Healthy Maine 2000

A Decade in Review

Bureau of Health
Maine Department of Human Services

Healthy Maine 2000
A Decade in Review

Presented by

Bureau of Health
Maine Department of Human Services
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Key

Healthy Maine 2000 Objectives

▲ Met or Exceeded the Healthy Maine 2000 Goal

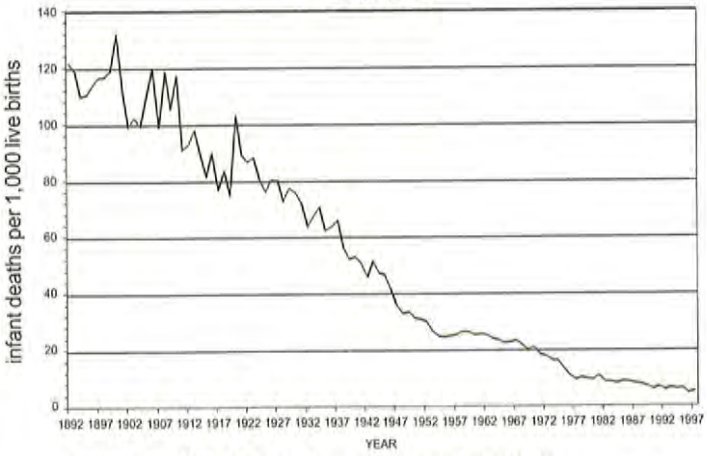
▼ Did not Achieve the Healthy Maine 2000 Goal

Nearly a decade ago, people from across Maine helped the Department of Human Services' Bureau of Health set Year 2000 heath status priority areas with resulting goals and objectives for the State. *Healthy Maine 2000: A Decade in Review* provides an overview on the progress made toward these first-time health priorities and measurements.

We hope this overview is useful both to assess how Maine has progressed this past decade in these priority areas and to help determine what our priorities should be for this next decade. As we face rising health care costs, technological advances, and an aging population, it is more important that ever that we use these and other measurements to discern the direction and utilization of health system resources. If our mission is to improve the health of Maine people, then we must use these goals and objectives to plan and assess progress toward meeting this mission. As a result we will be able to utilize our health system resources more efficiently.

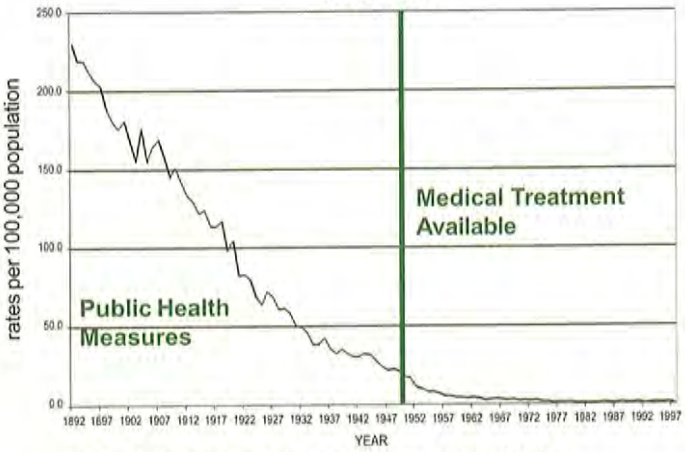
As a new century begins, we realize we face vastly different health challenges than our ancestors. For instance, a century ago, a baby born in the United States had a life expectancy of 47 years. The 20th Century brought an unprecedented increase in our life expectancy by 30 years to 77 years for a baby born today. A major factor in this success is the 98% drop in our infant mortality rate such that a full term baby born today in Maine faces a 1 in 1000 chance of dying before their first birthday rather than the 1 in 8 chance faced 100 years ago.

Maine's Infant Deaths
Per 1,000 Live Births
1892-1997



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics.

Maine's Tuberculosis Deaths
Per 100,000 Population
1892-1997



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics.

Among all ages, the single biggest cause of death in Maine a century ago was tuberculosis. Our ancestors also commonly faced a myriad of other acute infectious diseases. We have now virtually eliminated tuberculosis as a cause of death as well as a number of other previously common acute infections such as typhoid, cholera, smallpox, measles, polio, diphtheria, and tetanus.

Most importantly, it was not medical and surgical advances that accounted for most of these successes. It was, for the most part, the outcome of preventive public health measures such as improved nutrition, education, sanitation, and vaccinations. Successful public health strategies usually implement a combination of three types of interventions: primary prevention (risk prevention); secondary prevention (risk reduction); and tertiary prevention (reduction of disease burden). In addition, successful approaches have often involved state and local implementation of supportive policies, assurance of addressing health issues, and the use of assessment tools for determining future direction.

A combination of these strategies primarily accounted for the dramatic health successes of the 20th Century. In fact, tuberculosis deaths were mostly eliminated in Maine by the time effective medications became available. Furthermore, most of the decline in infant mortality took place before neonatal intensive care units became common.

The same prevention-oriented approaches used to address our ancestors' health issues are even more applicable today as they were a century ago. We now know how to prevent most of what we are disabled by and die from. Three quarters of Maine people die from only four diseases: cardiovascular disease, cancer, chronic lung disease, and diabetes. These four diseases also cause over one third of all disabilities. Yet, most cases of these four diseases are preventable. The major risk factors for these diseases include tobacco addiction, physical inactivity, poor nutrition, elevated blood pressure, and elevated cholesterol. When we look at the determinants of ill health among young people, we also see issues that are primarily preventable: motor vehicle accidents, intentional injuries, and house fires with underlying preventable risk factors such as alcohol abuse, excessive driving speed, access to hand guns, and lack of working smoke detectors.

The following chapters give an overview on our progress in using public health strategies in several health priority areas. In addition to celebrating successes and noting those areas where goals were not achieved, the hope is that the data in this report will provide direction and design for the new health status goals and objectives for the future, launching Healthy Maine 2010.

Looking toward 2010, we know our mission has evolved to include not only improving the health of Maine people, but also eliminating health disparities. For instance, though some of Maine's health status indicators may be exemplary, there are some populations who are not doing as well as others since they face great barriers to good health. For instance, disparities exist among racial and ethnic minorities such as Native Americans, Maine people living with lower socioeconomic status, members of the gay and lesbian communities, and people living in some geographical areas such as our rural counties. As we move forward in creating Healthy Maine 2010 goals and objectives, we want to ensure the health of *all* Maine people is improving by eliminating these health disparities.

For those who would like to participate in creating Healthy Maine 2010 priority areas with resulting goals and objectives, there are several opportunities. First, there will be a public forum hosted by the Maine Public Health Association in the fall of 2000 for people to provide input on the priority areas. Second, the Bureau of Health will organize work groups of Maine experts and stakeholders for each of the determined priority areas to develop goals and objectives for each area. Interested parties may contact the Bureau of Health at 287-8016 and ask for Elaine Lovejoy (elaine.lovejoy@state.me.us).

After the work groups have completed their task, we plan on publishing the resulting 2010 health goals and objectives for Maine during the year 2001. Although a mental health chapter noting our progress on this priority area was not submitted for this current report, it is hoped that this critical health area is addressed in the upcoming Healthy Maine 2010 priority areas and report.

Lastly, I would like to sincerely thank the many staff from the Bureau of Health and the Office of Substance Abuse who spent a great deal of time on top of their normal workload to help gather data and write this review. In addition, I am especially thankful to Sharon Leahy-Lind at the Muskie School of Public Service who did a wonderful job coordinating these efforts and pulling together this review. All of these people are dedicated to serving the people of Maine, and for that I am truly grateful.

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Cancer Prevention and Control

The 1990s saw the overall cancer death rate in the United States decline for the first time since such information has been tracked. Unfortunately, Maine did not experience the same decrease. Not all of the news is bad, however. Significant progress has been made toward reducing the impact of several major cancers and initiating several statewide initiatives to address others.

Cancer prevention, early detection, and treatment have undergone significant change since 1990 which has major implications for the future.

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Healthy Maine 2000 Goal

Reduce Cancer Morbidity and Mortality

Overview

Cancer is not just one disease. It is a group of diseases which include a process of abnormal and uncontrolled growth and spread of cells. Cancers are caused by internal (e.g., genetic and hormonal) and external (e.g., viral, social, and environmental) factors. Significant progress was made in the 1990's toward understanding the underlying causes of some cancers, including cervical cancer and breast cancer.

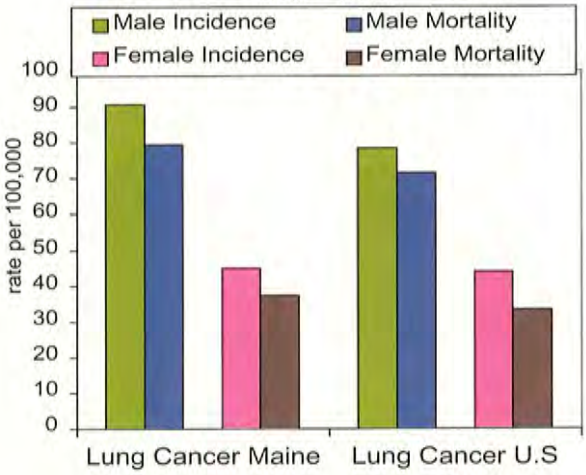
Lung Cancer Mortality among males is higher in Maine than the U.S.

Cancer causes one out of every four deaths in Maine and in the United States.[1,2] The American Cancer Society estimates that Maine had the sixth highest total cancer death rate in the country in 1996 – 1998.[3] Cancer is the second leading cause of death nationally and in Maine, causing approximately 3,000 deaths per year throughout the 1990's. Only heart disease causes more deaths in Maine. Cancer results in the loss of more years of healthy life than heart disease, because cancer deaths occur at younger ages.

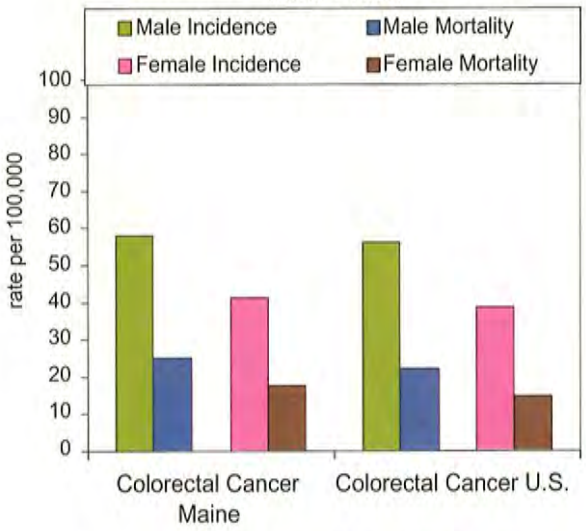
Cancer is also a costly disease. In 1997, 6,636 hospitalizations occurred in Maine as a result of cancer. Direct and indirect costs of cancer in Maine totaled nearly $440 million in that year.[4] Lung cancer caused the most cancer deaths in both men and women, followed by prostate cancer for men and breast cancer for women, with colorectal cancer ranking third.[5, 6]

Cancer causes one out of every four deaths in Maine and in the United States.

Lung Cancer Incidence and Mortality Rates
Maine & United States
1990 - 1994

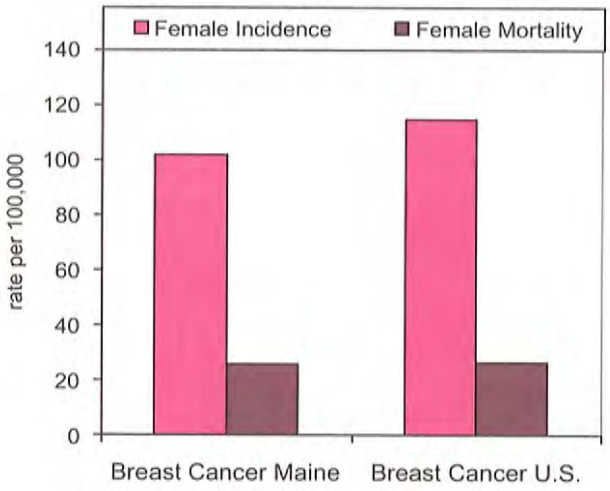


Colorectal Cancer Incidence and Mortality Rates
Maine & United States
1990 - 1994



Notes: Rates are per 100,000, age adjusted to the 1970 U.S. standard population. Data sources: Maine data are from Maine Cancer Registry Report for 1983 - 1994, Bureau of Health, Maine Department of Human Services. U.S. data are from SEER Cancer Statistics Review 1973 - 1995, Surveillance, Epidemiology and End Results Program, Division of Cancer Control and Population Sciences, National Cancer Institute. U.S. rates are for the Caucasian population only, since this provides a better comparison with Maine's population, which is approximately 98% Caucasian.

Breast Cancer Incidence and Mortality Rates
Maine & United States
1990 - 1994



Notes: Rates are per 100,000, age adjusted to the 1970 U.S. standard population. See additional source information under lung and colorectal charts.

Mortality in Maine is similar to that in the United States for each of the cancers noted except for lung cancer mortality among males, which is significantly higher in Maine. It is interesting to note that while mortality rates for female breast cancer and for prostate cancer are similar to the United States, Maine's incidence rates appear lower. Further investigation is needed to determine whether this is an issue related to stage at diagnosis (i.e., an issue of early detection), to treatment (e.g., choice of type of treatment, delay in treatment), or to under-reporting of cancer cases.

While Maine's overall goal is to reduce total cancer mortality and morbidity, only cancers that are significant public health problems and/or are readily amenable to public health interventions, such as early detection or health education to promote prevention, are highlighted here. These include breast, cervical, and colorectal cancers. Also highlighted is the modifiable risk factor of fruit and vegetable consumption. Lung cancer and tobacco use, physical activity and other aspects of nutrition are highlighted in other chapters. It is important to note that the Bureau of Health has funding for the control of breast and cervical cancer and reducing tobacco use, but not for other cancer sites.

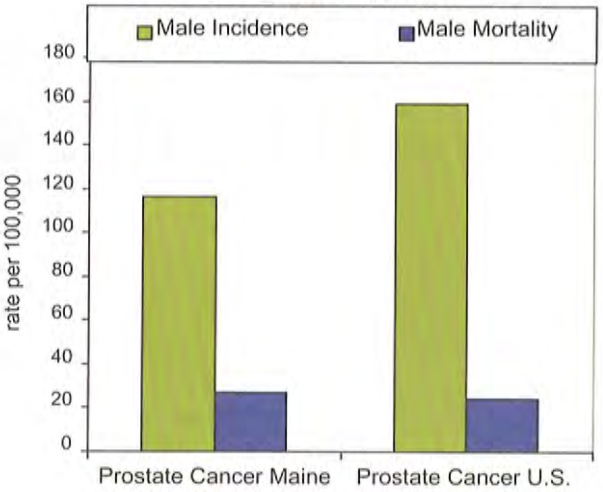
Estimates of the Proportion of Cancer Deaths Attributed to Various Factors

Factor	Doll and Peto Estimates %	Miller Estimates %	Harvard Estimate%
Tobacco	30	29	30
Diet	35	20	30
Infective processes	10	----	5[a]
Occupation	4	9	5
Family History	----	8	5
Reproductive & Sexual History	7	7[b]	3
Sedentary Lifestyle	----	----	5
Perinatal factors/growth[c]	----	----	5
Geophysical[d]	3	1	2
Alcohol[e]	3	6	3
Socioeconomic status	----	----	3
Pollution	2	----	2
Medication & Medical procedures	1	2[f]	1
Industrial & Consumer Products	<1	----	----
Salt/other food additives/contaminants	----	----	1

[a] Viruses and other biological agents
[b] Attributed to parity (4%) and sexual activity (3%)
[c] Excess energy intake early in life and/or larger birth weight
[d] Mainly natural background radiation and sunlight
[e] With the exception of liver cancer, most alcohol-related cancers result from the combination of alcohol consumption and cigarette smoking
[f] Attributed to drugs (1%) and radiation (1%)

Source: Chronic Disease Epidemiology and Control, 2nd Ed., 1998

Prostate Cancer Incidence and Mortality Rates
Maine & United States
1990 - 1994



Notes: Rates are per 100,000, age adjusted to the 1970 U.S. standard population. See additional source information under lung and colorectal charts.

Maine's prostate cancer incidence rates are lower than the U.S. rates.

New and Emerging Issues in the 1990's

A variety of new and emerging issues at the national level influenced cancer control in Maine throughout the decade. Issues ranged from better understanding of cancer, its risk factors and precursors, to the impact of reimbursement on cancer early detection.

Links Between Cancer and Infectious Disease

The links between some cancers and infectious diseases have been known for some time, for example, the link between liver cancer and Hepatitis B Virus. In the 1990's, a strong link between cervical cancer and the Human Papillomavirus (HPV) was identified.[7,8,9,10] This link has shifted the focus of cervical cancer prevention to include prevention of sexually transmitted diseases as well as promoting detection of pre-cancerous cervical abnormalities through Pap tests.

> Nutrition is implicated as the second leading modifiable cause of cancer behind tobacco use.

Genetics

Genetic factors clearly play a role in the development of cancer. Genetic mutations may be inherited or may be caused by exposure to specific agents. There is increasing information that some people are predisposed to cancers because of inherited genetic syndromes. Small proportions of both colorectal cancer and breast cancer are related to inherited syndromes. In the early 1990's, two genes that are responsible for approximately 80% of all inherited cases of breast cancer were identified, BRCA1 and BRCA2.[11] These genes also confer a higher risk of ovarian cancer.

The identification of these genes raised a variety of related questions, including: the appropriateness of genetic screening for the mutation; the need for informed consent for genetic screening; the desire for protection of genetic information (particularly in the context of health insurance); and the reasonableness of bilateral prophylactic mastectomy[12] for women who carry the genes. These and similar issues will need to be monitored in the future.

Socioeconomic Status, Minorities, Special Populations, and Cancer

The understanding of the links among socioeconomic status, membership in minority or other special populations, and cancer has expanded in the 1990's.[13] Public and private funding sources increasingly focus on "eliminating health disparities" as a major goal of public health interventions for all diseases, including cancer. We need to continue to refine our understanding of Maine's special populations, involve members of special populations in public health initiatives, and implement interventions that are appropriate.

Role of Physical Activity and Nutrition

Nutrition is implicated as the second leading modifiable cause of cancer behind only tobacco use.[14,15] Physical activity is also important in the prevention of cancer, both as a means to control weight and as a means to prevent colorectal cancer. Increasing focus is being placed on nutrition and physical activity as means to prevent cancers.

Much research has been done in the past decade to isolate the impact of various dietary habits on cancer.[16] There is agreement on a limited number of healthy habits that have strong relationships with reduction of one or more cancers. These include: avoiding obesity and weight gain during adulthood; being moderately to vigorously active for at least 30 minutes on most days; consuming five servings of fruits and vegetables daily; replacing red meat with chicken, fish, nuts, and legumes and consuming dairy products at most in moderation; and limiting alcohol consumption to one drink a day for women and two for men.[17] Since these guidelines also have positive impact on prevention and

management of cardiovascular disease and diabetes, they should have major focus in future public health efforts in Maine.

The Impact of Insurance and Managed Care

Insurance, and specifically, managed care, has an increasing impact on the early detection of cancer. In the years 1996 – 1999, over 200 pieces of legislation were introduced in states or at the national level to mandate insurance companies to cover early detection for a variety of cancers.[18] This type of legislation is generally called "mandated benefits." In Maine, mandated benefits were enacted in the 1990's for both screening mammography and prostate cancer screening.[a] The Medicare program[b] was substantially expanded in 1998. New coverage included annual benefits for screening mammograms instead of every other year; coverage of Pap tests, pelvic exams and clinical breast exams every three years; and coverage of colorectal cancer screening.

Occupation and Environment

The public is increasingly concerned with the links between occupation and environment, and cancer. Occupational and environmental exposures are considered together because they both reflect factors that are external to the person. These external factors may be able to be controlled by individuals (e.g., exposure to sunlight), or not (e.g., air pollution). External factors interact with one another and with individual genetic predisposition toward certain types of cancer.[19] Among the strong environmental–cancer links are the following: secondhand smoke to lung cancer, and ultraviolet radiation from sunlight to skin melanoma. Among the clearest occupational–cancer links are those that have been shown with asbestos to lung cancer, and exposure to aromatic amines in the textile, rubber, and leather industries to bladder cancer.[20] Continuing research in this area will increase understanding of which environmental and occupational exposures should be targeted for modification.

In the meantime, public health efforts should focus on reducing exposure to secondhand smoke (see tobacco control chapter), reducing exposure to sunlight, and preventing workplace and environmental exposures to carcinogens.

Chemoprevention

Chemoprevention refers to the use of drugs or other agents to suppress or prevent the development of cancer. Chemoprevention research does not include foods of a normal diet, but does study high doses of some compounds one would consume, such as vitamin A and beta-carotene. Research in chemoprevention has expanded greatly in the 1990's to include a number of large clinical studies. Of particular public health interest are the studies related to cancers for which effective early detection exists: breast, colorectal, and skin cancer.[21]

The Breast Cancer Prevention Trial was launched in 1992 to study the impact of prophylactic Tamoxifen on breast cancer incidence among high-risk women. Study results released in April 1998 showed a significant decrease in breast cancer incidence, but also showed an increase of negative side effects such as endometrial cancer and blood clots in the lungs and major veins. We will have to closely monitor the ongoing results of chemoprevention studies to assess their applicability in the public health arena.

Prevention and early detection continue to be the mainstay of the public health approach to cancer control.

[a] The Maine Bureau of Health did not support the mandated benefit for prostate cancer screening, since the benefits of such screening is not yet scientifically supported.

[b] Medicare is the federal program which pays for health insurance for individuals who are age 65 and older or disabled.

Weighing Risks Versus Benefits of Cancer Prevention Initiatives

Medicine is practiced using the tenet, "first do no harm." Public health likewise seeks to improve the lives of populations without harming individuals in those populations. In the 1990's, several instances of potential harm caused by medical and public health interventions were identified. Breast cancer provides several examples. Many postmenopausal women use estrogen replacement therapy (ERT) to prevent heart disease and osteoporosis. However, ERT has now been found to not only make mammography less effective by increasing the density of breast tissue (and thus reducing the image quality of mammography), but may also be linked to actual increased risk for breast cancer and may not prevent heart disease.[22,23]

Another example is the false positive results from clinical breast exams and mammograms. Although they confer great benefits, neither of these screening modalities is perfect: both generate false negatives and false positives. False negative results may lead to delayed diagnosis of cancer. False positive results lead to unnecessary biopsies and anxiety.[24,25] Research in the 1990s brought concerns about the impact of false positive screening tests to the fore. As a result, increased emphasis has been placed on accuracy and specificity of screening tests, as well as on fully educating patients about the benefits and potential shortcomings of screening.

Continuing Progress

Early Detection: The Ongoing Promise

Prevention and early detection continue to be the mainstay of the public health approach to cancer control. Just as the 1990's saw significant progress in the understanding of and advancement of prevention of cancer, there was also progress in early detection. This progress did not occur without controversy. Early detection is dependent upon adherence to specific guidelines for the frequency of screening by both health care providers and individuals. Screening for colorectal cancer, prostate cancer, and skin cancer were all debated in the 1990s. As scientific study of the impact of early detection continues, an ongoing challenge will be balancing screening against the effectiveness of the treatment available for the cancer detected. For example, the prostate-specific antigen (PSA) blood test for prostate cancer is currently an equivocal screening test because it is unclear whether earlier detection and treatment actually reduces illness and prolongs life.[26]

Of particular concern was the frequency of mammography screening for women age 40 - 49. Breast cancer screening guidelines were the topic of hot dispute among the scientific community throughout the decade. Finally, in 1997, the National Cancer Institute, after lengthy scientific and political wrangling, agreed to recommend mammography screening every one to two years for all women age 40 and older. The American Cancer Society simultaneously altered its mammography screening guidelines from every other year for women age 40 - 49 and annually for women 50 and older to a blanket recommendation for annual screening for women 40 and older.

The good news is that, in spite of controversy and confusion related to the recommendations of health care providers, the public is more aware of and more likely to follow clinical guidelines for screening. Maine must continue to inform the health care community and Maine citizens about the benefits and limitations of early detection, and to develop programs and policies to increase access 0to these services.

Early Detection: Quality Improvement and New Methods

A number of policy developments in the 1990s have improved the quality of early detection methods. The Mammography Quality Standards Act (MQSA) was passed in 1993 and reauthorized in 1998. The goal of the act is to improve the quality of mammograms and assure systematic reporting of results. Among the aspects of mammography

MQSA addresses are: inspection of mammography facilities, training of personnel, equipment requirements, record-keeping, reporting, informing patients, and release of mammographic films to patients.

MQSA requires use of a standard reporting language for mammograms. The American College of Radiology's Breast Imaging Reporting and Data System (BI-RADS) is now the standard across the country. This system reports results in the categories shown below.

I. Negative
II. Benign Finding
III. Probably Benign - Short-Term Follow-Up
IV. Suspicious Abnormality
V. Highly Suggestive of Malignancy

Standardization of results has been of great benefit both to patients and providers in determining appropriate diagnostic and treatment procedures.

A number of policy developments in the 1990s have improved the quality of early detection methods.

Standardization of reporting of screening tests was addressed both by MQSA and by a new system of reporting Pap Test results called The Bethesda System (TBS). TBS was developed through multidisciplinary workgroups convened by the National Cancer Institute to address the "diagnostic chaos" that existed in cervical cytology reporting until the late 1980s. TBS reports Pap results in three sections: adequacy of the specimen, a general categorization of the result, and a specific descriptive diagnosis. One of the most important aspects of TBS is that it distinguishes between infections that would not lead to cancer, and other results.

