Incidence Rate	The incidence of conditions per 1,000 persons in a population during a period of time (usually one year).
Infant Mortality	The number of deaths of live-born children, under one year of age expressed per 1,000 births within a defined region during a given period of time (usually one year).
Influenza	A highly contagious human respiratory infection.
Inpatient	The condition of remaining in a health care facility overnight.
Intensive Care Unit (ICU)	A specialized nursing unit that concentrates seriously ill patients needing constant observation.
Intermediate Care Facility (ICF)	An institution which provides, on a regular basis, health-related care and services to individuals who do not require the degree of care and treatment which a hospital or skilled nursing facility is designed to provide, but who because of their mental or physical conditions require health related care and services above the level of room and board.
Ischemic	Lacking in blood.
Length of Stay	The number of days a patient is in a health care facility.
License	A permission granted by a government to an individual or organization authorizing the provision of health care services or the establishment and operation of a health care facility.
Long Term Care Facility	An institution that provides care for the chronically ill, the aged, the disabled and the retarded.
Malpractice	Either professional misconduct or lack of ordinary skill in the performance of a professional act.
Maternal and Child Health Programs	Organized health and social services for mothers and children.
Medicaid (Title XIX, Social Security Act)	A federally-aided, State operated and administered program which provides medical benefits for certain low-income persons in need of health and medical care.

Medically Needy	In the Medicaid program, persons who have enough income and resources to pay for their basic living expenses (and so do not need welfare), but not enough to pay for their medical expenses.
Medicare (Title XVIII, Social Security Act)	A nationwide health insurance program for people age 65 and over, for persons eligible for Social Security disability payments for over two years, and for certain workers and their dependents who need kidney transplantation or dialysis.
Megavoltage Radiation Therapy	The use of high energy ionizing radiation for the treatment of disease, particularly cancer.
Metabolism	The chemical changes in living cells by which energy is provided for vital processes and activities and new material is assimilated to repair the waste.
Morbidity Rate	The number of cases of a particular disease divided by a population over a certain period of time.
Mortality Rate	The number of deaths divided by a population over a certain period of time.
Myocardial Infarction	The damaging or death of an area of the heart muscle (myocardium) resulting from a reduction in the normal blood supply reaching that area.
National Health Planning Guidelines	In 1974, Public Law 93-641, the National Health Planning and Resources Development Act, mandated the issuance of guidelines to include: "(1) Standards respecting the appropriate supply, distribution and organization of health resources. (2) A statement of national health planning goals developed after consideration of the priorities set forth in Section 1502, which goals, to the maximum extent practicable, shall be expressed in quantitative terms."
National Health Service Corps (NHSC)	A federal program that provides health manpower to areas that do not have an adequate supply of appropriate health care professionals.
Neonatal	The period of time from birth to and including the 28th day of age.
Neonatal Care	Care for maternal and newborn patients. <u>Level I care</u> - primarily for uncomplicated maternity and newborn patients. <u>Level II care</u> - Level I care plus certain special care services for a limited variety of high risk maternal and newborn conditions. Level II (referral) hospitals accept

(Neonatal Care con't.)	transfer patients from other institutions. Level II (non-referral) do not. <u>Level III care</u> - Level I and II care plus care for complicated, high risk maternal and neonatal patients.
Obstetrics	A branch of medicine that deals with pregnancy, birth and the post-partum care of mother and child.
Occlusion	A blockage.
Occupancy Rate	A measure of inpatient health facility use, determined by dividing available bed days by patient days. It measures the average percentage of a hospital's beds occupied and may be institution-wide, or specific for one department or service.
Oncology	The study of tumors.
Open Heart Surgery	A class of highly technical operations on the heart and intra-thoracic great vessels which requires temporary use of cardiopulmonary bypass equipment to perform the functions of circulation during surgery.
Osteopathy	A school of healing based on the theory, originally propounded in 1874 by Dr. Andrew Taylor Still, that the normal body, when in correct adjustment, is a vital mechanical organism naturally capable of making its own responses to and defense against diseases, infections and other toxic conditions. The body is seen as structurally and functionally coordinate and interdependent; abnormality of either structure or function constituting disease. The physician of this school searches for, and if possible corrects any peculiar position of the joints or tissues, or peculiarity of diet or environment which is a factor in destroying the natural resistance. The measures an osteopath may use are physical, hygienic, medicinal, and surgical. The osteopath is now distinguished from the allopathic physician mainly, if at all, by greater reliance on manipulation. Osteopaths are licensed to perform medicine and surgery in all states, eligible for graduate medical education in either osteopathic or allopathic programs, reimbursed by Medicare and Medicaid for their services, supported under health manpower legislation, and generally treated identically with allopathic physicians.
Peer Review	The evaluation of health professionals by their peers.
Pediatrics	A branch of medicine dealing with the development, care, and diseases of children.
Perinatal	The period around the birth of a child. There are several technical definitions. A commonly used one is from the 20th week of gestation to the 28th day of life.