New methods of screening for common cancers are being developed. Several new Pap Test techniques serve as examples of these advances in technology. Thinprep is a technique by which the cervical cells are immediately placed in a liquid for transportation to the cytology laboratory rather than being placed on a microscope slide at the doctor's office. Two computer-assisted automated Pap Test methods have also been developed, Papnet and Autopap. Both read microscope slides automatically with a computer. While some of these new technologies are interesting, at this time the costs for some outweighs additional benefit, and there may be more false positive screening results, and thus more unnecessary diagnostic procedures.[27]

The Food and Drug Administration recently approved a digital mammography system that may allow radiologists to better screen women with dense breast tissue. There is controversy about the new imaging technique. Some reviewers feel that the digital images are not of higher quality, while others have found that the images are more specific.[28]

Recent research on the utility of Human Papilloma Virus (HPV) testing as a means to help plan treatment for pre-cancerous cervical abnormalities indicates that such testing does not significantly add to clinical knowledge.[29] Such a high percentage of women with pre-cancerous abnormalities have evidence of HPV infection that identification of the abnormality through Pap testing still is the most effective and

The combination of improved early detection with improved treatment in the 1990s has vastly changed the outlook for Maine citizens who are diagnosed with cancer.

efficient method. HPV testing is more expensive than the Pap test, so it is unlikely to become a widely used screening method in the near future. Digital mammography, new Pap technologies, HPV testing, and all new technologies for cancer screening must be monitored in the future to assure they are appropriately incorporated into public health efforts.

Identification of Individuals at Risk

Risk assessment is important in early detection. Many screening guidelines provide different recommendations for those at higher risk. There has been increased attention to quantifying cancer risk in the 1990s. One example is the Breast Cancer Risk Assessment Tool developed by the National Cancer Institute. The tool predicts the absolute risk of developing breast cancer over the next five years by considering the following factors: age at first live birth (or having no children), history of breast biopsies, number of close relatives with breast cancer.

Improvements in Treatment

Treatment for many cancers has improved over the past ten years. New chemotheraphy drugs, better surgical techniques, improved radiation therapy, biological therapy, and increasing use of multimodality therapy have combined to increase survival rates.[30] The combination of improved early detection with improved treatment in the 1990s has vastly changed the outlook for Maine citizens who are diagnosed with cancer.

Breast and Cervical Cancers

The Maine Breast and Cervical Health Program in the Bureau of Health is funded by the Centers for Disease Control and Prevention (CDC) through the National Breast and Cervical Cancer Early Detection Program, and is administered in cooperation with Medical Care Development. The program is a breast and cervical cancer early detection and control program, which includes: payment for screening and diagnostic tests for low-income women who are un- or under-insured; public education to inform all Maine women of the importance of early detection; professional education to assure that screening tests are performed in a timely manner and are of the highest quality; surveillance; and program evaluation. The program has contracts with over 200 primary care providers, diagnostic/referral providers, laboratories, and mammography facilities. By the end of 1999, the program had served over 5,200 women. Thirty-eight breast cancers and 18 cervical cancers were detected among low-income older women who might not otherwise have received screening services.

Professional education has been made available to primary care providers, cytotechnologists, and radiologic technologists. Primary care providers have had the opportunity to increase their skills in colposcopy and clinical breast exam through hands-on clinical training. They also have had the opportunity for didactic sessions in a wide range of breast and cervical early detection issues. An audiotape on effective physician-patient communication was also developed and disseminated. Special workshops for cytotechnologists and radiologic technologists on current topics in their fields have been delivered on a regular basis in cooperation with their professional societies.

Skin Cancer

The Bureau of Health, in partnership with the American Cancer Society (ACS) has promoted a skin cancer prevention campaign developed by CDC, "Choose Your Cover." The campaign consists of television and radio public service announcements and print ads that urge young people to avoid exposure to sunlight. The campaign ran in 1998 and 1999.

Colorectal Cancer

Colorectal cancer awareness has also been promoted through joint Bureau of Health/ACS dissemination of a CDC campaign. "Screen for Life" promotes colorectal cancer screening for adults age 50 and older. Letters were sent in 1999 to all gastroenterologists and internal medicine and family practice physicians in the state to inform them of the campaign, urge them to screen patients according to guidelines, and inform them of relevant materials available from ACS.

Improved Cancer Surveillance

Consistent and accurate data on the the incidence of cancer is critical to ongoing assessment of the scope of these diseases in Maine, as well as evaluating interventions. Since 1983 the Bureau of Health's Cancer Registry has been collecting cancer data from health care providers.

The registry has focused the last 5 years on improving the accuracy of the data by developing new case-finding systems for laboratories, provider offices, and death certificates. In addition, stage of cancer at diagnosis was added as a reporting requirement in 1995. This is important information since it indicates whether cancers in Maine are being diagnosed in early or late stages of development. Work is continuing to improve the accuracy of this reported data.

The Future

Comprehensive Cancer Control

Maine initiated a comprehensive cancer control planning effort in 1998. CDC defines comprehensive cancer control as "an integrated and coordinated approach to reduce the incidence, morbidity and mortality of cancer through prevention, early detection, treatment, rehabilitation and palliation." Prior cancer planning efforts in Maine had focused on primary prevention and early detection. Meetings of a broad-based group of interested partners from throughout the state began in April 1999 to identify steps to be taken in Maine to address cancer control in a comprehensive manner. A Coordinating Committee and five workgroups (Primary Prevention, Early Detection, Treatment, Rehabilitation/Survivorship, and Palliation) are developing goals, objectives and strategies for a cancer plan to be completed by early 2001. We look forward to implementing a comprehensive approach to cancer prevention and treatment with our many statewide partners.

Maine Cancer Registry

Audits of Staging Reports

Year and Stage Type	Hospitals	% of Cases with Staging Reported
93-94 Summary	All	30%
93-94 AJCC*	All	39%
95 AJCC	COC**	92%

*AJCC is the American Joint Commission on Cancer. Cancer Staging system includes more categories than the summary staging system.

**COC stand for the Commission on Cancer, which certifies certain hospitals' cancer programs.

Note: Determining stage of cancer at diagnosis is important since this information can indicate if cancer is diagnosed in Maine in early or late stages. Work has been done to increase the reporting of stages and accuracy of this reporting.

Healthy Maine 2000 Objectives

Objectives established to reduce cancer morbidity and mortality.

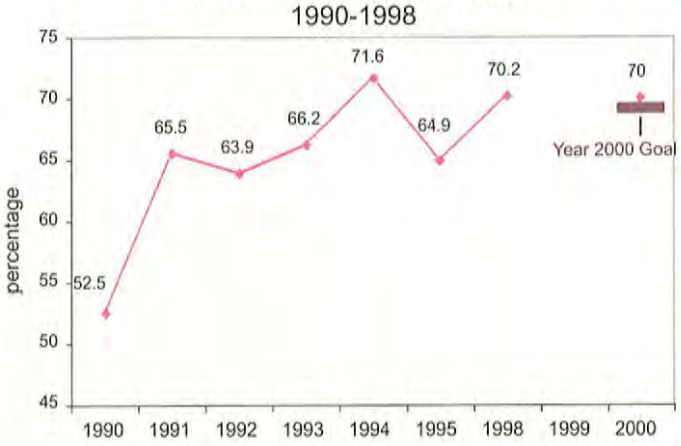
Service and Protection Objective

Increase to at least 70% the proportion of Maine women aged 40 – 49 who have received both a mammogram and clinical breast exam within the preceding two years.

Maine 1990 Baseline: 52.5%
Most Recent Data: 1998, 70.2%.

In both 1994 and 1998 the Healthy Maine 2000 objective was reached, and the overall trend in the decade showed increased screening among this age group of women. As was discussed earlier, the recommended frequency of screening for women in this age group has been a matter of great controversy in the 1990s. Such controversy leads to confusion among the public and may result in avoidance of screening services. Anecdotal evidence from the Maine Breast and Cervical Health Program (MBCHP) indicates that younger women tend to be more aggressive in seeking breast screening services. Unfortunately, the CDC funds that support the MBCHP greatly limit the number of women below the age of 50 who can be served. Significant progress can still be made toward increasing screening in this age group.

Percent of Maine Women Aged 40-49 Receiving both a Mammogram and a Clinical Breast Exam within the Preceding 2 Years
1990-1998



*Note: This question was not asked of survey participants in 1996 & 1997.

Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System

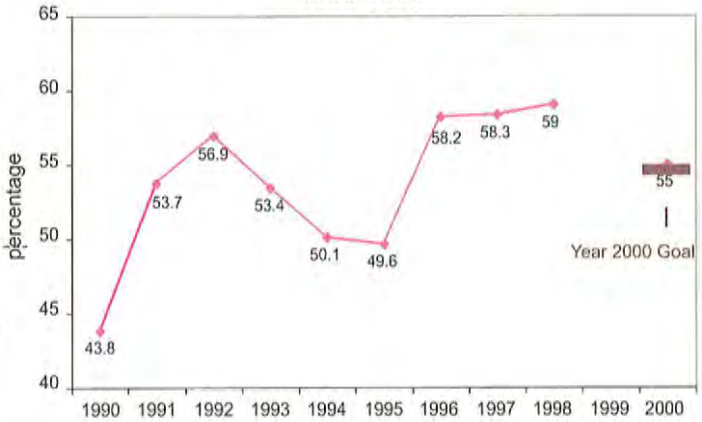
Service and Protection Objective

Increase to at least 55% the proportion of Maine women aged 50 and over who have received both a mammogram and clinical breast exam in the preceding year.

Maine 1990 Baseline: 43.8%
Most Recent Data: 1998, 59%.

The Healthy Maine 2000 goal was met in 1992 and 1996. Since 1996, the goal has been exceeded consistently. A number of factors have supported achievement of this objective. In the time period from September 1995 – December 1999, the Maine Breast and Cervical Health Program provided nearly 6,500 mammograms to almost 5,300 uninsured and underinsured Maine women. Eighty percent of these women were over the age of 50. The combination of these services and expanded public awareness of screening guidelines for women age 50 and older may have helped to increase screening rates.

Percent of Maine Women Aged 50 & Over Who Have Received both a Mammogram and a Clinical Breast Exam in the Preceding Year
1990-1998



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System

Healthy Maine 2000 Objectives

Objectives established to reduce cancer morbidity and mortality.

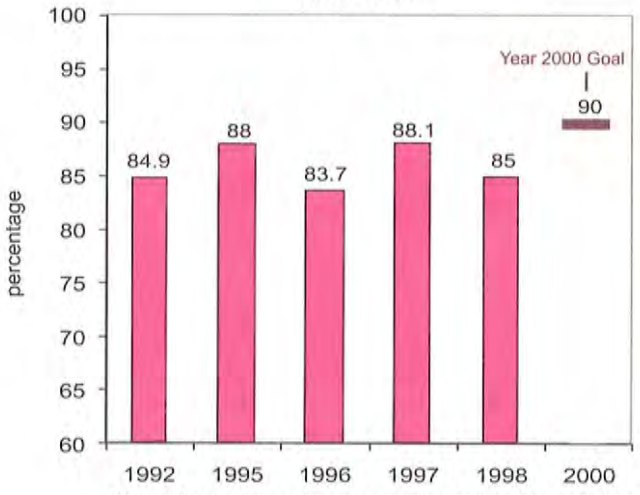
Service and Protection Objective

Increase to at least 90% the proportion of women aged 18 and older with a uterine cervix who received a Pap smear within the preceding 1 – 3 years.

Maine 1992 Baseline: 84.9%
Most Recent Data: 1998, 85%

While this goal was not achieved, the baseline was high at the beginning of the decade, which left the task of trying to address the hardest to reach women. Additional work is clearly needed to identify the 12 – 15% of the Maine women that are not receiving regular Pap smears, better understand who they are and where they live, and then develop appropriate interventions to increase the rate of screening.

Percent of Maine Women Aged 18 & Older with a Uterine Cervix Receiving a Pap Smear in Preceding 1-3 years
1992-1998



*Note: This question was not asked in 1990,1991, 1993 & 1994

Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System

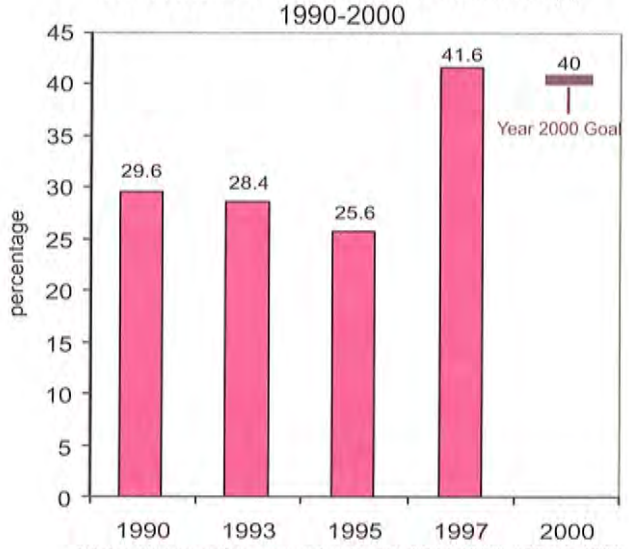
Service and Protection Objective

Increase to at least 40% the proportion of adults who have ever received a proctoscopy.

Maine 1990 Baseline: 29.6%
Most Recent Data: 1997, 41.6%

More Maine people have had at least one screening for colon cancer, as is shown by the data. The challenge for the future will be to increase both the number of Maine adults who have ever had colorectal cancer screening, and the number who have such screening tests on a regular basis.

Percent of Maine Adults Aged 50 & Over Who Have Ever Received a Proctoscopy
1990-2000



*Note: This question was not asked in 1991,1992, 1994 & 1996

Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System

Healthy Maine 2000 Objectives

Objectives established to reduce cancer morbidity and mortality.

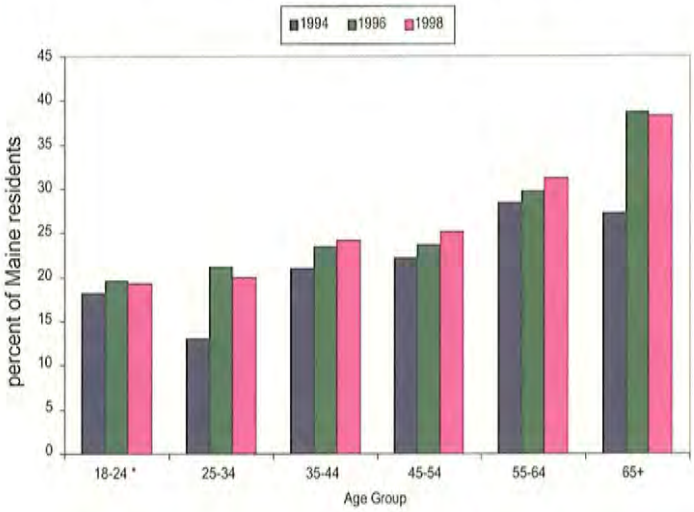
Risk Reduction Objective

Increase complex carbohydrates and fiber-containing foods in the diets of adults to five or more daily servings for vegetables (including legumes) and fruits and to six or more daily servings for grain products.

Maine 1994 Baseline: 21.1%
Most Recent Data: 1998, 26.4%

BRFSS data for the years 1994, 1996 and 1998 are presented to show that only a small portion of the Maine population eat five or more servings of fruits and vegetables each day. Women are far more likely than men to eat the recommended number of servings of fruits and vegetables, and young people of both sexes are less likely to follow the recommendation. Consumption of fruits and vegetable is associated with reduced risk of several cancers, including lung and colorectal.[31]

Fruit & Vegetable Index: Percent of Maine Residents Who Eat Five or More Servings Per Day 1994-1998



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillence System

*Based on fewer than 50 people in the age group who said they ate five per day.

Note: This objective was crafted based on a nutrition and physical activity survey done in 1995 which was not repeated. BRFSS questions related to consumption of five servings of fruits and vegetables each day have been asked every other year since 1994. Therefore, the BRFSS data showing the percentage of Maine individuals who eat five or more servings of fruits and vegetables per day are presented.

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Chronic Disease Prevention and Control

Chronic diseases, particularly, cardiovascular disease, cancers, chronic obstructive pulmonary disease, and diabetes, are the leading causes of death in Maine and the United States. As the population in Maine grows older, the costs and burden from chronic and disabling conditions will increase dramatically and present ever-greater challenges to Maine's health care and public health systems and the general public.

Fortunately, the incidence and burden from all chronic diseases in Maine can be dramatically reduced through prevention activities that decrease such risk factors as tobacco use, physical inactivity and poor nutrition. In concert with more focused interventions for people at high risk for one or more specific chronic conditions, these prevention activities can enhance not just the length, but also the quality of life for all Maine residents. These improvements are the fundamental mission of public health.

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Healthy Maine 2000 Goal

Reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Overview

The term "chronic disease" refers to a wide variety of health conditions that are not contagious, that either take many years to develop or persist for many years after their development, and that can rarely be completely cured. The chronic diseases that cause the most death and disability in Maine are: cardiovascular diseases (such as heart disease and stroke), cancers (including lung, breast, prostate, and colon), chronic lung disease (including asthma, chronic bronchitis, and emphysema), diabetes, and arthritis. Together each year, these chronic diseases account for more than 75% of all deaths, 65% of years of potential life lost before age 75, and more than one-half billion dollars in inpatient hospital expenditures in Maine.

The total number of deaths and hospitalizations, and the estimated costs to Maine residents for the leading chronic diseases are presented in Table 1. Heart disease is the leading cause of death in Maine and the United States. Cancers kill the highest proportion of Maine residents under 75. According to 1997 data from the Centers for Disease Control and Prevention (CDC), Maine has the fourth highest percent of people in the nation who die from the four major chronic diseases of cardiovascular disease, cancer, chronic lung disease, and diabetes. Although they are less frequent causes of death, diabetes, chronic lung disease, and arthritis have a disproportionate burden on the living. These diseases specifically reduce quality of life through increased rates of hospitalizations and impaired activity limitation, and resulting in substantial direct and indirect costs to society. Asthma is the only common chronic disease that occurs more often in children under 18 than in adults 18 and over. Both asthma and diabetes are increasingly common in children, young adults, and middle-aged adults in the United States. In older people, the burden from chronic diseases is especially great. As Maine ages, with a doubling of our elder population during the next 20 years, the percent of Maine residents with one or more chronic diseases will continue to increase.

Table 1. The Burden of Selected Chronic Diseases in Maine

Disease Category (ICD-9 Codes)	Primary Cause of Death 1998	Primary Cause of Hospitalization 1997	Estimated Costs (in millions)
Cardiovascular Disease (390-459)	**4583**	**30,098**	**$734.8***
Heart Disease (390-398, 402, 404-429)	3500	22,551	575.6
Stroke (430-438)	758	4,339	137.2
Other and unspecified	325	3,208	NA
Cancer (140-208))	**2851**	**6636**	**$439.7**
Trachea, lung and bronchus (162)	845	890	NA
Colon and rectum (153-154)	305	836	NA
Female Breast (174)	201	578	58.1
Prostate (185)	151	434	NA
Other and unspecified	1349	3898	NA
Chronic Lung Disease (490-496)	**746**	**4450**	**$154.7**
Chronic bronchitis & emphysema (491,492)	125	2595	NA
Asthma (493)	23	1377	6.2
Other and Unspecified	598	478	NA
Diabetes (250)	**328**	**1565**	**$524.7****

*Costs projected based on heart disease, stroke, and atherosclerosis
**Costs include diabetes and diabetes-related complications (including cardiovascular diseases)
NA = Not Available
Notes: Estimated costs are projected from National Institutes of Health, "Disease-specific estimates of Direct and indirect costs of illness and NIH support, 1997 Update". Total costs may be counted in more than one disease category

Maine has the fourth highest percent of people in the nation who die from the four major chronic diseases of cardiovascular disease, cancer, chronic lung disease, and diabetes.

Although the various chronic diseases are very different from each other, many of the strategies to prevent these diseases are similar, especially through the reduction of tobacco use,

overweight and obesity, and improvements in nutrition and physical activity. The specific Healthy Maine 2000 goals and objectives that characterize progress in chronic disease prevention vary for different risk factors and diseases, and are discussed in this chapter as they relate to prevention of obesity, cardiovascular disease (coronary heart disease and stroke), diabetes, arthritis, and chronic lung diseases (asthma and emphysema). Additional Healthy Maine 2000 objectives related to prevention of tobacco use and cancers are reviewed in separate chapters.

Strategies for Prevention

General strategies for preventing and managing chronic diseases require a mixture of statewide and community-based initiatives that educate, support, and empower individuals who wish to adopt or maintain healthy behaviors, and that remove social, physical, and policy barriers to achieving these healthy behaviors. Access to early detection and treatment of chronic disease and their risk factors through screenings and referrals needs to be available. Comprehensive, strategically planned programs to address these issues require partnerships across non-health and health agencies, institutions, and community organizations at the local, state, and national levels. Partnerships between the medical and public health communities are also critical.

The goal of primary prevention is to prevent risks before they occur. Tobacco use, poor nutrition and physical inactivity account for over one-third of all deaths in the United States. Tobacco use is a primary risk factor for cancer, cardiovascular disease, and chronic lung disease. Physical inactivity has been associated with increased risk of heart disease, diabetes, high blood pressure, osteoporosis, colon cancer, and poor psychological outlook. Poor nutrition, especially consumption of a high fat diet and consumption of too few fruits and vegetables and complex carbohydrates, and consumption of too little fiber, has been associated with increased risk of heart disease, diabetes and certain types of cancers. Overweight, which can be prevented through increased physical activity and nutrition, is an important risk factor for increased high blood pressure, cholesterol, heart disease, stroke, diabetes, and osteoarthritis.

Tobacco use, poor nutrition and physical inactivity account for at least one-third of all deaths in the United States.

Older people are those who suffer the most death and disability from chronic disease, but the behaviors and diseases processes that result in chronic disease start much earlier.

Effective primary prevention strategies include not only those that increase education and awareness of issues but also those that look at the environment in which people live, and implement strategies to reduce barriers and make healthy choices more available. Examples include town planning efforts to assure easy access to walkable areas, worksite interventions to assure opportunities for physical activity, partnerships with food services to assure easy access to tasty and nutritious foods, and policies to promote smokefree public indoor and outdoor environments. Strategies to increase physical activity are important since it often serves as a gateway behavior, leading to other healthy behaviors. For instance, people who exercise are more likely to eat better and reduce their tobacco consumption.

Alarming increases were observed in the national prevalence and incidence of asthma and diabetes in youth, young and middle age adults in the 1990s.

Older people are those who suffer the most death and disability from chronic disease, but the behaviors and diseases processes that result in chronic disease start much earlier. Alarming increases were observed in the national prevalence and incidence of asthma and diabetes in youth, young and middle age adults in the 1990s. One particularly disturbing trend is the increase incidence of "type II" diabetes in children. Type II diabetes, once commonly known as "adult-onset" diabetes, is now more common in children than type I ("juvenile diabetes"). The Centers for Disease Control and Prevention recently described the increasing incidence of type II diabetes in children as an emerging epidemic. It is likely that much of this increase is explained by increased rates of overweight and obesity in children. A life-cycle approach is needed to address healthy behaviors and prevent disease at every age.

In addition to primary prevention of these behavioral risk factors, changes in the physical environment are needed to prevent asthma. The causes of increasing trends in asthma incidence and prevalence are poorly understood, increasing exposure to second-hand smoke and other indoor air pollutants may result from the construction of more fuel efficient homes, and the changing size and chemical composition of outdoor air pollutants. These factors are discussed in greater detail in "Environmental Health Chapter".

The goal of secondary prevention is to reduce existing risks so as to identify and prevent disease. Reducing blood pressure and cholesterol in people with elevated levels in an effort to prevent cardiovascular disease are examples of secondary prevention. Tobacco cessation programs offering access to effective counseling and pharmacuetical products are another example, and are important since they augment primary prevention interventions.

The goal of tertiary prevention is to reduce disease burden in people who already suffer from disease. Almost anyone with a chronic disease can benefit from early diagnosis, routine and quality care, access to affordable prescription medicine, disease-related supplies (such as glucose strips for diabetes and peak flow meters for asthma). In addition, diseases such as asthma and diabetes require vigilance by the individuals burdened with disease as well as by their health care providers. Patient education programs provide people with these diseases the opportunity to learn the technical skills that they need to manage their own disease and the information necessary to become their own advocates for effective care.

Evolving Perspectives

Whether the focus is on prevention or early detection of risk, or in preventing more advanced stages of complications and disease, chronic diseases do not occur randomly in the population. Instead, chronic diseases affect some populations much more than others. Nationally and internationally, the prevalence of chronic disease and the rates of hospitalization and death from chronic disease tend to be higher in people with less education, lower income, and lower occupational prestige, and in racial and ethnic groups that experience discrimination.[1] Moreover, people living in communities where the average resident has lower education and income tend to have higher risks for chronic disease, regardless of their own personal education and income. In Maine, having less education has been associated with high rates of cigarette smoking, physical inactivity, and poor nutrition as well as increased obesity, diabetes, and poor diabetes management.[2,3] Native Americans have dramatically higher age-adjusted death rates from cancer than white residents.[4] African-American residents in Maine have higher age-adjusted death rates from cardiovascular diseases.[5] Although more thorough analyses of these data are needed, these statistics

In Maine, having less education has been associated with high rates of cigarette smoking, physical inactivity, and poor nutrition as well as increased obesity, diabetes, and poor diabetes management.[3,4]

belie the importance of designing interventions that acknowledge the relationships between the social environment and the behavior of individuals,[6] as well as the effects of the social environment on the development of disease independent from the behavior of individuals.[7]

As our understanding of disparities in populations have become more sophisticated, the understanding that those at greatest risk for tobacco addiction are also those at greatest risk for physical inactivity, and poor nutrition. Moreover, the complex interplay between these risk factors and other social, policy, and environmental influences, makes it difficult to attribute any one person's disease to any one risk factor. This growing recognition has resulted in the passage of legislation allocating tobacco-settlement dollars for prevention of tobacco use and tobacco related chronic diseases. This legislation acknowledges the critical importance of an approach that addresses multiple primary risk factors for chronic disease in a comprehensive manner at the community and environmental levels.

Summary

Assuring that people, especially those at higher risk, have reduced barriers and easy access to healthy choices throughout their daily lives - in their schools, worksites, homes, and communities - is important if we are to have an impact on the chronic disease epidemic. It is also critical that these primary prevention strategies are implemented in concert with programs that identify people at high risk in order to reduce their risk (secondary prevention) as well as make efforts to reduce disease burden (tertiary prevention). This comprehensive way of addressing the health of our community environment is critical to improving the health status of Maine people.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Risk Reduction Objective

Reduce cigarette smoking to a prevalence of no more than 15% among people aged 18 and older.

Maine 1990 Baseline: 27%
Most Recent Data: 1998, 22.4%

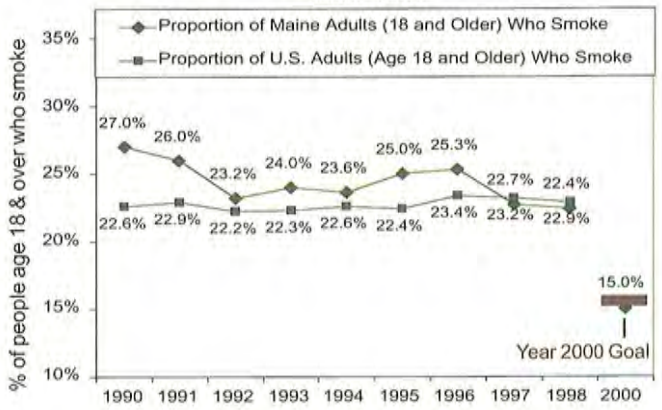
Reduce to 15% the prevalence of smoking among 18-24 year olds.

Maine 1990 Baseline: 29.3%
Most Recent Data: 1998, 37%

At the beginning of the decade, Maine's self-reported prevalence of cigarette smoking was higher than national. By 1998, Maine's prevalence of cigarette smoking had declined from 27.0% to 22.4%. This decline is statistically significant, and occurred at a time when national prevalence rates remained stable. Today, in all likelihood due to the state's tremendous efforts for tobacco control, Maine's rates are similar to the nation.

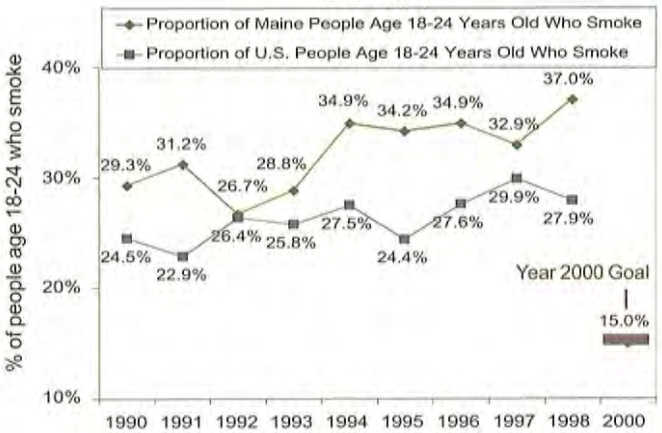
Cigarette smoking trends in young adults threaten to reverse the progress that Maine has made in preventing tobacco addiction in the 1990s. Although the increase from 28.3% in 1990 to 37.0% in 1998 is not statistically significant, it mirrors national trends in increasing prevalence among young adults. In Maine, the prevalence of cigarette smoking in adults aged 18-24 has been higher than the national prevalence in this age group throughout the 1990s. Approximately 80% of adult smokers started smoking before age 18.[8] Clearly, continuing efforts to prevent youth from starting to smoke is critical.

Percentage of Maine Adults (age 18 and over) Who Smoke 1990-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Behavior Risk Factor Surveillance System

Percentage of Maine People Ages 18-24 Who Smoke 1990-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Behavior Risk Factor Surveillance System

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Risk Reduction Objective

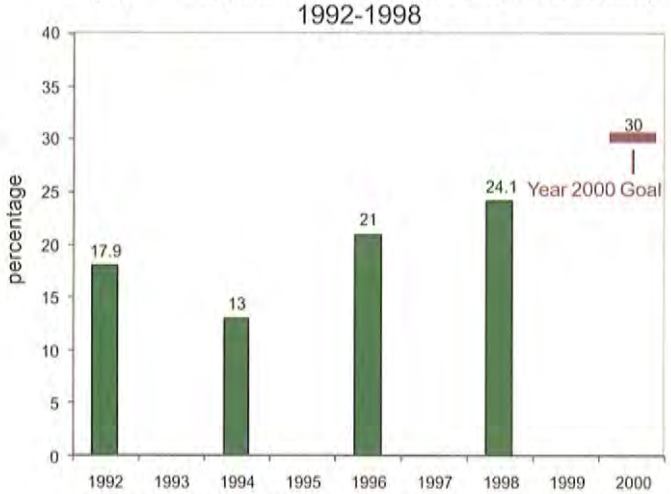
Increase to at least 30% the proportion of people aged 18 and older who engage in regular and sustained physical activity (defined as 5 times per week for 30 minutes per session regardless of intensity).

Maine 1992 Baseline: 17.9%
Most Recent Data: 1998, 24.1%

The percent difference in Maine adults who reported routine and sustained physical activity increased by 35% between 1992 and 1998. This dramatic increase is statistically significant. However, despite this progress, less than one quarter of Maine residents get regular physical activity. Increasing access to safe walking and bicycle paths and recreational facilities would remove important barriers to physical activity in the community.

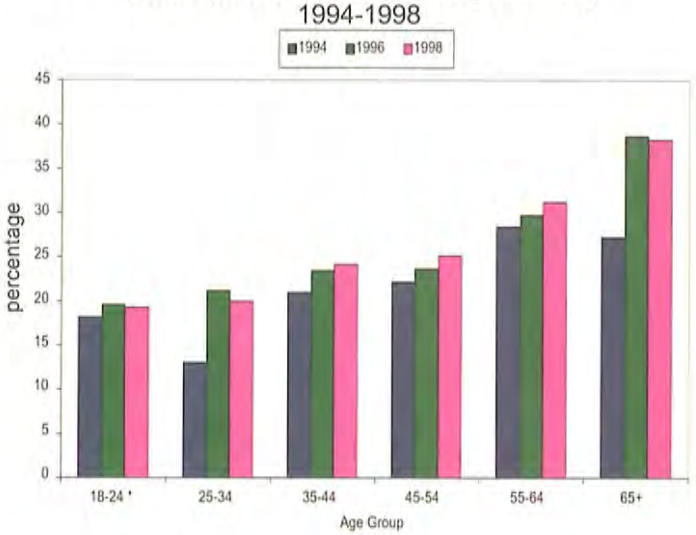
As reported in this chapter and in the chapter on cancer, consumption of fruits and vegetables is important to proper nutrition in preventing chronic disease. The percent difference of adults who reported eating 5 fruits and vegetables a day increased by approximately 25% between 1994 and 1998. However, almost 3 in 4 Maine residents do not consume sufficient numbers of fruits and vegetables. An important nutritional barrier is year-round access to fruits and vegetables. This issue is particularly extreme in Maine where growing seasons are short and distances from home to grocery store are long.

Percentage of Adults (age 18 or over) Who Engage in Regular and Sustained Physical Activity 1992-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Behavior Risk Factor
* Question was not included in the Survey for years 1990, 1991, 1993, 1995, and 1997

Fruit & Vegetable Index: Percent of Maine Residents Who Eat Five or More Servings Per Day 1994-1998



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System. *Based on fewer than 50 people in the age group who said they ate five per day.

Note: This objective was crafted based on a nutrition and physical activity survey done in 1995 which was not repeated. BRFSS questions related to consumption of five servings of fruits and vegetables each day have been asked every other year since 1994. Therefore, the BRFSS data showing the percentage of Maine individuals who eat five or more servings of fruits and vegetables per day are presented.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Services and Protection Objective

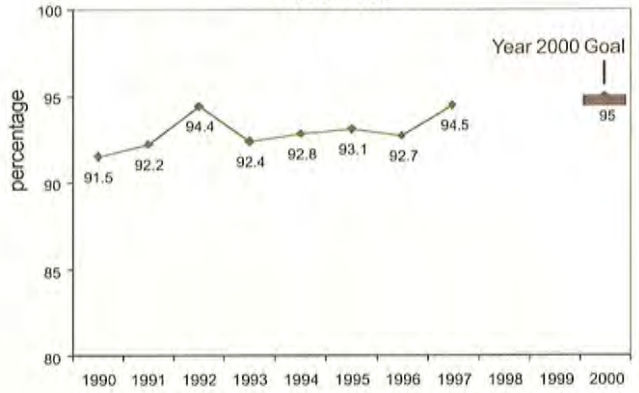
Increase to at least 95% the proportion of adults age 18 and over who have had their blood pressure measured within the preceding 2 years.

Maine 1990 Baseline: 91.5%
Most Recent Data: 1997, 94.5%

High blood pressure is a strong risk factor for disease and death from stroke. Early detection of high blood pressure can prevent stroke as well as less common cardiovascular disorders such as kidney failure. The need for identifying and controlling high blood pressure is especially acute in people with diabetes, who are at greatest risk for diseases related to high blood pressure.

Little progress has been made in increasing blood pressure screening since the early 1990s. Relative to 1991, the percent difference in residents who having had their blood pressure checked in the past two years, was only one percent higher in 1998, a difference that was not statistically significant. Fortunately, the percent of Maine residents who have had their blood pressure checked in the last 2 years is already very close to the Year 2000 goal of 95%, and similar to the national goal.

Proportion of Adults (age 18 or over)
Who Have Had Their Blood Pressure Measured
Within The Last 2 Years
1990-1997



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Behavior Risk Factor Surveillance System

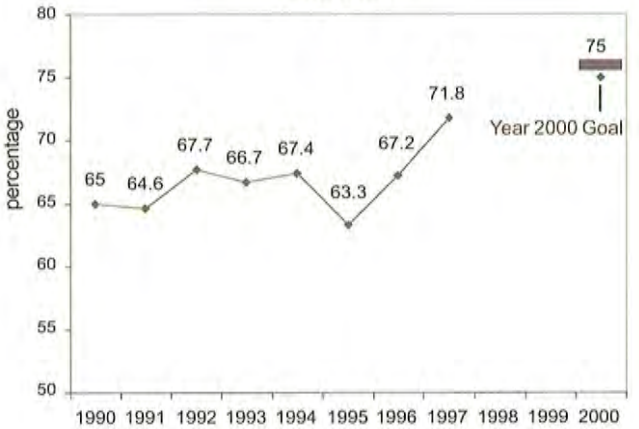
Services and Protection Objective

Increase to at least 75% the proportion of adults age 18 and over who have had their blood cholesterol checked within the preceding 5 years.

Maine 1990 Baseline: 65%
Most Recent Data: 1997, 71.8%

High blood cholesterol is a major risk factor for disease and death from coronary heart disease that can be prevented. Relative to 1990, the percent difference in Maine residents who had had their cholesterol checked in the previous 5 years increased 10% by 1998. This increase was statistically significant. Throughout the 1990s, the percent of Maine's residents who had had their cholesterol checked was higher than the national median. Unfortunately, Maine residents still have not achieved their Healthy Maine 2000 goal for this indicator. Additionally, Behavior Risk Factor Survey data indicate that Maine has the second highest percentage in the country of people who say they have been diagnosed with high cholesterol.

Proportion of Adults (age 18 or over)
Who Have Had Their Blood Cholesterol Checked
Within the Last 5 Years
1990-1997



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Behavior Risk Factor Surveillance System

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Health Status Objective

Reduce to 20% the proportion of adults age 18 and older who are overweight according to Body Mass Index (BMI).

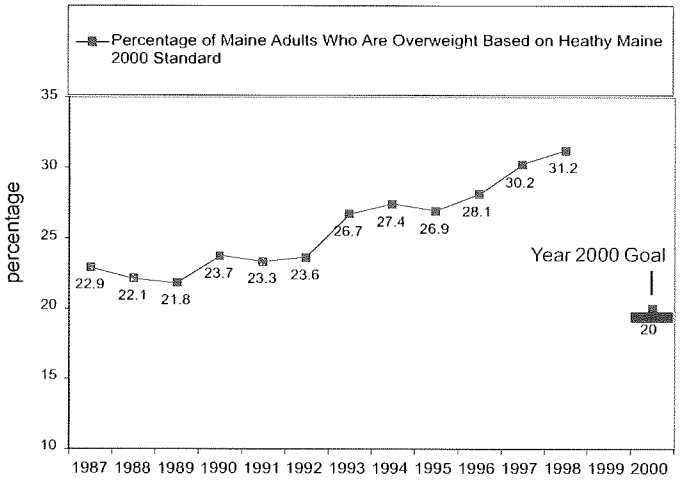
Maine 1990 Healthy Maine 2000 Baseline: 23.7%
Most Recent Data: 1998, 31.2%

Overweight, which can be prevented by increased physical activity and nutrition, is an important risk factor for increased high blood pressure, cholesterol, heart disease, diabetes, some cancers, and arthritis. In 1990, the percent of Maine adults who were overweight was 23.7. By 1998, this number had climbed to 31.2%, a statistically significant difference of approximately 40% compared to baseline.

Using newer CDC criteria for overweight indicates that 57% of Maine people are overweight. In addition, almost one in five Maine people now are considered obese, which means they are at least thirty pounds overweight. Obesity rates have also increased by 40% in only 10 years in Maine. Moreover, the increase in Maine residents who are overweight reflects an increase in the average weight in Maine. It's not just that more residents are now overweight, but rather that the weight of the average Maine resident is higher now than at the start of the 1990s. The steady increase in overweight in Maine is consistent with national trends, and has the potential to create alarming increases in chronic disease in the coming decades.

The relationships between proper nutrition and physical activity and the acheivement and maintenance of healthy weight are well established. Therefore, national, state, and local efforts towards changing eating habits and promoting physical activity as part of routine aspects of daily living need to be priorities. Campaigns to address obesity and inactivity similar to the campaign to stop smoking must be lead by the public health community, and involve many different sectors of the community. Assuring that people have access to safe places to walk and bike, and assuring that schools and worksites offer low-fat menu options including fruits and vegetables are critical to improving health at the community level.

Proportion of Maine Adults Who are Overweight According to BMI
Healthy Maine 2000
1987-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Behavior Risk Factor Surveillance System

The steady increase in overweight in Maine is consistent with national trends, and has the potential to create alarming increases in chronic disease in the coming decades.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Services and Protection Objective

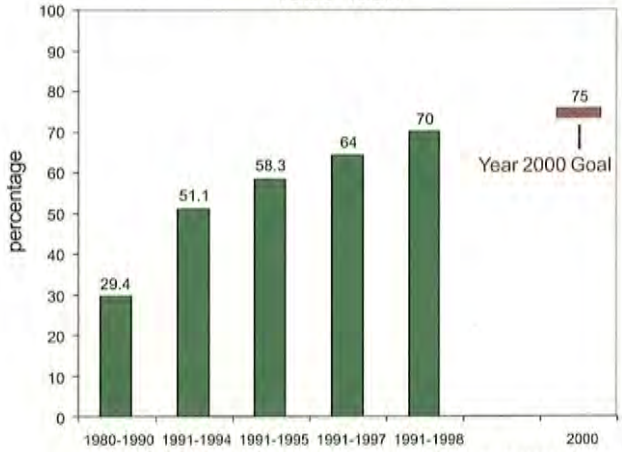
Increase to at least 75% the proportion of people with diabetes who receive formal patient education.

Maine 1990 Baseline: 29.4%
Most Recent Data: 1998, 70%

People with diabetes are much higher risks for hospitalization than the average Maine resident. Moreover, they are much more likely to suffer from disabling and life-threatening complications such as kidney failure and amputations of toes, feet, and legs. While many of these complications are preventable, individuals with diabetes need knowledge, skills, and adequate access to drugs and medical supplies to ensure proper control of their blood sugar as well as to be effective advocates for their own care.

Tremendous progress has been made in providing Maine residents with the diabetes education that they need in the 1990s. The percentage of Maine residents with diabetes who have completed diabetes education has more than doubled in the past decade (a difference of approximately 140%). Early diagnosis and thorough screenings, progressive policies on reimbursement for diabetes management, and programs such as the Bureau of Health's Diabetes Control Project,which provides training and reimbursment for diabetes education have contributed toward this success.

Proportion of Maine People With Diabetes Who Have Attended the Maine Ambulatory Diabetes Education and Follow-up (ADEF) Program 1980-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Diabetes Control Project

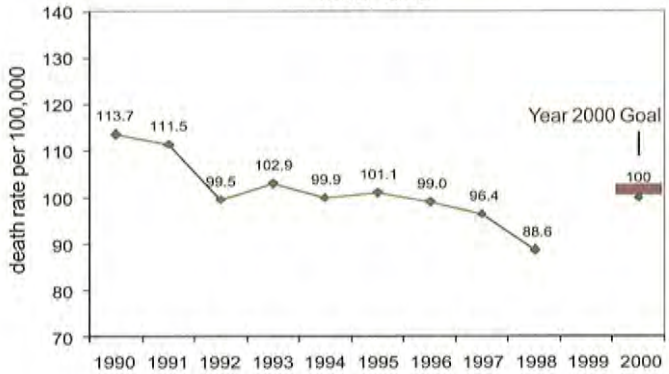
Health Status Objective

Reduce cardiac mortality by reducing coronary heart disease deaths to no more than 100 per 100,000 population.

Maine 1990 Baseline: 113.7
Most Recent Data: 1998, 88.6

Age-adjusted death rates for coronary heart disease were about 5% lower in Maine than the U.S. throughout the 1990s. Both rates declined by more than 15% between 1990 and 1997. These declines are consistent with reduction in tobacco consumption, and improvements in rates of leisure-time physical activity and nutrition. Increases in the percent of Maine residents who have had their cholesterol checked within the past 5 years suggests that primary and secondary prevention strategies have contributed to the decline.

Maine's Coronary Heart Disease Deaths per 100,000 Population 1990-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Although the Healthy Maine 2000 goal for coronary heart disease deaths has been achieved, heart disease remains the leading cause of death in Maine and in the nation. Moreover, the increasing trends in overweight threaten continued progress in this arena.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

Health Status Objective

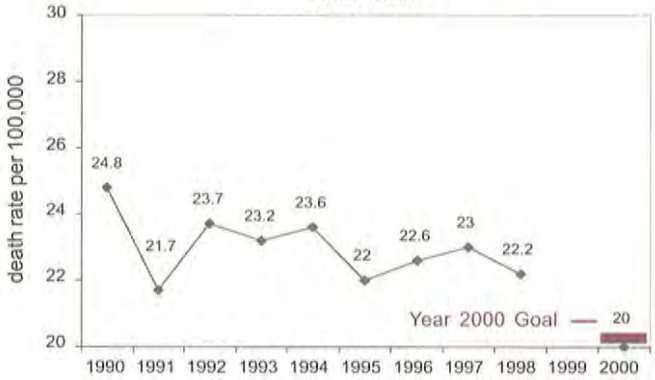
New Objective 1997: Reduce stroke deaths to no more than 20 per 100,000 population.

Maine 1990 Baseline: 24.8
Most Recent Data, 1998: 22.2

Strokes remain the third leading cause of death in Maine throughout the 1990s, even though age-adjusted death rates from stroke declined by approximately 10%. This decline was consistent with but slightly greater than declines that occurred at the national level during this time period.

Over the next decade, the increasing prevalence of over weight will threaten these gains. The increasing prevalence and incidence of diabetes, also resulting from increasing over weight, may also threaten this progress.

Maine's Stroke Deaths
per 100,000 Population
1990-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Note: Age-adjusted to the U. S. 1940 standard population.

Diabetes Health Status Objective

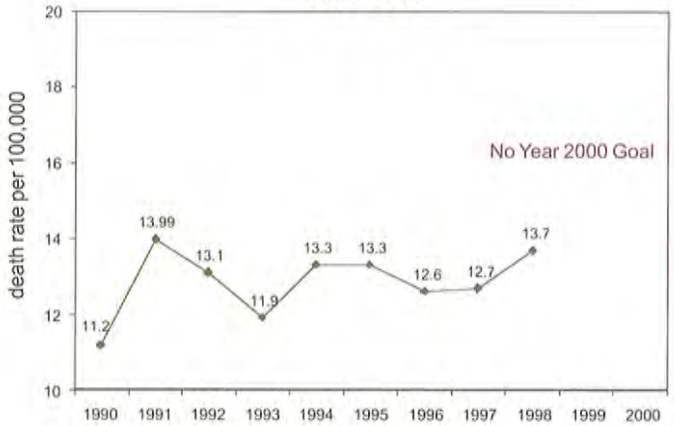
Diabetes deaths per 100,000 age-adjusted 1940
(No Healthy Maine 2000 Goal was established for this Objective).

Maine 1990 Baseline: 11.2
Most Recent Data: 1998, 13.7

Diabetes is only the seventh leading cause of death in Maine, but this statistic underestimates the importance of diabetes as a cause of death. People with diabetes are at a greatly elevated risk of dying of heart disease and stroke, such that diabetes contributes substantially to deaths rates attributed to cardiovascular diseases. Age-adjusted death rates from diabetes as the primary cause of death have remained stable in the 1990s. At the beginning of the decade, diabetes death rates in Maine were slightly greater than the U.S. rate. However, because of increases in national mortality, Maine's death rates were similar to national death rates by the end of the decade.

At the national level, increasing trends in diabetes mortality are being driven by increasing incidence and prevalence of disease,

Maine's Diabetes Deaths
per 100,000 Population
1990-1998



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Note: Age-adjusted to the U. S. 1940 standard population.

which is in turn, largely a consequence of the increasing prevalence of over weight. In Maine, the prevalence of diabetes and over weight have also increased. These upwards trends are likely to impede progress in preventing diabetes-related mortality in the next decade.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

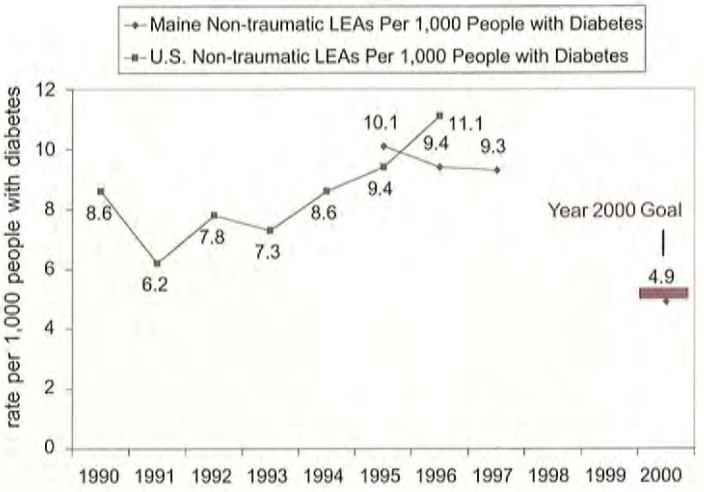
Health Status Objective

Reduce lower extremity amputations (LEA's) due to diabetes to no more than 4.9 per 1,000 people with diabetes.

Maine 1995 Baseline: 10.1
Most Recent Data 1997: 9.3

Lower extremity amputations (LEAS) are amputations of toes, feet, and legs. They are a common tragic complication of diabetes.

Maine & U.S. LEAs Due to Diabetes
Rate per 1,000 People With Diabetes
1992-1996



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Maine Hospitalization Discharge Data. Source of U. S. data: Healthy People 2000 Review, 1998-1999

Lower extremity amputations (LEAS) are amputations of toes, feet, and legs. They are a common tragic complication of diabetes. At least half of all LEAS In people with diabetes can be prevented by early identification of high risk feet, early diagnosis of foot problems, early intervention to prevent further deterioration that may lead to amputation, and patient education in proper footwear, care of feet and blood glucose control. In Maine, the number of hospitalizations for non-traumatic LEAS in people with diabetes increased by more than 25% between 1991 and 1998. Nationally, the rate of LEAs per 1,000 people with diabetes has increased by almost 30% between 1990 and 1996 [source: Healthy People 2000 Review 1998-1999], suggesting that the increased number of hospitalizations for LEAs is not solely due to an increased number of people with diabetes.

In Maine, the infrastructure to track rates of LEAs per 1,000 people with diabetes was recently established with 1995 serving as the baseline year. Between 1995 and 1997, rates of LEAs per 1,000 people with diabetes have been fairly stable. More years of data are needed to adequately interpret this trend.

In Maine, the infrastructure to track rates of LEAs per 1,000 people with diabetes was recently established with 1995 serving as the baseline year.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality among Maine Citizens from heart disease, stroke, diabetes, asthma, and other chronic conditions.

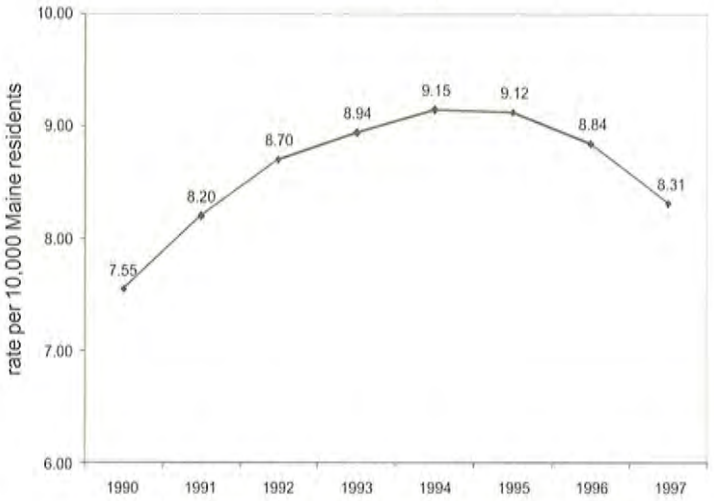
Health Status Objective

This Objective was not intially included as a Heathy Maine 2000 Objective

Asthma is a chronic lung disease that is characterized by symptoms of wheezing, cough, chest tightness, and difficulty breathing. While asthma does not cause many deaths each year in Maine, hospitalizations for asthma are more common. Trends in asthma hospitalization are presented for Maine residents from ages 15-34 because the statistics for these age groups are considered to be more accurate than statistics for people of other ages. Hospitalization rates for asthma in this age group peaked in 1994 and subsequently declined. However, the asthma hospitalization rate was still approximately 10% higher in 1997 than in 1990. Rates of hospitalizations for asthma in this age group are considerably lower than national.