Physiological	Of or relating to the functions and activities of the organs, tissues and cells of the human body.
Post-partum	After birth.
Prenatal Care	Preventive and diagnostic care and treatment rendered to a mother during pregnancy. Pregnancy is divided into three 'three month' periods known as trimesters.
Prevalence	The number of cases of a disease present at a particular time in a particular population.
Prevalence Rate	The number of cases of a disease present at a particular time in a given population per 1,000 persons in the population.
Primary Care	Basic or general health care which emphasizes the point when the patient first seeks assistance from the medical care system and the care of the simpler and more common illnesses. The primary care provider usually also assumes ongoing responsibility for the patient in both health maintenance and therapy of illness. It is comprehensive in the sense that it takes responsibility for the overall coordination of the care of the patient's health problems, be they biological, behavioral or social. The appropriate use of consultants and community resources is an important part of effective primary care. Such care is generally provided by physicians, but is increasingly provided by other personnel such as family nurse practitioners.
Protocol	Formal agreements and arrangements among health care providers and institutions to distribute patients to facilities most appropriate to the nature and severity of their health problems.
Psychiatric Hospital	An institution which is primarily engaged in providing to inpatients, by or under the supervision of a physician, psychiatric services for the diagnosis and treatment of mentally ill persons.
Quality	In connection with the provisions of P.L. 93-641, the extent to which health care services are delivered in accordance with established professional standards in terms of structure, process and outcome. Elements of quality health care include technical competence, respect for the patient, treatment method, length and environment, and effectiveness.
Reimbursement	To pay back to someone. Payment for health care services can be made by the patient (self-pay), his insurer (e.g., Blue Cross/Blue Shield or Union Mutual) or a third party purchaser of care (e.g., Medicaid).
Renal Dialysis	A process to remove waste products and excess fluid from the body of a patient with end stage renal disease.
Renal Transplant	The transfer of a kidney from a live or dead donor to a patient with end stage renal disease.

Respiratory Distress Syndrome	One of several diseases of the newborn which results in sub-normal levels of oxygen in body tissue.
Retinitis Pigmentosa	A chronic progressive inflammation of the eye (with atrophy and pigmentary infiltration).
Skilled Nursing Facility	An institution or distinct part of an institution which is primarily engaged in providing to inpatients skilled nursing care and related services for patients who require medical or nursing care, or rehabilitation services for the rehabilitation of injured, disabled or sick persons.
State Health Plan	The plan prepared annually by the State Health Coordinating Council after consideration of the health systems plan and the preliminary State health plan prepared by the Bureau of Health Planning and Development. After 1980, the Governor of the State must approve the State health plan.
State-wide Health Coordinating Council	A state-wide organization of consumers and providers appointed by the Governor in each state under Public Law 93-641 to prepare, review and revise a State health plan annually and conduct certain activities.
Sudden Infant Death Syndrome	A disease of unknown cause which is fatal to infants who previously appeared to be in good health.
Supplemental Security Income (SSI)	A program of income support for low-income, aged, blind and disabled persons.
Swing Beds	A hospital bed which can be used for more than one clinical service or level of care as demand requires it.
Syphilis	A contagious venereal disease characterized by three stages continuing over many years.
Toxemia	The presence of toxic or poisonous substances in the blood.
Transport	A commonly used word generally connoting the process of transferring patients from intensive care to acute and sub-acute care or to their homes.
Triage	The screening of patients for assignment to the appropriate level of care.
Tuberculosis	A highly variable communicable disease caused by the tubercle bacillus primarily affecting the lungs.
Urethritis	Inflammation of the urethra, the canal that removes urine from the body.
Utilization Review	Evaluation of the necessity, appropriateness and efficiency of the use of medical services, procedures and facilities.
Vaginal Cancer	Cancer in females affecting the canal extending from the uterus to the vulva.
Venereal Disease	A contagious disease (such as gonorrhoea or syphilis) that is typically acquired in sexual intercourse.