The most likely explanation for increasing rates of morbidity and mortality for asthma is the increasing prevalence and incidence of asthma that has been observed nation-wide. Unfortunately, the cause of this increasing prevalence is not completely known. Factors such as indoor and outdoor air pollution, including pollution resulting from secondhand smoke and automobiles are considered to be contributors to the asthma problem. Proper self-management and treatment by health care providers can prevent most hospitalizations from asthma. Several educational initiatives implemented by a variety of health organizations including the American Lung Association of Maine and some of Maine's hospitals started in Maine in the 1990s to increase the knowledge and ability of Maine residents with asthma to better manage their conditions and to be advocates with their own providers. The passage of legislation in the 1990s banning smoking in almost all indoor places including restaurants should help improve the quality of life for all residents in Maine, but especially those residents with asthma.

Maine's Hospitalizations for Asthma
Rate per 10,000 Maine Residents
1990-1997



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics, Maine Hospitalization Discharge Data. Data are based on three-year averages.

Trends in asthma hospitalization are presented for Maine residents from ages 15-34 because the statistics for these age groups are considered to be more accurate than statistics for people of other ages.

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Environmental Health

The health of Maine citizens is constantly being challenged by contaminations to our environment. Over the last decade new pollutants have found their way into the air we breathe and the water we drink. In addition, many instances of personal discomfort are due to contaminants in our home environment. High among these are secondhand smoke, radon, (the second highest cause of lung cancer after tobacco smoke), lead (from lead paint and drinking water), and poor indoor air quality (generally from molds and spores).

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Healthy Maine 2000 Goals

Enhance the safety of the environment and reduce adverse impacts on the health of Maine's citizens.

Overview

During the 1990s, environmental health issues occupied an increasing amount of attention in Maine. New mercury-driven fish consumption advisories, the conflicting views on the use of the gasoline additive MTBE to help clean Maine's air, recognition of previously unnoticed natural contamination of groundwater with arsenic and radon, and a general awareness of both indoor and outdoor air quality, have kept environmental experts and stakeholders on the alert. Now, more than ever before, Maine people are focusing on the relationship between environmental conditions and adverse health outcomes.

The public has begun to realize the seriousness of the risk to health from such environmental pollutants as secondhand smoke.

Significant progress was made during the decade in improving the safety of public drinking water supplies. We are fortunate in Maine to have generally safe and plentiful supplies of drinking water. Our water resources have improved considerably since the passage of the Clean Water Act and the Safe Drinking Water in the early 1970's. Maine rivers that only 20 years ago were heavily polluted are now swimmable, and fish are returning. Despite our excellent progress, many threats to our drinking water still exist. Although people in the United States no longer die from once common waterborne diseases such as typhoid and cholera, people do get sick and even can die from drinking water contaminated with fecal bacteria. Recent scientific studies link some chronic illnesses to the long term ingestion of contaminated water. Regulations for more contaminants have emerged and existing regulations have gotten more complicated over the last ten years. Public water systems in Maine are working hard to upgrade their treatment systems to meet these new regulatory demands. Public water systems are also devoting significant resources to protecting their water sources by acquiring land in their watersheds and providing public outreach and education.

Radon screening is now required in many real estate transactions. Reported food-borne diseases due to poor conditions at restaurants have declined over the decade, as better food handling practices and food handler training have become the norm. In addition, the public has begun to realize the seriousness of the risk to health from such environmental pollutants as secondhand smoke.

New and Emerging Issues

During the 1990s, new information on levels of mercury in freshwater fish led to the imposition of stricter and statewide fish consumption advisories than had been in place at the beginning of the decade. The need to limit consumption of fish from all fresh waters is likely to continue for some time, as mercury is a very persistent toxicant in the environment. As more detailed data become available, it may be possible to tailor advisories to specific bodies of water.

Significant progress was made during the decade in improving the safety of public drinking water supplies.

At the same time, legislation regulating the discharge of dioxins from Maine s mills, along with a general environmental awareness by the mills, has led to reduced dioxin levels in Maine s fish and Maine s rivers. This trend should continue as the new law is fully implemented. However, fish consumption advisories will continue to be required for mercury and for PCBs, as well as for DDT in a few watersheds. In view of the benefits to cardiovascular health from eating fish, the necessity of issuing fish advisories is troublesome. Work to balance the risks and benefits of fish consumption continues.

Several pieces of legislation, passed throughout the 1990 s, led to the elimination of secondhand smoke from the vast majority of indoor public places, including restaurants. Since this toxin is a class A carcinogen and kills on average one Maine person every day, these new smoke-free environments should significantly improve the health of Maine s citizens. However, exposure to secondhand smoke is still very common in outdoor public places.

The federal Safe Drinking Water Act Amendments of 1996 provide greater protection and information to the 250 million Americans served by public water systems. These changes laid the groundwork to prepare for and address future drinking water safety challenges. Four themes characterize the areas of greatest change, including the public s right to know, focusing on the contaminants of greatest risk, funding and tools to states and water systems, and pollution prevention.

Groundwater sources of drinking water, particularly those used by private well owners, have come under increased scrutiny during the decade. Arsenic has been documented in many private wells, with levels in as many as 10-20% of wells exceeding health limits. High levels of radon are also commonly found in Maine s groundwaters. Educational efforts to increase awareness of these threats continue. In addition, MTBE, an additive present in large quantities in reformulated gasoline, has been detected in an alarming number of wells. This finding led the state to opt out of the federal reformulated gasoline program. Reduction in the use of MTBE should curtail further increases in this threat to our groundwater.

Along with secondhand smoke, the biggest environmental threat to the health of our children is lead poisoning.

The unexpected closure of the state s only nuclear power plant has led to major work in overseeing the decommissioning of the site, and ensuring the safe disposal of radioactive waste and debris.

Along with secondhand smoke, the biggest environmental threat to the health of our children is lead poisoning. Lead, like mercury, is a heavy metal that causes nervous system damage. Fetuses and young children, because their nervous systems are still developing, are particularly at risk for brain damage from lead exposure. This damage can lead to neurological problems such as learning disabilities.
Half of Maine s buildings were built before 1960, the year when lead concentrations in paint decreased substantially. Therefore, half of our homes are at high risk for the presence of lead paint. Since lead was not banned from residential paint until 1979, any home built or furniture painted before that is considered to be at some risk.

Exposure to lead paint is often from unseen sources such as lead paint dust. Maine has faced substantial challenges in addressing lead poisoning, including our high-risk housing population, low screening rates among our children, and high lead poisoning rates among those who are screened. For instance, early in the decade, only 1 in 6 children under 6 years of age were screened; 1 in 7 screened children were found to be poisoned. By the end of the decade, screening rates increased in children with Medicaid insurance, but otherwise decreased. Lead poisoning rates decreased to 1 in 20 children screened, but still remain very high. We continue to face challenges in our task of assuring that parents have the tools to prevent lead poisoning in their children, preferably before pregnancy, and also in eradicating identified lead hazards.

Healthy Maine 2000 Objectives

Objectives established to enhance the safety of the environment and reduce adverse impacts on the health of Maine's citizens

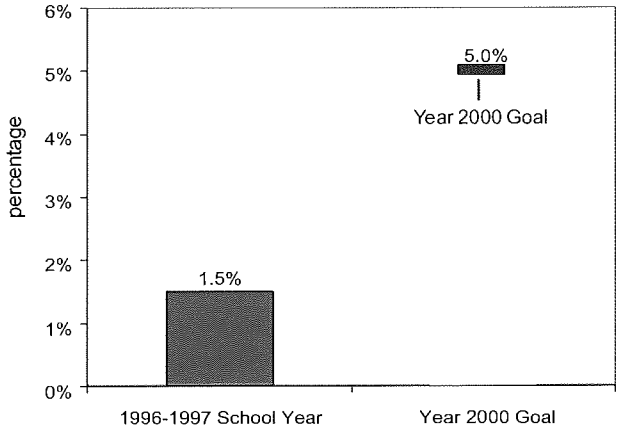
Health Status Objective

Increase to 5% statewide asthma education curriculum entitled "Open Airways" in elementary schools.

Maine 1996-1997 School Year Baseline: 1.5%
Most Recent Data, 1996-1997: 1.5%

The American Lung Association of Maine's (ALAM) "Open Airways" curriculum has proven to be challenging for schools to implement. Although more participation is expected in the next year, a new ALAM initiative is working to develop a "Lung Healthy" curriculum. This program covers not only asthma management and education, but also indoor air quality, and tobacco prevention and control. It will be more flexible for schools to adapt to their needs. Ultimately, the new curriculum will be integrated into Coordinated School Health programs.

Proportion of Maine Elementary Schools Statewide with Asthma Education Curriculum Entitled "Open Airways"



Source: Maine Department of Human Services, Bureau of Health, Program Data

Health Status Objective

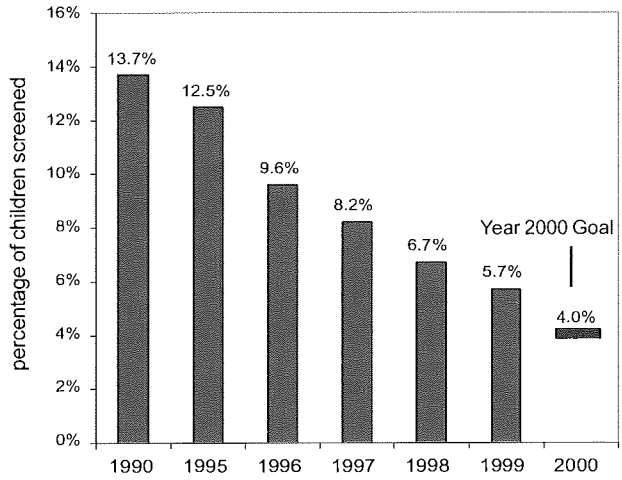
Reduce to no more than 4% the prevalence of blood lead levels exceeding 10 ug/dl among screened children aged 6 months to 6 years.

Maine 1990 Baseline: 13.7%
Most Recent Data, 1999: 5.7%

The Bureau of Health's public health lab has maintained a comprehensive blood lead database since 1993. However, in some cases, children are tested more than once. In 1996, the state developed the capacity to compute the number of children screened, distinct from the number of lab tests. This represents a substantial improvement in accuracy. Therefore, we are using 1996 for our baseline in estimating the number of children screened and percent of children with elevated blood lead levels.

While the prevalence of elevated blood lead levels among children screened has decreased, it is difficult to interpret this trend since the overall screening rates have steadily declined. The screening rate in all age groups has never exceeded 25%. Yet, with almost half of Maine homes built prior to 1950, the risk of lead exposure for young children is quite real.

Proportion of Maine Children Screened (Aged 6 months to 6 yrs) with Blood Lead Levels > 10ug/dl Selected Years 1990-1998



Source: Maine Departme oning Prevention Program Data

Note: In 1990, 1995 & 1996 there was no population-based data available. Therefore in 1990: 13.7% of 9,313 samples; 1995; 12.5% of 14,400 samples; and in 1996: 12.8% of 12,733 samples screened by the state lab were above 10 ug/dl. Data collected for 1997 through 1999 reported that: 17% of Maine's 1 &2 year olds were screened and 10% of 3-5 year olds. 10% of all children screened were above 10 ug/dl. In 1998, 23% of 1 & 2 year olds were screened and 8% of 3-5 year olds. 6.7% of all children screened were above 10 ug/dl. Data for 1999 reports 25% of 1 and 2 year olds were screened and 7.6% of 3-5 year olds. 5.7% of all children screened were above 10 ug/dl.

Healthy Maine 2000 Objectives

Objectives established to enhance the safety of the environment and reduce adverse impacts on the health of Maine's citizens

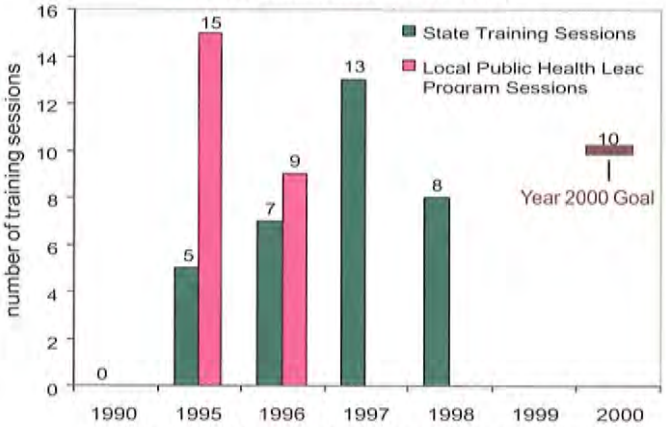
Public Awareness Objective

Increase to 10 per year the number of outreach training sessions dealing with lead as an environmental health risk delivered to individuals providing lead-related services, owners of child care facilities, landlords and property owners who rent to families with children under the age of 6.

Maine 1990 Baseline: 0 Training Sessions
Most Recent Data: 1998, 8 Training Sessions

Throughout the 1990's, the Bureau of Health worked increasingly with other state agencies to provide high quality, comprehensive lead training sessions. Training partners included the Maine Department of Environmental Protection, Maine State Housing Authority, Maine Medical Center, and the Muskie School/ University of Southern Maine. The training sessions targeted such diverse audiences as realtors, property owners, childcare providers, Community Action Programs, and doctors and nurses. A Lead Advisory Committee was formed with statewide multi-disciplinary representation. This committee continues to meet in Augusta on a bi-monthly basis.

Maine's Number of Outreach Training Sessions Dealing with Lead as an Environmental Health Risk Selected Years 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Childhood Lead Poisoning Prevention Program Data

Health Status Objective

Reduce to zero the number of coliform bacteria Maximum Contaminant Level (MCL) violations in public water systems.

Maine 1990 Baseline: 70 Violations
Most Recent Data: 1999, 279 Violations

Since this objective was written, the Standard for coliform violation has been lowered by EPA from 1 colony to zero. In addition, the laboratory community has instituted more sensitive testing methods. These stricter regulations have increased the frequency of coliform testing. As a result, this indicator appears not to have been achieved. However, microbial quality of Maine water may have improved as new treatment and protection options have been exercised, and as more aggressive testing has taken place. The number of systems providing some form of treatment has increased every year since 1990.

Maine Public Water Systems: The Number of Systems Inspected with Coliform Bacteria MCL Violations 1991-1999

Year	Total Number of Systems Inspected	Number of Coliform Bacteria MCL Violation	Proportion of Systems Inspected with Coliform Bacteria MCL Violation
1991	3,800	70	1.8%
1992	3,800	97	2.5%
1993	3,800	102	2.6%
1994	3,300	97	2.9%
1995	2,200	175	7.9%
1996	2,440	278	11.4%
1997	2,334	185	7.9%
1998	2,236	237	10.6%
1999	2,158	279	12.9%
2000	Year 2000 Goal	0	

Source: Maine Department of Human Services, Bureau of Health, Drinking Water Program Data

Healthy Maine 2000 Objectives

Objectives established to enhance the safety of the environment and reduce adverse impacts on the health of Maine's citizens

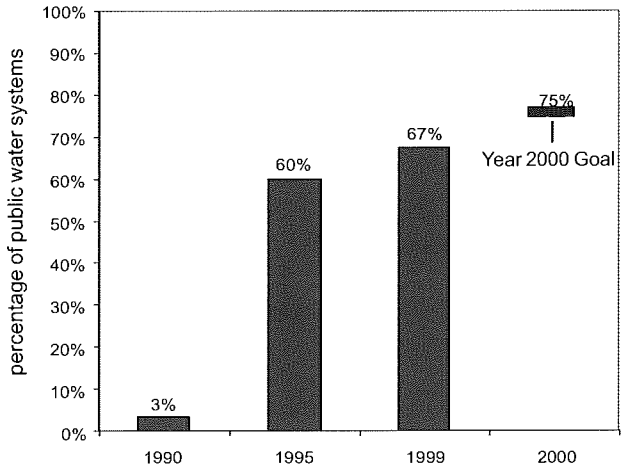
Services and Protection Objective

By the year 2000, 75% of the 2,200 public water systems that are rated vulnerable to contamination will have installed water treatment equipment to ensure that drinking water meets health requirements.

Maine 1990 Baseline: 3% With Installed Equipment
Most Recent Data: 1999, 67% With Installed Equipment

The achievements in this objective are especially remarkable, given that new standard and requirements have been added by EPA each year. Many more systems are labeled as "vulnerable" than existed at the beginning of the decade. Notwithstanding this fact, the number with installed treatment equipment has risen dramatically. Further increases are expected, given the available financial resources through such programs as the State Revolving Loan Fund (SRF). The Drinking Water Program (DWP) has also worked with public water systems to abandon some of the more "vulnerable" sources. These sources have been replaced with source water protection zones which help to protect the sources from contamination.

Maine's Proportion of Public Water Systems Rated Vulnerable to Contamination With Installed Water Treatment Equipment Select Years 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Drinking Water Program Files, 1990-1999

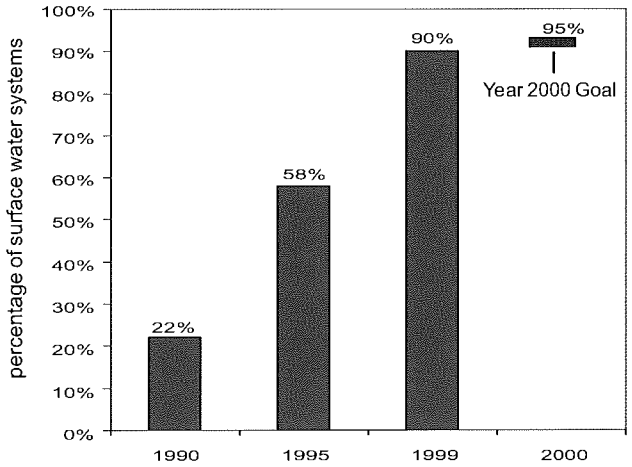
Services and Protection Objective

By the year 2000, 95% of the 68 surface water systems will be capable of preventing waterborne disease caused by Giardia lamblia and cryptosporidium.

Maine 1990 Baseline: 22%
Most Recent Data, 1999: 90%

The implementation of EPA's "Surface Water Treatment Rule", coupled with funding available for installation of equipment through the State Revolving Loan Fund (SRF), for installation of water treatment facilities have resulted in this tremendous gain in protection from protozoa. Additionally, the EPA has recently enacted the Surface Water Treatment Rule and will soon enact the Long Term 1 Enhanced Surface Water Treatment Rule. These two rules should lead to further reductions in the occurrence of waterborne diseases from these organisms." The goal of 95% should be met by 2002.

Maine's Proportion of the 68 Surface Water Systems Capable of Preventing Waterborne Disease Caused by Giardia lamblia & Cryptosporidium Select Years 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Drinking Water Program Files, 1990-1999

Healthy Maine 2000 Objectives

Objectives established to enhance the safety of the environment and reduce adverse impacts on the health of Maine's citizens

Services and Protection Objective

By the year 2000, evaluate wellhead areas for 800 public water systems for impact from surface waters, vulnerability to chemical uses, review the required management plan, and input all relevant well data into the state Geographical Information Systems (GIS).

Maine 1990 Baseline: 0
Most Recent Data: 1999, 706

Substantial progress has been made in this vital area through the use of both modern technology, such as GIS, and through the use of SRF funds to delineate wells in sand/gravel aquifers. Current efforts to delineate bedrock wells should allow achievement of this objective by 2001 or 2002.

Maine's Proportion of Wellhead Areas Evaluated According to the Objectives Criteria Selected Years 1990-1999

1990	Zero
1996	Process completed for 435 public water systems
1999	Evaluated 706 community and non-community non-transient wellheads. 884 Management plans were received and reviewed (some PWSs have multiple sources).

Source: Maine Department of Human Services, Bureau of Health, Drinking Water Program Files, 1990-1999

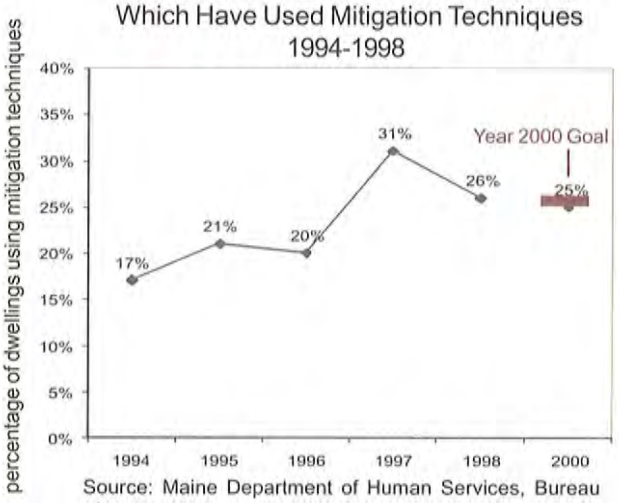
Services and Protection Objective

Of the dwellings that exceed the current indoor radon standard (4 pCi/l) increase to at least 25% those dwellings that have used mitigation techniques to lower radon levels to below 4 pCi/l.

Maine 1994 Baseline: 17%
Most Recent Data, 1998: 26%

Radon awareness has increased due to the Bureau of Health's Radon Program, private initiatives, and requirements by financial institutions for radon screening on home purchases. Although the data shows fluctuation, it is clear that the objective has been achieved, and should continue to be achieved in the next few years. Given the high health risk of radon exposure, relative to most indoor air contaminants other than secondhand tobacco smoke, this achievement may be saving measurable lives.

Maine's Dwellings Which Exceed Current Indoor Radon Standard (4 pCi/l) Which Have Used Mitigation Techniques 1994-1998



Source: Maine Department of Human Services, Bureau of Health, Rad Program Files, 1990-1999

Healthy Maine 2000 Objectives

Objectives established to enhance the safety of the environment and reduce adverse impacts on the health of Maine's citizens

Services and Protection Objective

Establish a database to identify and track smoke free eating and lodging establishments and liquor establishments licensed by the Department of Human Services and the Department of Public Safety.

Maine 1994 Baseline: None Surveillance
Most Recent Data: 1999, New Legislation

Although a database was created in the mid-1990s, the passage of the 1999 smokefree restaurant law made tracking this data relatively easy. However, the Bureau of Health's restaurant inspectors are continuing to ensure compliance with the new law.

Maine's Status on Establishing a Database to Identify and Track Licensed Smoke Free Establishments
1996-1999

1994	All 6,000 public indoor eating establishments must accommodate non smokers.
1999	All public indoor eating establishments are smoke free, except those that cannot serve minors under 21 years of age. There are about 325 establishments out of 6,000 that fit this exemption.

Source: Maine Department of Human Services, Bureau of Health, Program Files, 1996-1999

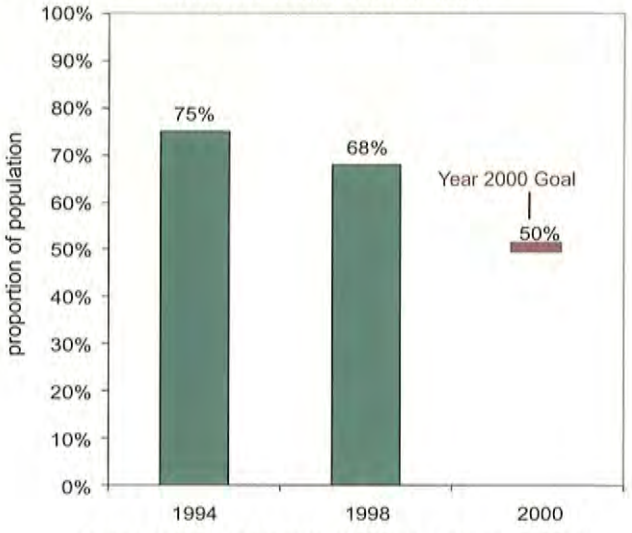
Risk Reduction Objective

Reduce to 50% the proportion of the state's population living in counties that exceed the State recommended ozone concentration, and reduce to zero the proportion that live in counties that exceed the federal ozone standard.

Maine 1994 Baseline: 75%
Most Recent Data: 1998, 68%

Achievement of this goal is complicated for Maine, due to the interstate nature of ozone transport, and ozone-precursor transport. Overall air quality enhancement has probably contributed to some of this reduction. Further regional and national efforts, implemented in the late 1990's with Maine's leadership, should help achieve this objective in the next few years.

Proportion of Maine's Population Living in Counties Exceeding the State Recommended Ozone Concentration
Selected Years 1994 & 1998



Source: Maine Department of Human Services, Bureau of Health, Program Files, 1994-1998

Immunization and Infectious Disease

During the course of the past decade, a number of new challenges related to infectious disease issues have emerged. At the same time a number of new tools and techniques that promise to enhance efforts to prevent and control infectious diseases have been developed.

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Healthy Maine 2000 Goals

To Reduce the Incidence of Infectious Diseases and Vaccine Preventable Diseases in Maine. To Prevent HIV Infection and Reduce Associated Morbidity and Mortality

Overview

During the 1980s Americans discovered infectious diseases anew. In the previous two decades, many of the most devastating communicable illnesses had seemed to be headed for eradication, while others could be treated readily. The impact of influenza, bacterial pneumonia, and tuberculosis, the leading causes of death at the turn of the century, had been greatly diminished by the mid-1960s. Antibiotic medications, economic advances and especially public health measures, including improvements in hygiene, water and food sanitation, were all important factors in these developments. "Epidemic" had become a term associated with the developing world or with a remote part of American history.

By the mid-1980s, however, a new era had been heralded by the emergence of HIV (Human Immunodeficiency Virus)/AIDS (Acquired Immunodeficiency Syndrome) and the discovery of new infectious maladies including Legionnaire's disease, Lyme disease and toxic shock syndrome. A number of other well-recognized and "controlled" diseases, including measles, rabies and tuberculosis, reemerged as public health threats. The list of common sexually transmitted diseases expanded to include genital *Herpes simplex, Condyloma accuminata* (venereal warts) and *Chlamydia trachomatis.* The safety of the food supply, once taken for granted, was threatened by *Salmonella enteritidis* in eggs and *E. coli 0157:H7* in beef products. It was clear, by late in that decade, that the struggle with pathogenic microbes would be a continuing and dynamic saga.

New and Emerging Issues

During the 1990s, medical and public health professionals witnessed expanded evidence of new and reemerging infectious disease problems. These included: Hepatitis C, multi-drug-resistant bacterial and viral infections, the prospect of a new Influenza pandemic, food-borne Listeriosis, Hantavirus Pulmonary Syndrome, West Nile Virus encephalitis in North America, massive outbreaks of waterborne cryptosporidiosis and threats posed by the use of biological agents as weapons.

In 1993, the Institute of Medicine published a cogent synopsis of the reasons for the emergence of a new era of infectious disease and the outline of a public health strategy to confront the problem. At the center of the strategy was a call for dramatic improvements in capabilities for surveillance of new and unusual diseases, the need to revolutionize laboratory capacity in molecular epidemiology and the importance of multidisciplinary collaborations among the public and private sectors.

Emerging infectious diseases include viral, bacterial and protozoal agents. Many of these diseases pose special threats to vulnerable populations (infants, the elderly, the poor and homeless, recent refugees and immigrants, persons with chronic diseases), while others do not discriminate by place of residence, economic or social class, age and gender, or rural vs. urban residence. Vaccination, public and professional education, early disease recognition and treatment, improved rapid communications and promotion of hygiene all have roles in helping to limit the toll which these diseases exact.

New Challenges

Human Immunodeficiency Virus Infection

Recent improvements in treatment for HIV/AIDS, including new medications given in combination, have resulted in significant changes in the epidemic's profile in Maine. As a result, we have fewer deaths due to HIV and fewer cases of HIV disease progressing to an AIDS diagnosis. This piece of good news, however, is part of a more complex and challenging story of HIV/AIDS in Maine. It has created new demands on those who provide HIV/AIDS prevention and treatment services.

More people living with HIV also increases the need for complex and costly services.

Fewer deaths, without a corresponding decrease in new infections, means the number of people living with HIV in Maine is steadily increasing. More people living with HIV increases the likelihood that HIV will be transmitted to a greater number of people. More people living with HIV also increases the need for complex and costly services. More people will require more prevention counseling, case management, medical and pharmaceutical services. Coordination of care has become more complex as providers and people living with HIV deal with the high cost of medications, medical care and issues around compliance with complicated drug regimens. These increased needs for services will now extend over the prolonged lifetimes of people living with HIV.

The situation is further complicated by the fact that people living with HIV who are more physically well are also more sexually active. Providing consistent, comprehensive and individualized risk reduction counseling for people living with HIV is now more important than ever. Coordination of care for a common clientele shared by HIV prevention counselors, medical providers, mental health/substance abuse treatment counselors and case managers is essential to help people living with HIV minimize the risk of transmitting HIV to their sex and needle-sharing partners.

Providing consistent, comprehensive and individualized risk reduction counseling for people living with HIV is now more important than ever.

Within this changing picture of HIV/AIDS in Maine and the array of challenges outlined above, there is one additional area of growing concern. This is the transmission of HIV by a person who, knowing they are HIV infected, engages in behaviors that may transmit the virus without disclosing their HIV status to their partners. While our existing criminal laws are adequate, they cannot entirely prevent this type of transmission from occurring without a well-coordinated, focused delivery system of health and human services to people living with HIV.

For example, for the HIV-positive person diagnosed with a mental illness and actively using substances, we need to have in place a service delivery system in which medical treatment, necessary social services and HIV prevention services are closely coordinated and cross-disciplinary in nature. Such an approach needs to be implemented as early as possible when such a client begins receiving services and should be sustained.

Significant changes in the HIV/AIDS epidemic in Maine are occurring. These changes present an increased need for coordinated and focused service design, implementation and evaluation, promoting the highest quality of life for those already infected with HIV and avoiding the further transmission of HIV.

During the 1990s, Maine's childhood vaccination rates increased dramatically, to the highest in the country.

Immunization

During the 1990s, Maine's childhood vaccination rates increased dramatically, to the highest in the country. Several factors contributed to this success. First, Maine became one of the few states to offer all necessary childhood vaccines for free. This was made possible by pooling together funds from the Centers for Disease Control and Prevention (CDC), Maine Medicaid, and Maine's Health Maintenance Organizations (HMOs) to purchase these vaccines at the federal discount rate, thus saving Maine families and our health care system substantial financial resources.

Second, significant outreach was implemented to Maine's health care providers to give them immunization informational and educational tools, enabling them to increase their vaccine rates. During the last part of the decade, this outreach is being changed from intensive one on one encounters to a web-based system, called ImmPact. Enabling legislation for ImmPact was passed in 1998.

Third, outreach to Maine's families was increased substantially during the 1990s. This outreach has taken the form of direct mailings, media campaigns, informational tools through health care provider offices, and educational outreach to professionals who work with children such as day care providers. As a result, Maine families have more access to information on vaccinations.

New vaccines are being developed and released, many at substantially higher prices than previous vaccines.

However, the Bureau of Health's Immunization Program and its many partners cannot dwell on the successes of the past decade since maintaining this system of support for vaccinations is quickly becoming more difficult and more complex. New vaccines are being developed and released, many at substantially higher prices than previous vaccines. The Bureau of Health's patchwork system of pooling together funds to pay for vaccines is being stretched, and we foresee the day when we may not be able to offer all necessary ones. Licensure is planned for a number of lifesaving products including immunizations for respiratory syncytial virus (RSV), parainfluenza, influenza, pneumococcus, meningococcus, cervical cancer, gastric ulcers, and group A streptococcal infection. In addition, testing continues on a vaccine for HIV, although progress remains slow.

Many of the new vaccines of the past several years and the vaccines for which licensure are pending are primarily for adults, mostly for targeted high-risk adults. For each vaccine there is a different population that is considered high risk. Although we face continued challenges in maintaining our childhood vaccine rates, we face many more difficult challenges in increasing our adult vaccine rates, which are felt to be quite low.

Increased efforts will be necessary to update health providers and the public in order to assure that Maine people can gain the full benefits of these new immunizations. We need to remember that vaccines are one of the most effective disease control methods available and hailed as one of the great health successes of the 20th Century. Vaccinations have allowed us to eliminate childhood deaths from infections with polio, smallpox, diphtheria, tetanus, pertussis, measles, mumps, rubella, and hemophilus influenza b meningitis. Yet, all of these at one time were common causes of death and disability, especially among our children. Still, many areas

of the world have high levels of many of these diseases, making maintaining high vaccination levels important to protect Maine people from epidemics.

Tuberculosis: Towards Elimination!

Tuberculosis (TB), our single biggest cause of death in Maine 100 years ago, killing over 1000 people every year, has virtually been eliminated as a cause of death, due primarily to the number public health interventions. However, Maine continues to see cases of TB, and it continues as a major public health threat worldwide as well as in many large cities in the United States.

Maine's TB cases over the past decade reflect some of the changes experienced nationwide. There have been an increasing number of cases among the foreign born, a number of cases of people co-infected with HIV, and one case with multi-drug resistant TB.

Given the situation worldwide, it is more important than ever that we maintain a strong system assuring adequate testing, treatment, and counseling for patients as well as assuring adequate outreach to health providers. If we are successful, we will be able to reach and maintain the Centers for Disease Control and Prevention goal of TB elimination.

Collaborating Partners

In Maine, during the late 1990s, collaboration among public health professionals, medical providers, government agencies, laboratory researchers, patient advocates, and other professionals has begun to flourish in the approach to some problem areas. Funding from the Centers for Disease Control and Prevention has been used to improve disease surveillance and laboratory capacities. Our efforts have resulted in the achievement of the vast majority of the infectious disease-related Healthy Maine 2000 objectives. However, we face increasing challenges from a growing number of infectious disease threats.

Healthy Maine 2000 Objectives

Immunization and Vaccine-Preventable Disease

Risk Reduction Objective

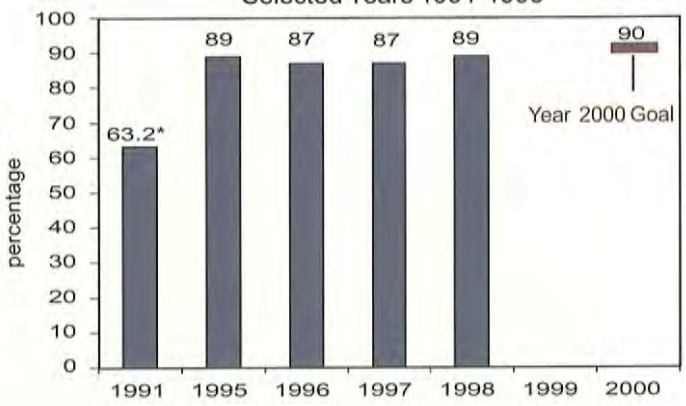
Increase to 90% the percentage of two-year-old children who are age-appropriately immunized.

Maine 1991 Baseline: 63.2% of two-year-old children were age appropriately immunized.

Most Recent Data: 1998, 89% of two-year-old children were age-appropriately immunized.

The benefits of childhood vaccinations has been proven repeatedly over the past fifty years. Most are cost effective from both an economical perspective and in terms of personal suffering that is avoided. For example, studies have shown that over $13 is saved for every dollar invested in measles/mumps/rubella vaccination. The wide spread use of vaccines has resulted in an enormous decrease in incidence of measles, rubella, diphtheria, pertussis, polio and other diseases as well as their potential side effects. Complications resulting from vaccine preventable diseases can range from dehydration, diarrhea, ear infections and pneumonia, to deafness, seizures, mental retardation, and even death.

Percentage of Maine Two-Year-Old Children Age-Appropriately Immunized Selected Years 1991-1998



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

***Note:** The 1991 baseline data for this objective was obtained from the results of a 1991 CASA survey and was used primarily for establishing a baseline for this objective. Data reported for years 1995 through 1998 was obtained from the Centers for Disease Control's (CDC) National Immunization Survey. Calendar year data was not available from CDC until 1995.

Health Status Objective

Reduce (or maintain zero incidence) cases of vaccine preventable diseases. Year 2000 Goal: 0 for all

Most vaccine preventable diseases are down 97% from peak levels. Worldwide efforts focused on immunizations have successfully eradicated smallpox and are getting close to achieving the same goal with polio. We have no record of a Maine child dying of a vaccine preventable disease during the 1990s.

Maine's Incidence of Vaccine Preventable Diseases Selected Years 1990-1999

	1990 Baseline	1995	1996	1997	1998	1999
Measles	30	0	0	1	0	0
Diphtheria	0	0	0	0	0	0
Tetanus	1	0	0	0	0	0
Rubella	1	0	0	0	0	0
Congenital Rubella Syndrome	1	0	0	0	0	0
Pertussis	19	50	58	27	34	35
Polio	0	0	0	0	0	0
Mumps	0	4	0	4	0	0
Hemophilus Influenza Type B (Invasive)	22	3	2	3	5	7

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

Healthy Maine 2000 Objectives

Immunization and Vaccine-Preventable Disease

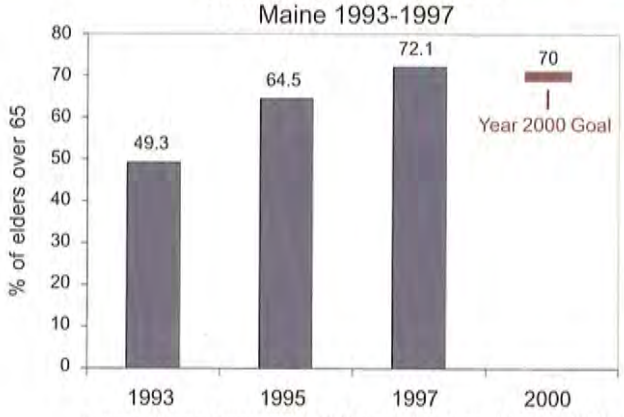
Risk Reduction Objective

Increase to 70% the influenza immunization levels among persons over 65 years of age.

Maine 1993 Baseline: 49.3% of those over 65 years of age had received influenza immunization.
Most Recent Data: 1997, 72.1% of those over 65 years of age had received influenza immunization.

Nationwide an average of 34,000 people die each year during influenza epidemics. More than 90% of these deaths were in people aged 65 and over. As many as 114,000 have flu-related hospitalizations each year.

Maine Immunization Levels
Among Persons Aged 65+
Maine 1993-1997



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System

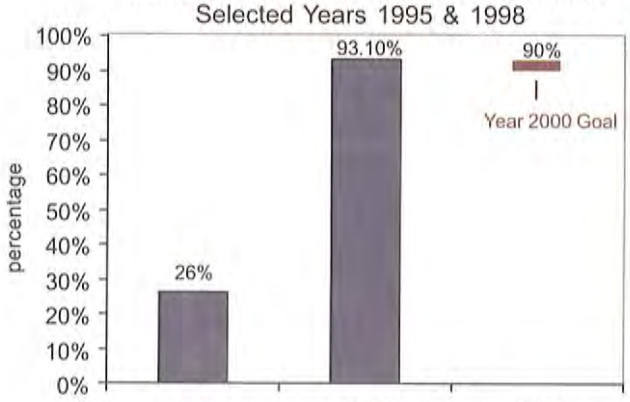
Service and Protection Objective

Increase proportion of children under 1 year of age completing the Hepatitis B immunization series to 90%.

Maine 1995 Baseline: 26% of children under 1 completed the Hepatitis B immunization series.
Most Recent Data: 1998, 93.1% of children aged 13 months received two or more Hepatitis B doses.

Hepatitis B (HBV) is a viral infection that can result in severe liver diseases and cancer. Children who become chronically infected have a 25% risk of dying prematurely. Prior to the implementation of routine vaccination, 45,000 children nationally under 10 years of age were infected with HBV annually. It is estimated that one-third of the 1.25 million Americans with chronic HBV infection acquired their infection as infants or young children. Hepatitis B vaccine is now available and routinely administered to children starting at birth.

Proportion of Maine Children Under 1yr.
Receiving Hepatitis B Series Immunization
Selected Years 1995 & 1998



Source: Maine Department of Human Services, Bureau of Health, Division of Disease Control, Program Data

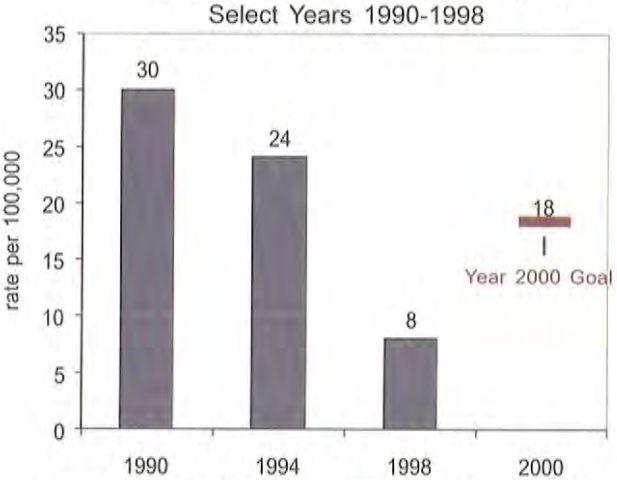
Health Status Objective

Reduce the incidence of acute hepatitis B infection to no more than 18 cases per 100,000 population.

Maine 1990 Baseline: estimated 30 cases per 100,000.
Most Recent Data: 1998, estimated 8 cases per 100,000.

HBV is contracted through unsafe sexual practices, through blood contact, through use of shared needles, and from an infected mother to her unborn child. Public health measures addressing these modes of transmission have been successful in reducing rates of HBV in Maine.

Maine Incidence of Acute Hepatitis B
Infection Rate Per 100,000 Population
Select Years 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Division of Disease Control, Program Data

Healthy Maine 2000 Objectives

Immunization and Vaccine-Preventable Disease

Health Status Objective

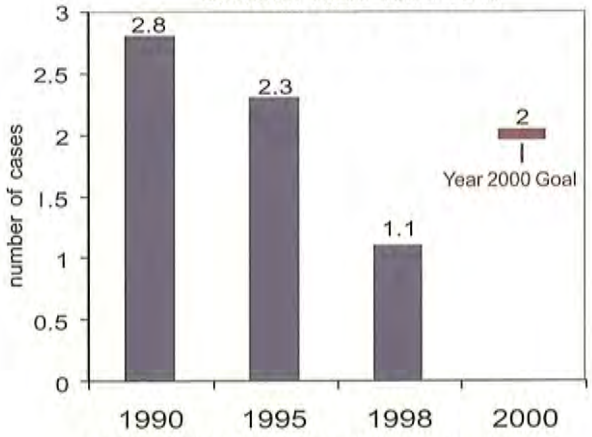
Reduce tuberculosis to an incidence of no more than 2.0 cases per 100,000 population.

Maine 1990 Baseline: 2.8 cases per 100,000.
Most Recent Data: 1998, 1.1 cases per 100,000.

The nearer Maine gets to eliminating tuberculosis, the more difficult it becomes to maintain physician awareness of the disease and to maintain the program infrastructure. Low incidence of disease leads to misdiagnosis, and when TB is diagnosed, there may not be appropriate treatment initiation and management. This can lead to drug resistant TB which is very difficult and expensive to treat.

The infrastructure provided by the Bureau of Health must be maintained to provide timely disease surveillance, case management and coordination of contact investigations to prevent a TB outbreak and to facilitate health professional education to assure prompt diagnosis and treatment.

Maine Incidence of Tuberculosis
Selected Years 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Tuberculosis Program

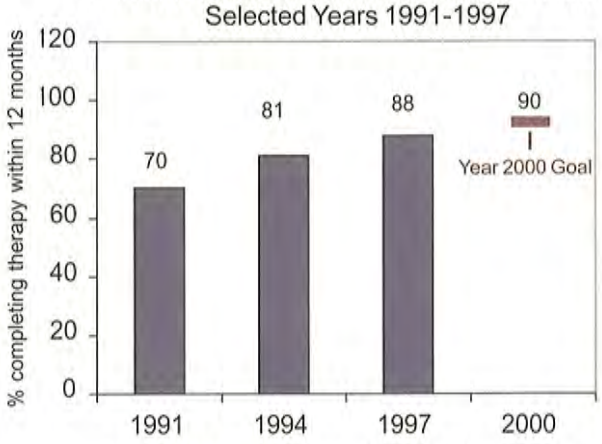
Surveillance Objective

Increase to 90 percent the proportion of tuberculosis cases who complete therapy within 12 months.

Maine 1991 Baseline: 70%.
Most Recent Data: 1997, 88%.

Completion of treatment in a timely manner is essential to attaining the goal of TB elimination. If treatment is not continued for a sufficient length of time, the patient may become ill and infectious again, thus able to further spread disease. Incomplete treatment can also lead to drug resistance.

Maine Tuberculosis Cases
Percent Completing Therapy within 12 Months
Selected Years 1991-1997



Source, Maine Department of Human Services, Bureau of Health, Tuberculosis Program

Healthy Maine 2000 Objectives

HIV Infection and Associated Morbidity and Mortality

Health Status Objective

Limit the crude incidence rate of AIDS cases to no more than 8.0 per 100,000.

Maine 1990 Baseline: 5.0 cases per 100,000
Most Recent Data: 1998, 3.4 cases per 100,000

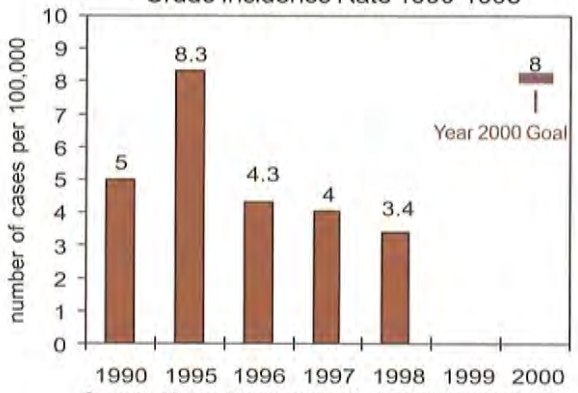
Maine's first documented case of AIDS was reported in 1984, and the number of AIDS cases in Maine has been relatively low compared to more populous states with large urban centers. In 1998, for example, Maine's AIDS incident rate was 3.4 per 100,000 population compared to 47.7 in New York. Despite Maine's comparatively low AIDS incidence, the impact on those who have been infected and affected by the epidemic cannot be underestimated. Individuals, families and entire communities have coped with tragedy and challenge, exercising compassion and heroism, to dramatically affect our attitudes and institutions.

The Maine Bureau of Health collects data on both HIV infection and AIDS. A diagnosis of AIDS represents the occurrence of life threatening or disabling disease manifestations in a person with HIV infection, and usually occurs at least several years after HIV infection. In recent years, new medical treatments for HIV have altered the course of the epidemic by significantly reducing the number of HIV-infected individuals who progress to AIDS, as well as reducing the number of AIDS-related deaths. For this reason, epidemiologic surveillance has shifted to emphasize HIV incidence as well as AIDS.

During 1998, 33 cases of AIDS among Maine residents were reported to the Bureau of Health, a 19% decrease over 1997 totals. In addition, 16 AIDS-related deaths occurred in 1998, representing a 24% decrease over the previous year. These downward trends mirror a national decrease in AIDS incidence and deaths, and likely reflect the efficacy of new treatments for HIV. Of the cases reported in 1998, 36% were residents of the southern region of the state, 27% were residents of the central region and 36% were residents of the northern region. This represents an increase in the number of cases reported in the northern region. More than half the 1998 cases, 54%, were among residents of non-metropolitan areas in Maine.

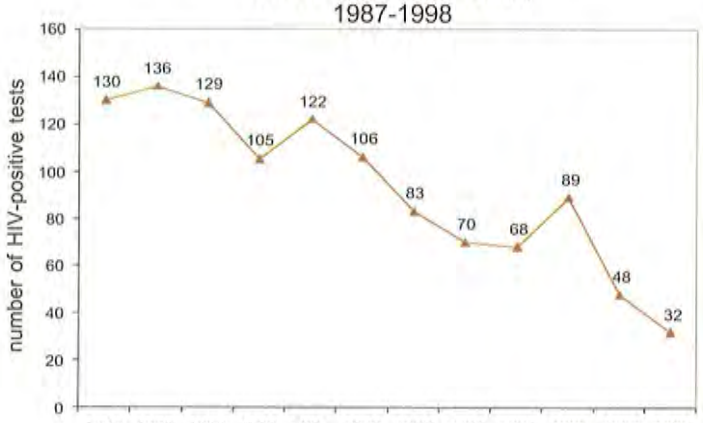
Although the number of new AIDS cases and AIDS-related deaths has decreased, new HIV diagnoses continue to occur in Maine, indicating a slow but steady increase in HIV prevalence. During 1998, there were 32 reports of new HIV-positive tests in the state. It is estimated that between 950 and 1,300 people are currently HIV-infected in Maine.

Maine AIDS Cases
Crude Incidence Rate 1990-1998



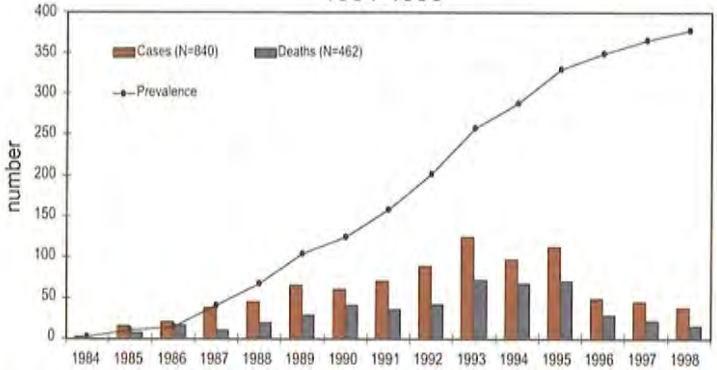
Source: Maine Department of Human Services, Bureau of Health, Division of Disease Control

HIV-Positive Tests Reported to the Maine Bureau of Health, 1987-1998



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

Maine AIDS Cases, Deaths and AIDS Prevalence 1984-1998



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

Healthy Maine 2000 Objectives

HIV Infection and Associated Factors

Service and Protection Objective

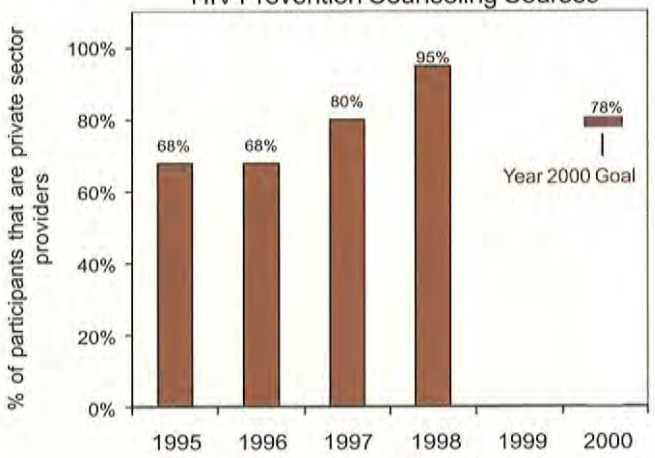
Increase the number of private sector providers taking HIV prevention counseling courses by 10%

Maine's 1995 Baseline: Indicates that private-sector providers represented 68% of all participants taking HIV Prevention Counseling courses.
Most Recent Data: By 1998, 95% of the participants in courses were private-sector providers.

HIV Test Counseling courses have been designed to assist clinicians who counsel patients about HIV testing. Topics include: AIDS Epidemiology, Maine law as it relates to HIV testing, occupational exposure, post-exposure prophalaxis and basic counseling skills.

When more providers develop the capacity to offer HIV testing services through these training opportunities, rates of HIV testing in the private sector improve, as does the quality of the services. Greater access to quality HIV testing services is an important part of our overall goal to increase number of at-risk persons who learn their HIV-status.

Maine's Private-Sector Providers
As a Percent of Participants in
HIV Prevention Counseling Courses



Source: Maine Department of Human Services, Bureau of Health, Division of Disease Control, Program Data

Service and Protection Objective

Maintain availability of partner notification services for 100% of requests

Partner Counseling and Referral Services (PCRS) are available throughout the state through the Bureau of Health. Work is divided into four service areas: Southern Maine (York, Cumberland, Sagadahoc Counties), Central and Western Maine (Androscoggin, Franklin, Oxford Counties), Central and Mid-Coast Maine (Kennebec, Knox, Lincoln, Somerset Counties), Northern and Downeast Maine (Aroostook, Hancock, Penobscot, Piscataquis, Washington, Waldo Counties).

PCRS has two goals. 1) To ensure that services are provided to persons infected with HIV or STDs and their sex or needle-sharing partners so they may avoid infection or, if already infected, can prevent transmission to others. 2) To help partners gain earlier access to individualized counseling, HIV and STD testing, medical evaluation, treatment and other prevention services.

Maine Performance of
Partner Notification Services
1994-1998

Reporting Year	Number of Requests for Partner Notification Services	Number Receiving Partner Notification Services	Percent of Total Receiving Requested Services
1994	37	37	100%
1995	26	26	100%
1996	52	52	100%
1997	22	22	100%
1998	19	19	100%

Source: Maine Department of Human Services, Bureau of Health, Division of Disease Control, Program Data

Healthy Maine 2000 Objectives

Sexually Transmitted Diseases

Health Status Objective

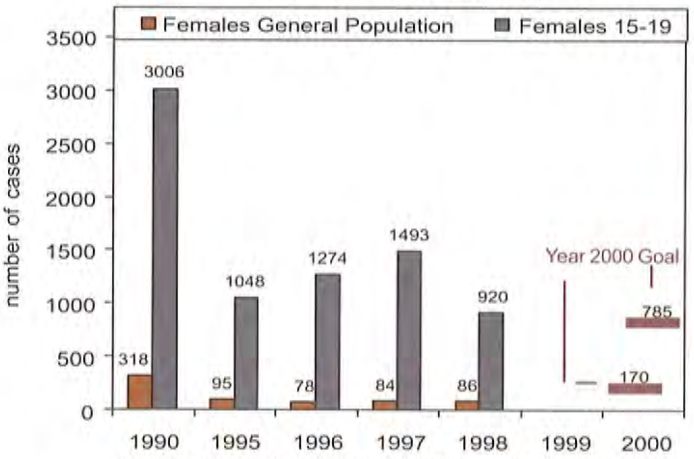
Reduce chlamydia incidence to no more than 170 cases per 100,000 in the general population and to no more than 785 cases per 100,000 in females age 15-19.

Maine 1990 Baseline:
318 cases per 100,000 in the general female population;
3,006 cases per 100,000 in females age 15-19.

Most Recent Data, 1998:
86 cases per 100,000 in the general female population;
920 cases per 100,000 in females age 15-19.

With 1,073 cases reported during 1998, chlamydia rates remain largely unchanged when compared with recent years. As in the past, females, and young females in particular, continue to be disproportionately affected. 84% of all chlamydia cases reported to the Maine Bureau of Health occurred among females, with 37% occurring among females aged 15-19 years.

Maine Incidence of Chlamydia
General Population
Selected Years 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Division of Disease Control, Program Data

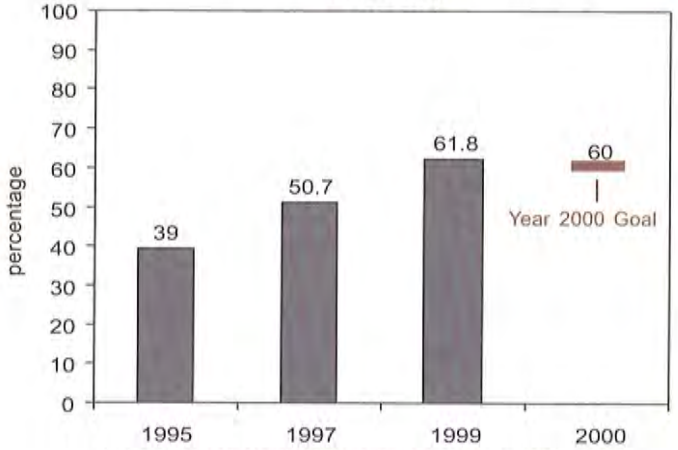
Risk Reduction Objective

Increase the rate of consistent condom use among sexually active adolescents to 60%.

Maine 1995 Baseline: 39% according to the Youth Risk Behavior Survey.
Most Recent Data: 1999, 61.8% according to the Youth Risk Behavior Survey.

Use of condoms among sexually active teens is a proven method to reduce transmission of sexually transmitted diseases. Bureau funded prevention programs include skill-building activities to increase effective condom use.

Rate of Condom Use Among
Sexually Active Teenagers in Maine
1995-1999



Source: Maine Youth Risk Behavior Survey: 1995, 1997, and 1999.

Note: 1999 data is unweighted.

Injury Prevention and Control

Injuries take a significant toll on the health of Maine people, especially our youth. They are the leading cause of death in Maine for the population under the age of 34. Because injuries take a high toll among our youngest citizens, they account for approximately 30% of all years of productive life lost before age 65, exceeding losses from heart disease, cancer, and stroke combined.

Overall, injuries constitute the fifth leading cause of death in Maine, accounting for an average of over 600 deaths annually, and represent over 1 in 20 of all Maine deaths. Many more Maine residents suffer permanent or temporary disability from injuries. Of all deaths from injuries, about two thirds are from unintentional injuries (motor vehicle crashes, fires, falls) and the remaining one third result from intentional injuries (suicide, homicide).

Contact: Cheryl Dicara or Diane Arbour
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Healthy Maine 2000 Goal

Reduce the rate of injuries to Maine citizens

Overview

Unintentional Injury

Unintentional injuries are the leading cause of death for Maine residents ages 1-34 years old. Those injuries commonly considered to be unintentional constitute about two-thirds of all injury deaths, and are almost equally divided between transportation (motor vehicle) injuries and other unintentional injuries. The "other" category is often labeled home and leisure to reflect the circumstances surrounding most of the injury occurrences, but some also occur in occupational settings or schools.[1]

Even though the mortality rate of unintentional injuries in Maine falls below the national rate, the toll taken by unintentional injuries poses a significant public health issue. For instance, motor vehicle crashes and fires were the leading causes of unintentional injury deaths between 1987-1996 for Maine children age 1 to 5 years old.

Unintentional injuries are the leading cause of death for Maine residents ages 1-34 years old.

Progress has been made in several areas during the last decade. As a result of increased seatbelt usage, there has been a corresponding decrease in fatal crashes. More people are restraining their children when they are in a vehicle; however, the misuse rate (i.e., improper installation of restraint equipment) for child restraints hovers between 85-90%.[2]

For Maine children 1 to 5 years old, motor vehicle crashes and fires were the leading causes of unintentional injury deaths between 1987-1996.

Over the past twenty years, there was a dramatic increase in the number of smoke alarms installed in homes. However, a false sense of security has emerged as recent studies show that smoke alarms are either disarmed or not functioning in a significant number of Maine homes. Furthermore, approximately 7% of the Maine population have no smoke alarms in their homes.[3]

Bicycling continues to be a popular sport in Maine. As with the use of safety restraints in vehicles, it has been proven that the use of bike helmets will reduce the severity of head injuries resulting from bike crashes. Maine legislation enacted in 1999, requiring bike helmets for riders under the age of 16, should help to address this preventable cause of injury.

Intentional Injury

Considering all causes of death for people in all age groups, suicide is the tenth leading cause of death in Maine.[4] The Maine suicide rate among all age groups is typically higher than the national average rate. The rate of firearm suicides in Maine is a significant contributing factor in the elevated rate of suicide. Six of ten suicides among persons of all ages, and seven of ten youth suicides were committed with a firearm. There are an average of 165 suicides annually

For every youth suicide, there are an estimated 20-25 suicide attempts.

and an estimated 3,000 to 4,000 suicide attempts. The cost of health care and lost wages for suicide attempts for one year (1996) in Maine is estimated to be $115,219,897.[5]

The highest suicide rates in Maine, as in the U.S., are among the elderly. The highest number of deaths from suicide, without accounting for population size, occur among middle-aged people. Youth suicide is particularly tragic, also occurring in Maine at rates higher than the national average. Among 15 to 24 year olds, suicide is the second leading cause of all deaths, accounting for about 25 to 30 suicides in Maine each year. For every youth suicide, there are an estimated 20-25 suicide attempts. While more young women attempt suicide, more young men actually complete suicide.[6]

The suffering and devastation created by the loss of a loved one to suicide is immeasurable. The impact of suicide on friends, family, and an entire community is devastating and long lasting. There is no typical profile of a suicidal person. Suicide is usually the result of a complex set of behaviors and circumstances. The good news is that, using a combination of strategies, many suicides can be prevented.

In the late 1980s, the Surgeon General of the United States identified domestic violence as the most serious public health risk facing women. Domestic violence remains a leading cause of injuries to women from ages 14 to 44.

The highest suicide rates in Maine, as in the U.S., are among the elderly.

Maine law describes domestic violence as a serious crime against the individual and society, producing an unhealthy and dangerous family environment, resulting in a pattern of escalating abuse, including violence that frequently culminates in intra-family homicide.[7]

Police data indicate a serious domestic violence problem in Maine. A high percentage of homicides in the state are domestic violence-related murders. For six of the nine years of data from 1990-1997, more than 50% of all murders were related to domestic violence among Maine residents.

Another intentional injury of concern is Shaken Baby Syndrome. In a study of children aged two and under admitted to Maine hospitals from 1991 - 1994 with serious head injuries, 19 were diagnosed with Shaken Baby Syndrome. Three of these children, aged six weeks to 19 months, died.

A high percentage of homicides in the state are domestic violence related murders.

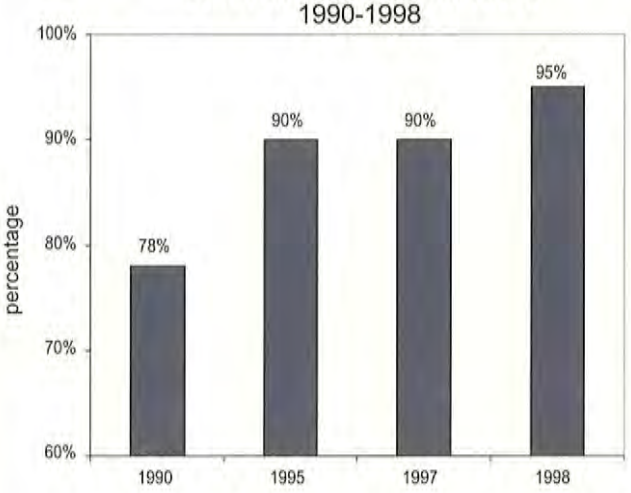
New and Emerging Issues and Challenges

Use of Safety Equipment in Motor Vehicles

Although the percent of children riding restrained has increased over the decade, the incorrect use of restraints remains a problem. It is estimated that nearly 100% of Maine children ages 4 and under are not properly restrained in motor vehicles-either they are not in a car seat or the car seat has not been properly installed. The Bureau of Health's Maine Injury Prevention Program (MIPP) continues to support a statewide network of Child Passenger Safety Seat Loan Programs, assuring easier access to car seats for Maine's families. In 1999, the MIPP began providing comprehensive training programs to certify

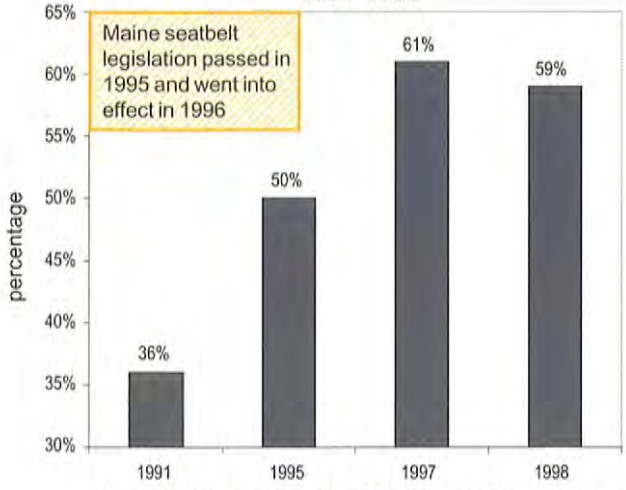
Nearly 100% of Maine children under 5 are not properly restrained in Motor Vehicles

Maine's Percent Usage of Child Car Safety Seats for Children Aged 4 and Under 1990-1998



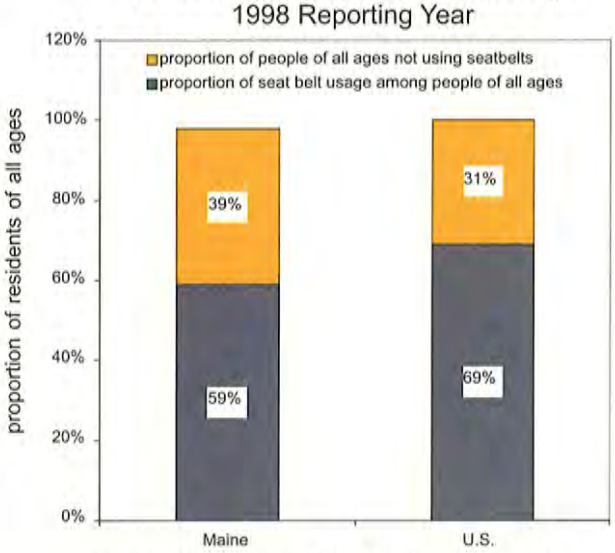
Source: Maine Department of Human Services, Bureau of Health, Maine Injury Prevention Program, Program Data

Maine's Seat Belt Usage for All Ages Selected Years 1991-1998



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System, 1991-1998

Maine's Overall Seat Belt Usage as Compared to the National Average 1998 Reporting Year



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System; Centers for Disease Control and Prevention, Behavior Risk Factor Surveillance System

technicians in child passenger safety. By doing so, it is hoped that all Maine children will have easy access to car seat checks, assuring that more of our children are transported safely.

Finding ways to work with Maine's citizens to increase seat belt usage remains one of our major challenges. In 1991 36% of people of all ages in Maine used seatbelts. Usage continued to increase during the first part of the decade with 50% of all Maine people using seatbelts by 1995. In 1996, Maine's first mandatory seat belt law for adults went into effect. The law is a "secondary" law, which means that law enforcement officers must suspect the operator of another traffic violation before a ticket can be written for the seat belt violation. Up until that time, Maine's seat belt usage rate for adults was way below the national average. As of 1998, Maine's overall seatbelt usage rate increased closer to the national average, with Maine's rate at 59% compared to the national average of 69%.

Bicycle Injuries

In 1999 the Maine Legislature enacted a bill requiring anyone under age 16 who is operating a bicycle or riding in a bicycle seat or trailer to wear a properly fitting bicycle helmet. Following enactment, a number of organizations including the MIPP, were able to provide bike helmets to Maine residents, which were fitted and distributed by law enforcement agencies, fire departments and schools along with information and education on the proper use of helmets.

Fire-Related Deaths

Over the past decade, fire-related death rates have not changed significantly. An average of 17 Maine people die in fires every year, many of them young children. In fact, for Maine children ages 1 to 5 years old, fires are the second leading cause of death. One of our biggest challenges in preventing these deaths and injuries is to assure that all Maine homes have functioning and properly installed smoke alarms.

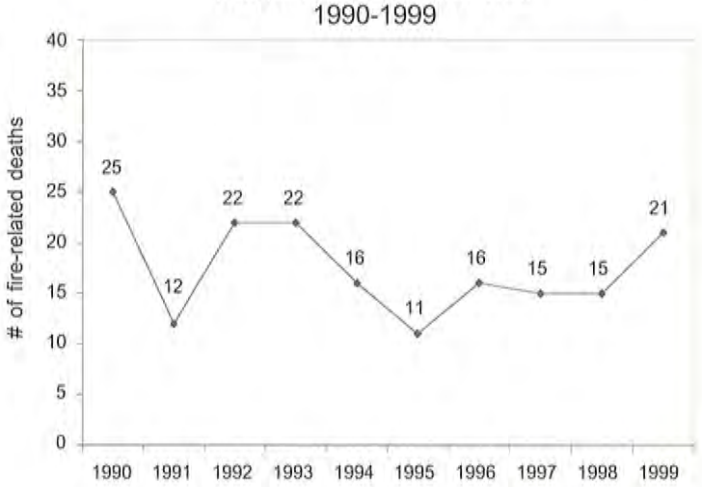
Falls

As our population ages, we face increasing challenges in addressing one of the leading causes of preventable hospitalizations among older adults - falls. There are two issues that if addressed can have a substantial impact on this problem. First, many elders decrease their activity level in response to a fear of falling. This decreased activity level in turn can increase their risks for falls. Therefore, assuring appropriate activity levels for our elders can help reduce falls. Second, there are a number of simple home-based strategies such as adjusting furniture alignment in a way in which the risk for falls is minimized. Assuring that Maine's older adults have access to this information can also help address this growing public health concern.

Youth Violence Prevention/Conflict Management

While Maine youth do not experience the same level of violence as their counterparts in more urban areas of the country, violence is an issue of concern among our adolescents and young adults. In the 1997 Youth Risk Behavior Survey of 1,837 Maine high school students, 40% of male and 24% of female students reported being in a physical fight within the past 12 months. 22% of students reported carrying a weapon and 7% reported carrying a gun at least once during the previous month. 9% of male and 5% of female students reported being threatened or injured with a weapon on school property one or more times during the past 12 months.[9]

Maine's Unintentional Fire-Related Deaths
Number of Deaths per Year
1990-1999



Source: 1990-1998 data were obtained from the Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. 1999 data is from the Maine Fire Marshall's Office

Maine's Juvenile Arrests for Violent Crimes
(murder, rape, robbery and aggravated assault)
1990-1998

Crime Type	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
Murder	1	0	2	0	1	0	1	3	0	1	9
Rape	10	13	23	22	18	16	18	20	15	13	168
Robbery	27	25	31	17	50	81	88	62	35	41	457
Aggravated Assault	85	99	97	107	144	119	130	104	117	103	1105
Total	123	137	153	146	213	216	237	189	167	158	1748

Source: Uniform Crime Report (UCR), Maine 1990-1997, Department of Public Safety, Maine State Police Reports

Many of the perpetrators of civil rights violations and bias incidents have been young men of school age.

While juvenile crime in Maine ranks low when compared to the national average, it is important to note that there were an average of 174 juvenile arrests for violent crime per year from 1990-1999. The number of juvenile arrests for violent crimes (murder, rape, robbery and aggravated assault) increased from a low of 123 in 1990 to a high of 237 in 1996. In 1997, 1998 and 1999 there were declines in the annual totals of juvenile arrests, but these declines did not reach the low rate experienced during 1990.

A number of state and local efforts have recently been initiated to address youth violence. These stategies include placing resource officers in school settings, initiating school-based civil rights teams, implementing peer mediation programs, training conflict resolution educators for schools and communities, implementing mentoring programs, creating structured acitivities for after school hours, and providing opportunities for youth to serve their communities.

As Maine moves beyond the year 2000, increased coordination among program stakeholders, and attention to the continuation, implementation, and evaluation of these initiatives will be necessary to effectively address the prevention of youth violence.

Easy access to firearms has been a key factor in the increase of serious injury and death among Maine youth.

In order for prevention efforts to be well-guided, we need to continue information gathering on juvenile crime. For instance, there is indication that among incarcerated juveniles there are higher rates of mental health issues, sexual abuse (especially for girls), substance abuse, poverty, poor physical health, disassociation from schools, disrupted communities, and ineffectual families.[10]

Data from the Maine Attorney General's Office reveals that the incidence of civil rights violations and/or bias incidents motivated by religious, ethnic, racial or sexually-oriented prejudice remains a significant issue in Maine. Many of the perpetrators of civil rights violations and bias incidents have been young men of school age.

Seven of ten Maine youth suicides are committed with a firearm.

Between October 1992 and December 1999, 1,363 complaints of civil rights violations were filed with the Attorney General's Office and 119 formal actions were taken. The victims of these violations were 34% African American, 33% Gay or Lesbian, 7% Jewish, and 26% others.

Youth Suicide

Easy access to firearms has been a key factor in the increase of serious injury and death among Maine youth. Over the last ten years, the largest increase in child firearm deaths was due to suicide. There are more suicides than homicides by firearms in Maine. Seven of ten youth suicides are committed with a firearm. Vulnerable young people with access to a firearm are at increased risk of suicide. In a state where firearm ownership is high, messages communicated about firearm safety must be carefully crafted.

Maine has been actively addressing youth suicide prevention since Governor King appointed a task force in the fall of 1995. Under direction from the Governor's Children's Cabinet, an interdepartmental team led by Bureau of Health staff developed a comprehensive plan to prevent youth suicide. The Maine Youth Suicide Prevention Program has begun to implement changes at the state level to improve access to appropriate prevention and intervention services.

Future Direction

Significant progress has been made in the injury prevention field over the past decade. With increased knowledge of injury prevention has come an increase in injury prevention activities, accompanied by a substantial reduction in the occurrence of many injuries. The most notable reduction in injury deaths has been in motor vehicle injuries, although strides have also been made in reducing occupational injuries. By contrast, the rates of suicide and domestic violence in Maine remain relatively unchanged. Injuries and injury-related deaths, both intentional and unintentional, account for millions of dollars in health care costs, pain and suffering, and diminished quality of life every year in Maine. The perception that injuries are "accidents" and cannot be prevented is still prevalent among the general population. New opportunities for coordination and collaboration to deliver injury prevention initiatives must be found to increase understanding of injury prevention among the public.

Several key injury areas warranting further attention include:

- Although the main focus of statewide injury prevention efforts has been infants, children and young adults, injuries to other populations, especially the elderly, demands focused prevention efforts.

- The magnitude of fire and fall injuries among the elderly must be addressed.

New opportunities for coordination and collaboration to deliver injury prevention initiatives must be found to increase understanding of injury prevention among the public.

- Creating awareness of the prevalence of domestic violence and changing the public perception of domestic violence must be approached by all professional disciplines.

- Suicide is the leading cause of injury death among persons 25 - 64 years of age. Suicide prevention among individuals over age 24 also represents a pressing problem for planning future efforts.

- Improved data systems should also be geared toward improving our ability to identify populations facing disparities.

- Evaluation of current efforts needs to guide improvements in future efforts.

- Increased technical assistance is needed to assure that current, effective injury prevention strategies are extended throughout Maine.

- Establishing a comprehesive injury data surveillance system is necessary to improve decision-making with regard to prevention policies and initiatives. The work begun by the Maine Injury Surveillance Team should provide this.

Healthy Maine 2000 Objectives

Objectives established to reduce the rate of injury to Maine's citizens

Health Status Objective

Reduce unintentional injury mortality by 25 percent to 22 deaths per 100,000 by year 2000.

Maine 1990 Baseline: 29.2 percent
Most Recent Data: 1998, 26.4 percent

Maine has yet to reach this objective's goal of 22 deaths per 100,000 for the year 2000. Although significant strides have been made during the decade, the most recent data shows the rate is still 16.7% higher than the year 2000 goal.

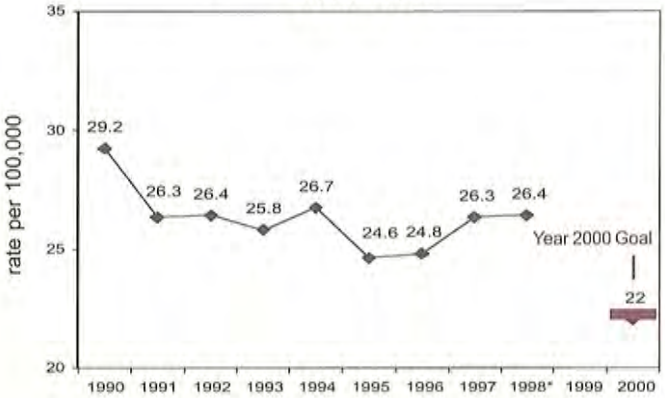
Unintentional injuries account for 2/3 of all injury deaths, and are almost equally divided between motor vehicle injuries and all others. During the 1990's, policies and programs were implemented to increase the use of seat belts and child safety seats.

Fires continue to be a major cause of death and injury in Maine at the end of the decade. For calendar years 1992 through 1998, there were 135 fire fatalities in Maine. The high rate of injury and death as a result of fire/burn among the very young and elderly are of particular concern in our large rural state.

In 1997, the Bureau of Health received a three year grant award from CDC to implement a statewide fire safety and burn prevention program, concerning the prevalence of residential smoke alarms and targeting at-risk households. ° More than 5,000 smoke alarms have been provided to Maine residents during this period.

The Bureau of Health currently funds five Safe Community Grants to conduct injury prevention activities within their respective communities. Each of these has chosen to address injury prevention issues important within their communities. These include child passenger safety, home safety, firearm safety, recreational safety, and pedestrian safety among other activities. By providing injury prevention funding to communities, the capacity to address significant local injury issues is greatly enhanced.

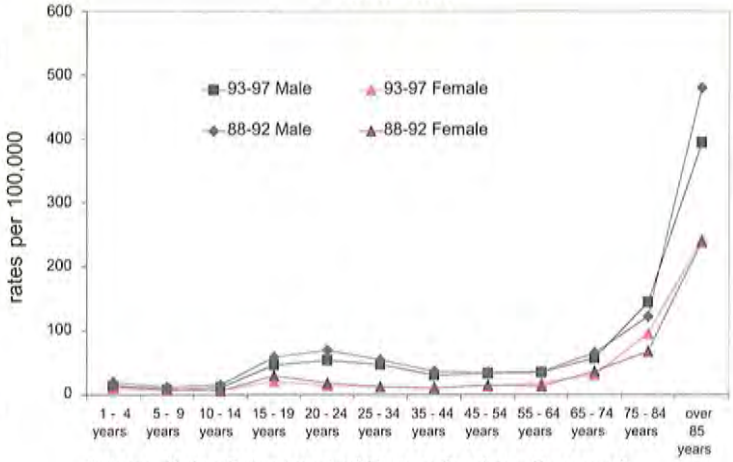
Maine's Unintentional Injury Mortality Rate
Age-Adjusted Per 100,000
1990-1998



* Indicates preliminary data

Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics

Maine Unintentional Injury Death Rates
Five Year Averages
1988-1997



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics

Healthy Maine 2000 Objectives

Objectives established to reduce the rate of injury to Maine's citizens

Surveillance Objective

Establish and maintain an ongoing surveillance system to monitor statewide injury mortality and morbidity.

Conducting surveillance is critical in addressing injuries as a public health problem. The Bureau of Health's Maine Injury Prevention Program (MIPP) has worked to establish and maintain an ongoing, statewide surveillance system to monitor injury morbidity and mortality data. Ongoing monitoring of child, teen, and young adult injury morbidity and mortality has been conducted throughout the decade. Although Maine has pieces of an injury surveillance system, and MIPP staff and other stakeholders routinely utilize these data, there is still no comprehensive surveillance system in place in the year 2000.

The MIPP has collaborated with state, local and national data sources to collect and analyze selected data. A team of individuals representing various Maine data sources have begun working together to create a multi-agency injury surveillance system. Team members include the MIPP, Office of the Chief Medical Examiner, Maine Emergency Medical Services, Office of Data Research and Vital Statistics, Maine Trauma Advisory Committee, Maine Health Data Organization, and the Maine Department of Transportation.

Collection of accurate injury morbidity data has been an issue throughout the decade. Improvement of nonfatal injury data sources has been a focus of MIPP, working with the Maine Hospital Association, and the Maine Health Information Management Association.

External causes of injury are classified by E codes, which enable health care providers to determine the specific cause and intent of an injury. Without E codes, it is impossible to know if an injury resulted from a car crash, a fall, or a gunshot wound. Accurate reporting of E codes substantially improved in the last several years of the decade. This rich data source has proven invaluable in monitoring the incidence of injury and planning prevention activities.

In the second half of the decade, the increase in E code reporting was, in part, a result of the collaboration and sponsored training efforts of MIPP, Maine Hospital Association, Maine Health Data Organization, Maine Office of Data Research and Vital Statistics, Maine Health Information Center, Maine Trauma Advisory Committee, Children's Safety Network, and the Maine Health Information Management Association. These sponsored training sessions focused on the importance, uses, and proper identification of E codes. To continue this positive trend in reporting rates, further training and technical assistance opportunities are being planned.

Ongoing monitoring of child, teen, and young adult injury morbidity and mortality has been conducted throughout the decade.

Healthy Maine 2000 Objectives

Objectives established to reduce the rate of injury to Maine's citizens

Health Status Objective

Reduce nonfatal injury hospitalizations by 15 percent, to no more than 910 per 100,000.

Maine 1991 Baseline: 1,043 per 100,000
Most Recent Data 1998: 983.9 per 100,000

Although the goal of 910 nonfatal injury hospitalizations per 100,000 has not been achieved, significant progress has been made during the decade. The leading cause of injury hospitalization varies by age group. It is important to note that information on the cause of an injury was lacking in many medical records from 1990 to 1996, when less than 50% of medical records included E codes. As of 1998, 95% of hospital discharge data were reporting E-coded medical records. Despite this improvement, the chart to the right underestimates the number of injury hospitalizations.

Maine's Nonfatal Injuries
Number of Hospitalizations Per 100,000
1991-1998

Source: Maine Hospital Discharge Data Set; Maine Health Data Organization

Maine's Leading Causes of Nonfatal Unintentional Injury Hospitalizations by Age
1993 - 1998

Age:	0 - 14	15 - 24	25 - 44	45 - 64	65+	Total
Method of Injury						
Falls	1,068	663	2,246	3,411	15,982	**23,370**
Motor Vehicle	482	1,667	2,131	1,141	1,095	**6,516**
Other Transport	283	108	186	120	43	**740**
Poisoning	385	207	521	345	500	**1,958**
Natural/Environmental	122	45	202	170	203	**742**
Fire/Flames	24	33	88	38	37	**220**
Drowning/Submersion	9	2	6	5	2	**24**
Suffocation	30	7	6	11	40	**94**
Firearms	8	30	39	18	4	**99**
Other & Late Effects	*736*	*1,050*	*2,166*	*1,404*	*1,363*	***6,719***
Adverse Event/Effects	*939*	*990*	*4,174*	*8,052*	*20,312*	***34,467***
Records with Any Mention of Unintentional Injury	*4,045*	*4,736*	*11,551*	*14,496*	*38,462*	***73,290***

Source: Maine Hospital Discharge Data Set; Maine Health Data Organization

NOTE: Recently Maine hospitals have improved their E-Coding of injury hospitalizations. According to Maine Health Data Organization, in 1993, 56.7% of records with a principal diagnosis of injury had an E-code assigned to the record. In 1998, hospital E-coding had improved to 87.2%. This means that the numbers above are an under-representation of the numbers of injury hospitalizations.

Nonfatal Unintentional Injury Hospitalizations

Falls among the elderly continue to be the leading cause of injury hospitalization. Although the main focus of the statewide prevention efforts is on children and young adults, the magnitude of the problem confronting older adults warrants attention.

Motor vehicle crashes were responsible for over 5,000 hospitalizations during the past decade. In early 1996, Maine passed a seat belt law requiring all people 4 years and older to use safety belts, and those under 4 to ride in a federally-approved child safety seat. The law is a "secondary" law. That means the officer must suspect another violation before the officer can cite the driver for a seat belt violation.

Unintentional poisonings were the third leading cause of hospitalizations from 1993-1997. Due to an increase in state funding, the Maine Poison Center has recently increased its outreach efforts to prevent poisonings.

Fire burns continue to be one of the leading causes of unintentional injury hospitalizations in Maine. It is estimated that approximately 7% of Maine homes still do not have smoke alarms.[11]

Firearm injuries were one of the leading causes of unintentional injury hospitalizations between 1993-1997. Firearm safety has been identified as a priority for the Bureau of Health's Maine Injury Prevention Program. Trainings on firearm safety for adults and a video oriented to youth are being implemented.

Healthy Maine 2000 Objectives

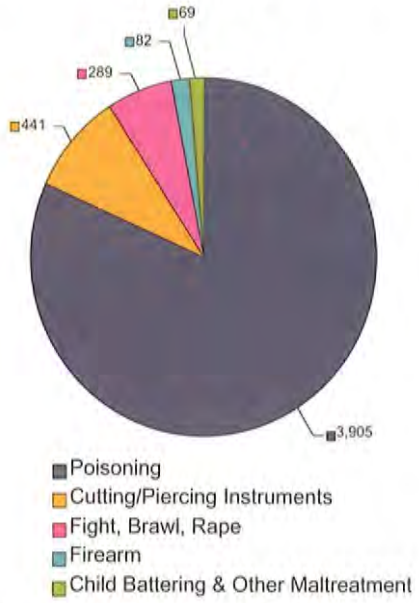
Objectives established to reduce the rate of injury to Maine's citizens

Nonfatal Intentional Injury Hospitalizations

From 1993 through 1998, self-inflicted injury was the second leading cause of injury-related hospitalization among persons aged 10 to 24. Among individuals aged 25 to 64 years of age, self-inflicted injury ranked third and among older persons aged 65 and over it ranked fifth as a leading cause on injury hospitalization. However, injury intent is not always accurately documented.

Poisoning was the leading cause of intentional injury hospitalizations for all age groups in the five years from 1993-1998. Other leading reasons for intentional injury hospitalizations include cutting, fights, and rape. For children under 14, the second leading cause of intentional injury hospitalization was child abuse. While firearm injuries are one of the leading causes of intentional injury hospitalization for persons over 15 years of age, due to the lethality of firearms, many firearm injuries will result in debilitating injury or death.

Maine's Leading Causes of Nonfatal Intentional Injury Hospitalizations, Combined Self-Inflicted and Assault Injury 1993 - 1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics; Maine Hospital Discharge Data Set, Maine Health Data Organization

Maine's Leading Causes of Nonfatal Intentional Injury Hospitalizations by Age, Combined Self-Inflicted and Assault Injury 1993 - 1998

Method of Injury	Age:	0 - 14	15 - 24	25 - 44	45 - 64	65+	All Ages
Poisoning		143	994	2,041	600	127	***3,905***
Cutting/Piercing Instruments		13	129	231	49	19	***441***
Fight, Brawl, Rape		4	82	164	26	13	***289***
Firearm		0	21	46	12	3	***82***
Child Battering & Other Maltreatment		50	5	7	3	4	***69***
Fire, Hot Object/Substance		0	6	33	5	0	**44**
Suffocation/Hanging/Strangulation		5	6	16	4	4	**35**
Jumping/Falling		1	3	13	4	0	**21**
MV Traffic Accident		1	1	7	3	0	**12**
Drowning/Submersion		0	1	2	1	1	**5**
Natural/Environmental		0	0	3	0	1	**4**
Transport, Other		0	0	0	0	0	**0**
Corrosive/Caustic Substance		0	0	0	0	0	**0**
Explosive		0	0	0	0	0	**0**
Other Specified, Classified (Self-Inflicted)		0	3	4	3	0	**10**
Other Specified, Not Classified (Self-Inflicted)		9	19	44	11	8	**91**
Unspecified Means (Self-Inflicted)		1	3	11	1	0	**16**
Other & Unspecified Means (by Others)		13	51	97	21	20	**202**
Late Effects of Assault		0	5	10	4	1	**20**

Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics; Maine Hospital Discharge Data Set, Maine Health Data Organization

For children under 14, the second leading cause of intentional injury hospitalizations was child abuse.

Healthy Maine 2000 Objectives

Objectives established to reduce the rate of injury to Maine's citizens

Health Status Objective

Reduce by 10% the death rate from intentional injuries (homicide, suicide) for 15-24 year olds to no more than 16 deaths per 100,000 individuals

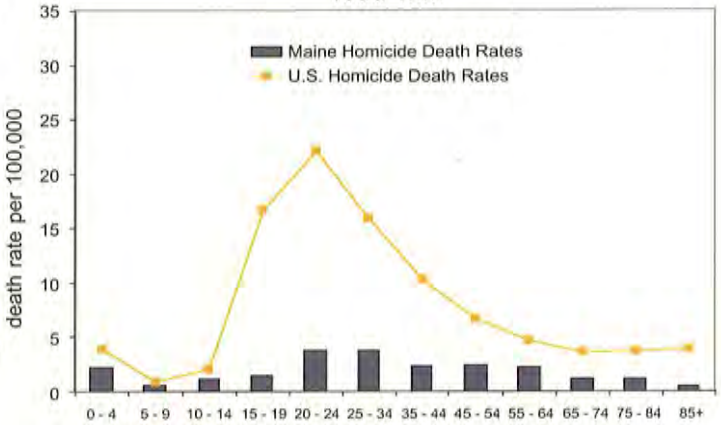
Although the original Healthy Maine 2000 objective combined youth suicide and homicide injuries within one objective, it is recommended that these types of injury deaths be viewed separately. From 1992-1996, suicide was the second leading cause of injury death for young people aged 10 to 24. For fourteen of the eighteen years between 1979 and 1996, the Maine youth suicide rate was above the national average. Although the rate of youth homicide in Maine is consistently below national averages, both the youth and the total suicide rates for the state generally rank from 16th to 18th nationally.

Suicide rates for five-year periods are used for comparing changes or trends over time. Comparing rates from year to year can be misleading because of the potential for large rate changes as the result of only a few more (or less) deaths.

Suicide rates among youth appear higher in the first half of the decade when compared to latter years. The reverse is true among older adults who experienced somewhat elevated suicide rates at the end of the decade.

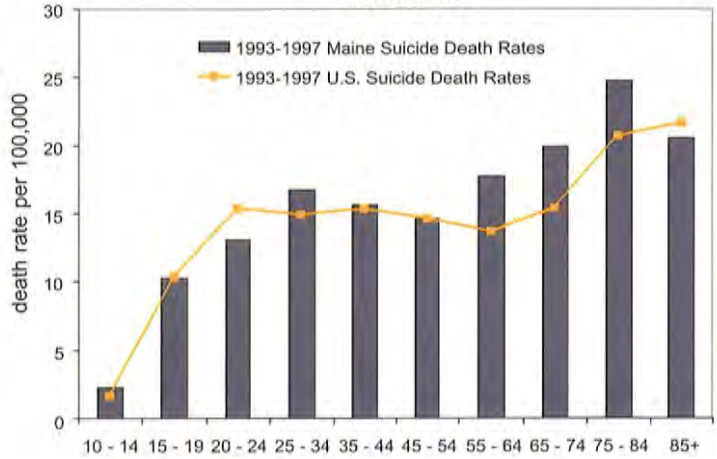
Maine Youth Suicide Prevention Program activities have focused upon improving state and community agency infrastructure to improve delivery of prevention and intervention services to Maine families and youths. The program has established a statewide crisis hotline, a statewide information center for provision of data and resource materials, professional training and public awareness education.

Maine and U.S. Homicide
Death Rates by Age Group per 100,000
10 year Average
1988-1997



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Maine and United States Suicide Death Rates
Five Year Averages Reported by Age Group
Death rate per 100,000
1993-1997



*indicates preliminary data

Source of Data: Centers for Disease Control and Prevention, National Center for Health Statistics; Maine Department of Human Services, Bureau of Health, Office of Research and Vital Statistics

Note: U.S. Data for 1998 is not yet available. Therefore most recent data is reported for both Maine and the U.S. up to 1997.

Healthy Maine 2000 Objectives

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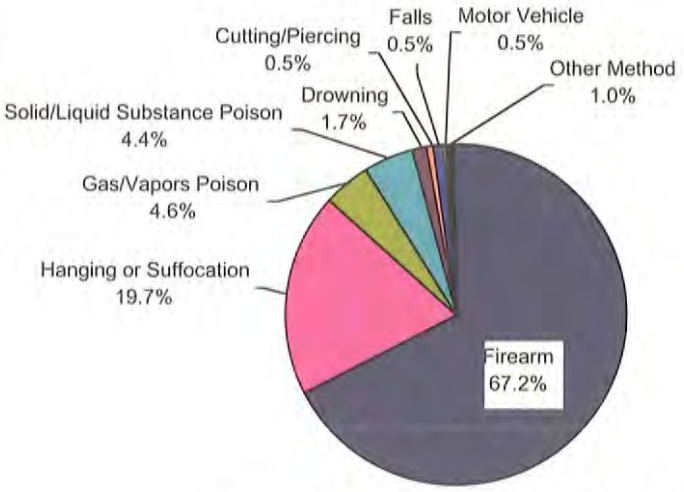
More than 2/3 of youth suicide deaths (277) are due to firearm injuries. Seven of ten Maine youth suicides are committed with a firearm. Suicide by hanging or suffocation is the second leading cause of youth suicide.

In the American Association of Suicidology's Consensus Statement on Youth Suicide by Firearms, it is noted that for fifty years, youth suicide rates have increased with a direct correlation to the use of firearms.

The Maine Youth Suicide Prevention Program conducted firearm safety training in 1998 and will produce an educational videotape in the year 2000.

1984 - 1998* Maine Suicide Deaths
Age 10-24, by Percent of Method Used
Maine Resident Data
N=412



Source of Data: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Health Status Objective

Reduce by 15 percent, injury rates caused by domestic violence.

Maine 1990 Baseline:
2,748 male on female assaults/arrests
231 parent on child assaults/arrests.

Most Recent Data 1998:
2,337 male on female assaults/arrests
230 parent on child assaults/arrests.

Domestic Violence

Domestic violence includes a wide range of behaviors where one individual controls another through verbal, physical, sexual, emotional, or psychological maltreatment.

Police data illustrate a significant domestic violence problem in Maine. The state of Maine has experienced a high percentage of domestic violence related murders. For six of the nine years of data from 1990, more than 50% of all murders were related to domestic violence among Maine residents.
Creating awareness of the prevalence of domestic violence statewide and changing attitudes about domestic violence continue to be major challenges for Maine. We need to continue to work on developing a coordinated community response to end domestic violence across the state.

Maine's Domestic Violence Assaults with Physical Injuries Fiscal Years 1990-1998

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Assaults	3,697	3,762	4,392	4,417	4,106	4,412	5,766	4,222	3,853
Male Assaults on Females*	2,748	n/a	n/a	n/a	2,888	2,976	2,550	2,690	2,337
Parent assaults on child	231	n/a	n/a	n/a	278	290	266	298	230
Child Assaults on parent	n/a	n/a	n/a	n/a	229	268	251	269	213
All other familial assaults**	n/a	n/a	n/a	n/a	721	878	847	965	1073

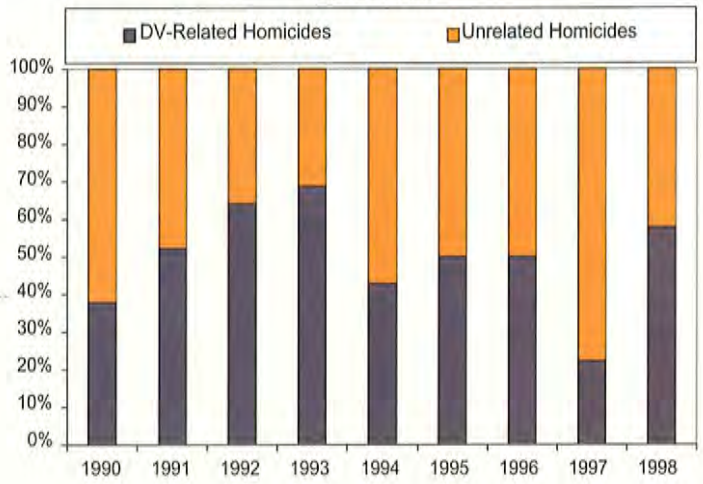
Source: Maine Department of Public Safety

Healthy Maine 2000 Objectives

Objectives established to reduce the rate of injury to Maine's citizens

In a study of children age two and under admitted to Maine hospitals from 1991 to 1994 with serious head injuries, 19 were diagnosed with Shaken Baby Syndrome. Three of these children, ages six weeks to 19 months, died. Of the 15 identified perpetrators, 13 were male. Multiple risk factors were identified including problems with substance abuse, interpersonal violence, experiencing abuse as a child and unrealistic expectations of the infant or child. Continued education by MIPP and others is necessary to address this important cause of child death and disability.

Maine's Domestic Violence Related Homicides
As a Proportion of All Homicides
1990-1998



Source:Uniform Crime Report (UCR), Maine 1990-1997, Department of Public Safety, Maine State Police Reports

Creating awareness of the prevalence of domestic violence statewide and changing attitudes about domestic violence continue to be major challenges for Maine.

Maine Reported Domestic Violence Filings
Fiscal Year 1990-1997

Type	1990	1991	1992	1993	1994	1995	1996	1997
Protection from Abuse**	3,978	4,891	5,319	5,405	5,718	5,888	5,766	6,120
Child Protective Custody*	506	554	647	665	628	792	834	942
Total**	**4,484**	**5,445**	**5,966**	**6,070**	**6,346**	**6,680**	**6,600**	**7,062**

*These are child abuse cases primarily filed by the Maine Department of Human Services.

**These totals do not reflect protection from harassment filings, which include both familial and non-familial filings.

References

1. Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics.

2. Edmund S. Muskie School of Public Service, Observational Survey.

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4. Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics.

5. Pacific Institute for Research and Evaluation (PIRE) 1999.

6. Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics.

7. Maine Domestic Violence Statute, Maine Revised Statues Annotated, Title 19, 762.

8. Uniform Crime Report (UCR), Maine 1990-1997, Department of Public Safety, Maine State Police Reports.

9. Maine Youth Risk Behavior Survey, 1997, Maine Department of Education, 1998.

10. Southern Maine Juvenile Facility, Mental Health Assessment, Surveys (Informal and Snapshot), July 1999.

11. Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System.

Maternal and Child Health

We envision a Maine where all individuals, families, and communities enjoy optimal health and quality of life.

During the last decade, maternal and child health efforts have succeeded in improving several health status objectives impacting the condition of Maine's families. During the same time, it has been acknowledged nationally that families include more than just the mother and children. Families also include fathers, grandparents, and other extended family members. While we continue to pursue prevention methods and promote measures to enhance the health status of our population and address the challenges impacting the health of Maine's women, infants, and children, we will also adopt this broader view of family.

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Healthy Maine 2000 Goal

Improve the Health Status of Women, Infants, and Children

Overview

Maine's maternal child population accounts for almost half of our total population and consists of women of reproductive age and all children. Over the last decade, many factors influencing the health status of this population have emerged. For instance, there have been significant shifts in parenting and employment patterns, changes in the overall health care delivery system, establishment of early diagnostic and treatment programs, and improved neonatal transport systems.

Several socioeconomic and demographic conditions pose special challenges to the health of Maine's maternal child population. For instance, thirty years ago, family couples led almost ¾ of all households in Maine. By contrast, only about half of households are now led by family couples. As a result, about one quarter of our children live in single-parent households, most of these headed by women. These changes present a variety of challenges to Maine families since the Institute for Women's Policy Research in 1996 reported that the estimated median annual earnings for women working full-time in Maine are only $16,540. In addition, about one in six Maine children live in poverty. Maine continues to have one of the lowest rates of youth attaining a post secondary school degree. And, Maine's maternal child population is most likely to live in a rural area of the State. Therefore, while race and ethnicity are generally associated with health disparities in more urban states, Maine's health disparities, especially among our maternal child population, are primarily correlated with differences in income, education, and the low population densities of our rural areas.

Despite these various socioeconomic and demographic challenges, many efforts have improved the status of Maine's maternal and child health population over the last decade.

Maine's maternal child population accounts for almost half of our total population and consists of women of reproductive age and all children.

Maine's health disparities, especially among our maternal child population, are primarily correlated with differences in income, education, and the low population densities of our rural areas.

For instance, Maine has been successful in improving access to health insurance for many of Maine's families. In 1998, Maine's Child Health Insurance Program (CHIP) resulted in expanded access to state health and dental insurance for children. About 9000 Maine children are now enrolled in this expansion of Maine Medicaid or its low cost alternative, Cub Care (for those at incomes between 150% and 200% of federal poverty level). Census surveys (Current Population Surveys) in the 1990s showed that up to about 16% of Maine children lacked health insurance. A survey commissioned by the Maine Department of Human Services in 1999 – 2000 has found preliminarily that this rate has dropped to about 8%.

In 2000, parents of children with Medicaid insurance are being offered Medicaid insurance if they earn up to 150% of the federal poverty level. Pregnant women in Maine are also recently eligible for an expansion of Medicaid insurance if they earn up to 200% of the federal poverty level. As of July 2000, a record 173,000 Maine people, mostly from our maternal and child population, are enrolled in Medicaid.

It has also been increasingly recognized that early parental support and resources leading to early childhood stimulation and family interventions are important for giving our children a healthy start. One statewide initiative that has resulted from this understanding is a network of home visitation programs for families of newborns. State funding for these programs was initiated in 1995, and substantial funding from the tobacco settlement is resulting in these programs being expanded to provide at least every first time family home visits. By assessing a family's needs and linking them to appropriate resources, this firsthand connection with Maine's families is important in working toward eliminating many health disparities and challenges faced by our maternal and child population.

Additionally, a number of people and organizations are beginning to realize the importance of a supportive environment for families throughout their children's youth. For instance, in the mid-1990s, Communities for Children began as an initiative started by Governor King's Children's Cabinet. Currently, over 60 Communities for Children work to coordinate and augment local and state resources for their youth. One major focus area, Maine Promise, tries to assure that every child lives in an environment supportive of a healthy start, an education leading to marketable skills, opportunities to serve, a healthy relationship with a non-parent adult, and structural activities in their spare time. Hopefully, with these new comprehensive and preventive approaches, Maine's families will find it easier to make healthier choices.

As of July 2000, a record 173,000 Maine people, mostly from our maternal child population, are enrolled in Medicaid.

In 1998, Maine's Child Health Insurance Program (CHIP) resulted in expanded access to state health and dental insurance and children.

Another example of an early intervention program that has had a substantial impact this past ten years is the expansion of newborn genetic screening. By the end of the decade, 99% of Maine newborns are screened by a simple blood test for 8 genetic disorders, which if diagnosed and treated early, can result in saving lives and preventing lifelong disability. 100% of newborns with confirmed positive tests currently receive treatment within one week of diagnosis.

Since maternal child morbidity and mortality rates are at their highest in the perinatal period, ensuring access to appropriate health services in a rural state like Maine can be challenging. However, over the past decade, substantial progress has been made in this area. High-risk perinatal medical services are centered in Maine's three largest cities with Level III facilities located in Portland and Bangor, and a Level II facility in Lewiston. Outlying health care facilities in conjunction with these three hospitals work cooperatively to ensure that high risk pregnant mothers are transported appropriately to a facility prior to delivery. If this is not possible before delivery, or if an infant is born with unexpected complications, then specialized neonatal transportation units are utilized to bring sick newborns to the appropriate facility. Only ten years ago, such transportation systems did not exist.

In any society, infant mortality is a key barometer of the overall health of the society.

Despite many challenges faced by Maine women and children, substantial progress has been made to set up systems of outreach resulting in improved access to preventive and treatment resources. As a result, many health indicators among our maternal child population have improved or been maintained.

Focus Areas

Infant Mortality

In any society, infant mortality is a key barometer of the overall health of the society. Many public health and medical factors impact infant mortality rates as well as various socioeconomic, demographic, educational, environmental and infrastructural factors. The health of two vulnerable populations - infants and women in the perinatal period - must be maintained in order to achieve low infant mortality rates. Many factors contribute to the maintenance of Maine's low infant mortality rate. Such factors include the following: early and consistent access to prenatal care; utilization of best practices in prenatal care; and implementation and maintenance of a perinatal and neonatal transport system.

During the latter half of the 1990s, Maine became one of few states to provide all necessary childhood vaccines for free to all families.

Of the infant deaths that remain, 24% per year are related to the presence of a birth defect. With federal (CDC) funding and assistance from Maine March of Dimes and a number of Maine people and organizations, the Bureau of Health is implementing a birth defects registry in order to identify children with birth defects early and to link them and their families to comprehensive resources. Hopefully, we can assure a healthier start for these families as well.

In addition, as new information about preventing birth defects becomes known, we face challenges in disseminating that knowledge. For example, over the last several years, more information about the importance of taking folic acid in preventing neural tube defects and of avoiding alcohol in preventing other birth defects has been disseminated across the State by a variety of agencies and organizations, including the Maine March of Dimes.

Among the factors which will continue to challenge maintaining Maine's low infant mortality rate is the increase in multiple births, particularly those influenced by assisted reproductive technology (ART) such as in-vitro fertilization. A second challenge is our changing demographics and the need for responsive perinatal health care. For instance, we need to respond to the varied health challenges of refugee populations such as nutritional deficiencies, infectious and non-endemic diseases, and traumatic circumstances.

Low Birth Weight

Maine continues to identify and respond to factors influencing the birth weight of Maine's newborns, such as prenatal tobacco addiction, poor prenatal care and poor nutritional status. The early initiation of prenatal care during the first trimester and the resulting early identification of low birth weight risk factors permits implementation of interventions that halt the negative impact prior to birth.

Prenatal Care

Challenges to receiving or accessing prenatal care include: the geographic distribution of providers in relation to the population; the ability to pay for the services; transportation for

women living in rural areas or without access to a vehicle; and particularly in the last decade, the ability for pregnant women to balance employment demands within the hours that provider services are available.

Breastfeeding

The goal of increasing breastfeeding rates continues to be a challenge. The American Academy of Pediatrics recommends that all infants be breastfed at least until one year of age because of the many medical and nutritional benefits. However, because most mothers are now returning to the workplace within weeks of delivery, barriers such as workplace environments and work schedules present challenges.

This challenge is made greater by Maine's limited ability to monitor breastfeeding rates across infancy. Over the last decade, initial breastfeeding rates (i.e., women breastfeeding one week or more) have increased, but limited systems for monitoring breastfeeding rates beyond initiation make it difficult to measure ongoing breastfeeding. The Women, Infants and Children (WIC) program provides the longest data period (up to 1 year of age), but it reports on a limited population (i.e., clients of the program). An ongoing challenge is to develop longer term tracking systems by which a broader population is captured.

The American Academy of Pediatrics recommends that all infants be breastfed at least until one year of age because of the many medical and nutritional benefits.

Childhood Immunizations

The Bureau of Health is implementing a web-based immunization-information system called ImmPact. When the system is fully operational, it will provide education and information tools to our health care providers, enabling them to provide easier access for Maine's families to immunizations and other children's health resources.

During the latter half of the 1990s, Maine became one of few states to provide all necessary childhood vaccines for free to all families. Challenges we face include being able to continue providing these vaccines because of the increasing number and costs of these immunizations. See the Immunization and Infectious Disease chapter for more information.

Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

Health Status Objective

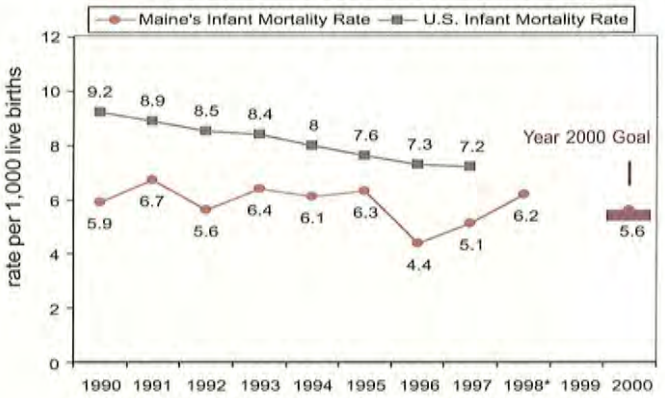
Decrease the rate of infant mortality to 5.6 per 1,000 live births.

Maine 1990 Baseline: 5.9
Most Recent Data: 1998, 6.2

Maine's 1996 infant mortality rate was the lowest in the country at 4.4 per 1,000. Maine's 1997 infant mortality rate was also low at 5.1 per 1,000, as compared to a national infant mortality rate of 7.2 per 1,000. The infant mortality rate for 1998 was slightly higher than the previous year at 6.2 per 1,000, but is still significantly lower than the national rate.

Comparing rates from year to year can be misleading because of the potential of large rate changes as a result of Maine's small population. For that reason, it is more accurate to look at five-year averages. As indicated in the adjacent graph, Maine's infant mortality rates reported in five-year averages are 8.3 per 1,000 live births for years 1984-1988, 6.3 per 1,000 live births for years 1989-1993, and 5.6 per 1,000 live births for the most recently reported five years, 1994-1998. Factors contributing to this improvement include good nutrition, early and consistent prenatal care, perinatal and neonatal transport system, and advances in neonatal medicine.

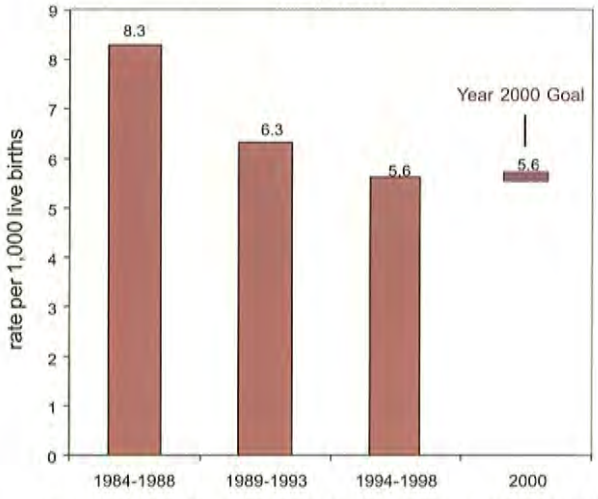
Maine's Infant Mortality Rate
1990-1998



*Indicates preliminary data. U.S. 1998 Infant Mortality rate is not yet available.

Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. National level data obtained from Centers for Disease Control and Prevention, National Center for Health Statistics, *Vital Statistics of the United States, vol.II, mortality, part A,* for data years 1950-1996. *Deaths: Final Data for 1997, National Vital Statistics Reports, vol.47, no.19,* 6/30/99.

Maine's Infant Mortality Rates
Reported in Five-Year Averages
1984-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics

Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

Health Status Objective

Decrease the incidence of low birth weight (less than 2500 grams) to 5%.

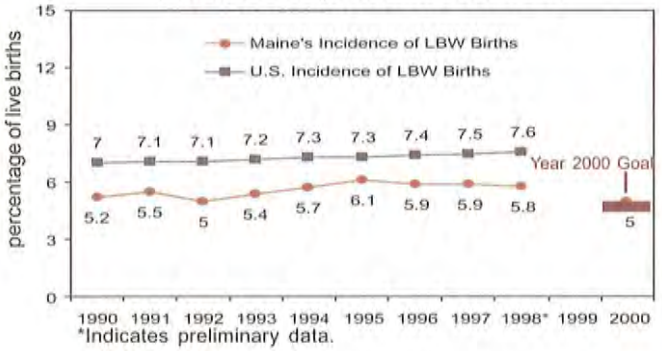
Maine 1990 Baseline: 5.2
Most Recent Data: 1998, 5.8

The baseline in 1990 indicated that low birth weight births represented 5.2% of all live births. The incidence of low birth weight was inconsistent and continued to rise and fall during the first half of the decade, peaking at 6.1% in 1995. Since then, the rate has continued to decline and improve, but has not reached the year 2000 goal. As with the infant mortality rate, fluctuations in this rate is influenced by Maine's small population.

As the chart with five-year average for low birth weight (LBW) births dramatically illustrates, Maine is moving away from the Year 2000 goal. This is a phenomenon occurring nationally as well. Preliminary analysis from national data shows correlation between increased LBW births and the increased use of assisted reproductive technology.

Of the 13,720 live births in 1998, 5.8% of these births were low birth weight births. Preterm births are a leading risk factor for low birth weight. In the 1990s, some progress has been made in preventing low birth weight among preterm births. However, despite this improvement, the rate of low birth weight appears to be increasing. This might result from the increased use of assisted reproductive technology and the resulting increase in multiple births. Another important contributing factor to LBW is the high proportion of pregnant women in Maine who consume tobacco during their pregnancy.

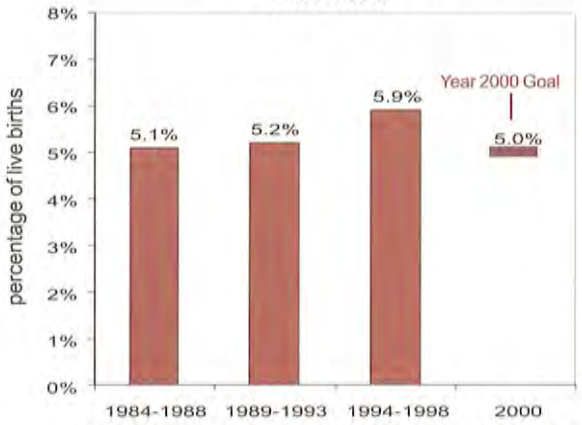
Maine and U.S. Incidence of
Low Birth Weight Births, 1990-1998



*Indicates preliminary data.

Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. National level data obtained from the Centers for Disease Control and Prevention, National Center for Health Statistics. For data years 1950-1996, *Births: Final Data for 1997, NVSR, vol.47, no.18,* 4/19/99. Births: Final Data for 1998, NVSR, vol.48, no.3, 3/28/00.

Maine's Low Birth Weight Births
Reported in Five-Year Averages
1984-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics

Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

Health Status Objective

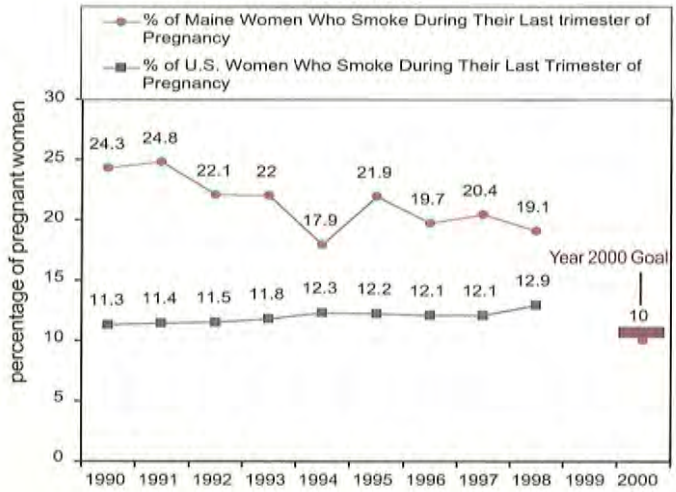
Decrease the percent of pregnant women who smoke during the last trimester of pregnancy to 10%.

Maine 1990 Baseline: 24.3%
Maine Most Recent Data: 1998, 19.1%

According to PRAMS survey data, Maine has achieved some success in reducing the percentage of pregnant women who consume tobacco. The baseline for 1990 reported that 24.3% of pregnant women smoked during the last trimester of pregnancy. In 1998, (the most recent data) the percent of pregnant women who smoked during their last trimester dropped to 19.1%. However, strong evidence exists which shows that about half of Maine women who are pregnant and under 20, and half of those earning low incomes are tobacco addicted throughout their pregnancy. While there has been progress in reducing prenatal smoking, when compared to national levels, Maine is still substantially and consistently higher than national levels.

Research in recurrent behaviors, such as substance addiction, indicates that cessation is strongly influenced by stages of change. Pregnancy is a time when women are highly motivated to make positive changes in their health practices/behaviors. Therefore, this is an ideal time to work with and support women in their tobacco cessation efforts. This is an area requiring continued attention across multiple program initiatives.

Maine and U.S. Pregnant Women Who Smoke (During Last Trimester) 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics, PRAMS. National level data is percent based on live births with known smoking status of mother (not all states reported for all years, approximately 43-46 states reporting). National level data was obtained from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistic Reports, vol.48, no.18. *Births: Final Data for 1998, NVSR, vol.48, no.3,* 3/28/00.

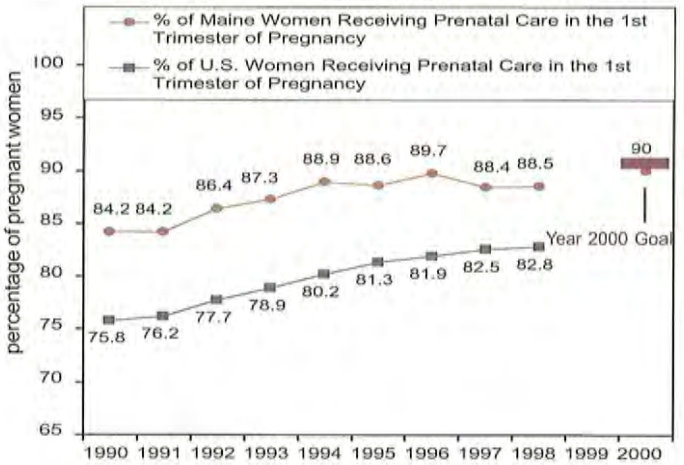
Health Status Objective

Increase to 90% the proportion of women receiving prenatal care in the first trimester of pregnancy.

Maine 1990 Baseline: 84.2%
Maine Most Recent Data: 1998, 88.5%

Maine has come close but has yet to achieve and maintain the goal for this objective. From 1990 through 1996, there was a steady increase in the proportion of women receiving early (in the first trimester) prenatal care (PNC). There has been a small decrease in the proportion of women receiving early PNC since 1996. During the 1990s, the economy has improved and more of Maine's residents have had access to insurance via their employers and Medicaid. In 2000, Maine Medicaid eligibility has been lifted to qualify pregnant women from 185% to 200% of the federal poverty level. This should have a positive impact on prenatal care.

Maine and U.S. Women Receiving Prenatal Care (During 1st Trimester) 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics. National level data was obtained from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistic Reports, vol.48, no.18. *Births: Final Data for 1998, NVSR, vol.48, no.3,* 3/28/00.

Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

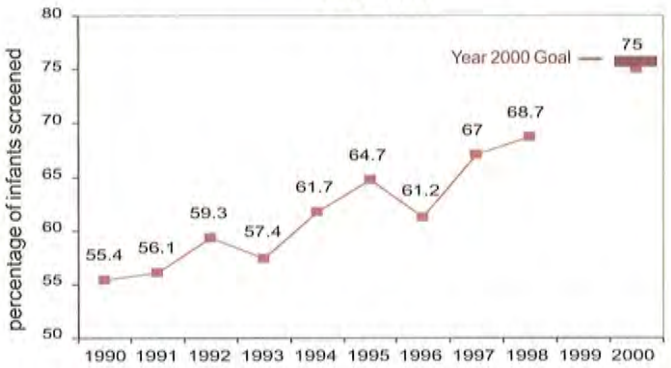
Surveillance and Protection Objective

Increase to 75% the proportion of infants who are breastfed one week or more.

Maine 1990 Baseline: 55.4%
Maine Most Recent Data: 1999, 68.7%

Data for this objective was obtained from the PRAMS survey. Maine's most accurate data source for information on breastfeeding initiation rates are obtained from hospital discharge data that come from the newborn screening filter paper forms. At present, the PRAMS survey provides the most useful data through early infancy (i.e., up to 13 weeks of age).

Maine Proportion of Infants
Who Are Breastfed One Week or More
1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research, and Vital Statistics, PRAMS

Surveillance and Protection Objective

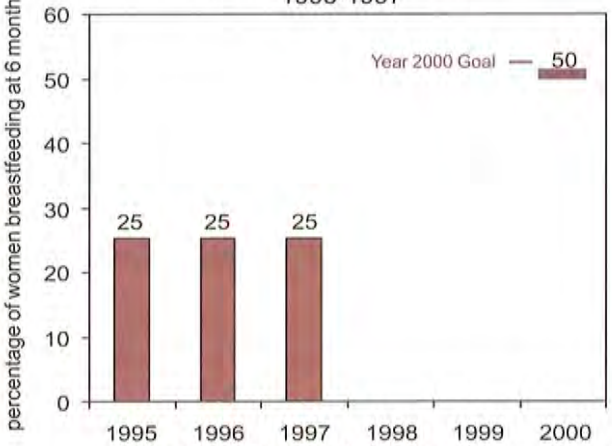
Increase to 50% the proportion of women breastfeeding infants at six months.

Maine 1995 Baseline: 25%
Maine Most Recent Data: 1997, 25%

Currently generalizable data on long term breastfeeding rates is very limited. The Women, Infants and Children (WIC) program provides the longest data period (up through 1 year of age); however, the data reports on a limited population (i.e., clients of the program) and cannot be generalized to the population as a whole.

Mothers face many barriers to continued breastfeeding, including workplaces and work schedules that present challenges. The American Academy of Pediatrics recommends breastfeeding for at least one year because of the many medical and nutritional benefits.

Proportion of Maine Women Breastfeeding
at Six Month WIC Visit
1995-1997



Source: Maine Department of Human Services, Bureau of Health, Women, Infants, and Children, Program Data

Note: Breastfeeding objectives were added to Healthy Maine 2000 initiatives in 1996. WIC data was not available prior to 1995 (i.e., no computerized data system).

Healthy Maine 2000 Objectives

Objectives established to improve the health status of women, infants, and children

Health Status Objective

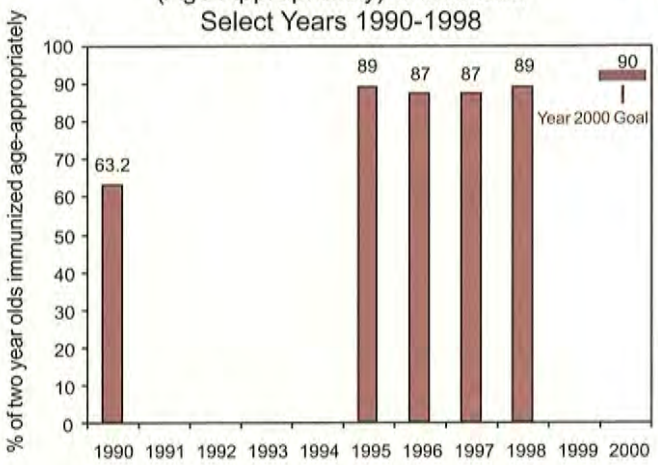
Increase to 90% the percentage of two-year-olds who are age-appropriately immunized.

Maine 1990 Baseline: 63.2%
Maine Most Recent Data: 1998, 89%

Maine has made significant progress towards achieving this objective. In 1997 Maine had the highest immunization rates in the United States. In the years since, Maine continues to be one of the top five states in the U.S. for immunization rates.

Through funds from CDC, Maine Medicaid, and Maine's HMOs, the Bureau of Health is able to provide all the childhood immunizations recommended by ACIP at no cost to families. Programs such as this, as well as a commitment from Maine's pediatric health care providers, has resulted in Maine achieving and maintaining one of the highest immunization rates in the United States. Immunizations for Maine's children are provided through well child clinics, private providers, and some schools.

Proportion of Maine Two-Year Olds (Age-Appropriately) Immunized Select Years 1990-1998



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

***Note:** The 1990 baseline data for this objective was obtained from the results of a 1990 CASA survey and was used primarily for establishing a baseline for this objective. Data reported for years 1995 through 1998 was obtained from the Center for Disease Control's (CDC) National Immunization Survey. Calendar year data was not available from CDC until 1995.

Occupational Health and Safety

Occupational health and safety is a complex issue in Maine and the nation, encompassing many public health issues as they relate to the workplace and worker. A tremendous variety of workplace exposures is possible, from toxic chemicals and infectious agents to noise and physical trauma. A broad range of health conditions may result from workplace exposures, from immediate injury to chronic illness to death.

Our ability to understand the adverse effects of workplace exposures on workers health is sometimes complicated by the large number of non-workplace exposures and underlying disease conditions that are experienced by both workers and non-workers in society.[1]

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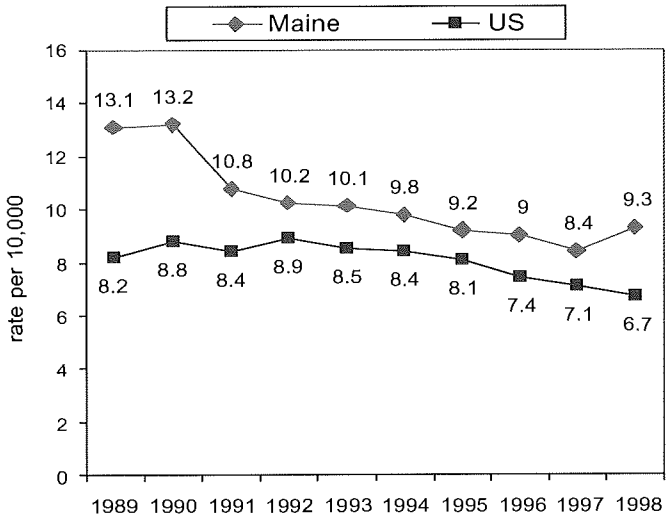
Healthy Maine 2000 Goal

Reduce Morbidity and Mortality Among Maine's Citizens From Work-Related Injuries and Illnesses

Overview

Occupational health and safety is a major public health issue in Maine, partly due to our relatively hazardous industry mix. However, according to data from the Maine Department of Labor, Maine's combined occupational injury and illness rate has consistently exceeded that of the United States as a whole, even after adjusting for Maine's more hazardous industry mix.[2]

Occupational Injury Rates
Maine and the United States
1989-1998



Source: State of Maine, Department of Labor

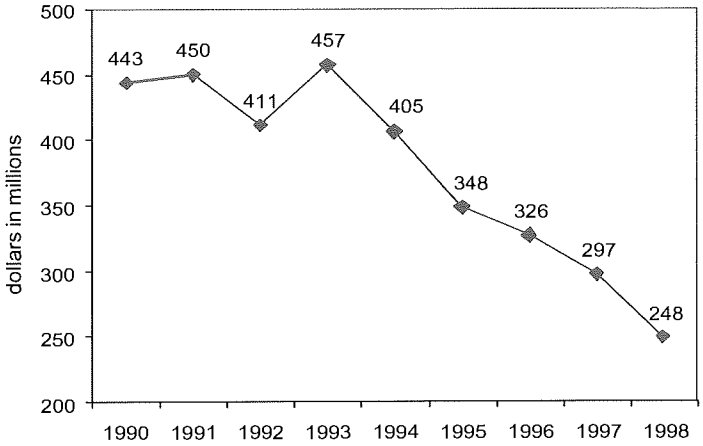
There have been improvements over the last decade as Maine's overall rates of occupational injuries have declined, even though they continue to exceed national rates. The impact of occupational injuries is great: they are not only disruptive to the worker, but they usually disrupt an entire family's well-being.

Continued and Emerging Issues

Maine has experienced significant changes in its economic and workplace mix in recent years that have impacted occupational health. In the 1950's, goods-producing jobs and industries (largely manufacturing and construction) represented half of Maine jobs. Currently, only 15% of Maine's workers are employed in these jobs, and this number is continuing to diminish.[3] By contrast, growth in service-related industries (trade, health, education, etc.) have accounted for the greatest increase in jobs in Maine, and the majority of workers are now in these jobs.[4] These changes in Maine's industries appear to have accounted for some of the changes in occupational health issues, such as the decline in our occupational injury rates.

The cost of work-related injuries and illnesses has a significant impact on Maine's businesses and the State's economic climate. Historically, Maine's workers' compensation premiums have been among the highest in the nation. However, this changed dramatically after 1992, with the passage of legisla-

Maine Workers' Compensation Premiums
by Year 1990-1998



Source: National Institute for Occupational Safety and Health (NIOSH)

tion reforming workers' compensation. This law helped to move the State toward an employer-owned insurance fund which gave employers more control over managing claims and safety programs.

Since 1972, the incidence of lost workdays in Maine has also exceeded that in the U.S. (lost workdays include days away from work and days of restricted work activity).[5] For most of the 1980's, Maine's rates increased while those in the U.S. remained steady. While Maine incidence rates have steadily declined since 1989, Maine's rate in 1998 still exceeded the U.S. rate by over 50%.[6] Early recognition of potential risks and disorders as well as an overall management strategy to address these risks and disorders are paramount to minimizing the impact on workers and workplaces.

Repeated trauma disorders (RTDs) account for a growing proportion of work-related illnesses in Maine and the U.S. In 1998, RTDs accounted for 85% of all work-related illnesses in Maine.[7] These conditions, which are due to repeated motion, vibration or pressure, include carpal tunnel syndrome, tendonitis, ganglionitis, synovitis, tenosynovitis, bursitis, Raynaud's phenomena, epicondylitis, and noise-induced hearing loss. A concerted effort to decrease the incidence of repeated trauma disorders in Maine can result in enormous savings in human suffering as well as in economic cost to businesses.

Repeated trauma disorders (RTDs) account for a growing proportion of work-related illnesses in Maine and the U.S. In 1998, RTDs accounted for 85% of all work-related illnesses in Maine.[7]

The primary responsibility for monitoring workplace safety, setting standards, and investigating occupational injuries and illnesses in Maine lies with the Federal Occupational Safety and Health Administration (OSHA) and the Maine Department of Labor (DOL).

Another challenge faced by Maine is its rural nature. In many areas of the State, training and education programs that enhance workplace safety are not easily accessible and health care providers with training in occupational health are not available. The existing resources for addressing occupational health and safety in Maine are often scattered and associated with the larger population centers.

Surveillance and Evaluation

The primary responsibility for monitoring workplace safety, setting standards, and investigating occupational injuries and illnesses in Maine lies with the Federal Occupational Safety and Health Administration (OSHA) and the Maine Department of Labor (DOL). Both OSHA and DOL are also responsible for the enforcement of occupational health and safety regulations. The two agencies are distinct in that OSHA enforces within the private sector and focuses on worksite safety, while DOL enforces within the public sector and focuses on workforce safety. In addition, the Maine Department of Labor's Bureau of Labor Standards produces several reports which compile much of the information available on work-related injuries and illnesses in Maine.

The Bureau of Health is responsible for carrying out the requirements of the Occupational Disease Reporting Law. This law mandates that the Bureau of Health maintains an occupational disease reporting system by receiving reports on nine occupational diseases and all agricultural injuries and illnesses. The Bureau is also required to analyze data to identify risk factors associated with occupational disease, develop strategies to prevent or reduce these risk factors, and train health care providers in the recognition and management of selected occupational diseases. Unfortunately, the federal grant to the Bureau to carry out these mandates expired in 2000.

Reliable data is essential for monitoring the occurrence of work-related injury and illness as well as the effectiveness of occupational health and safety initiatives. Maine's current surveillance system still faces challenges in order to provide reliable and accurate data. For instance, many of Maine's workers are employed in situations that fall outside of the current reporting systems. Injuries and illnesses occurring among many of Maine's self-employed, part-time, agricultural, and small business workers may not be measured by existing data sources. In addition, current databases, such as workers' compensation claim data, are not designed to calculate true incidence rates of occupational conditions in Maine. Often influenced by many factors unrelated to health, they only provide estimates of some events. Occupational-related illnesses often occur long after exposure, making identifying workplace causation difficult. Even work-related fatalities are believed to be under-reported.[8]

Reliable data is essential for monitoring the occurrence of work-related injury and illness as well as the effectiveness of occupational health and safety initiatives.

A number of Maine's educational and health institutions have started addressing occupational health in new ways over the last decade.

Current Initiatives

New prevention-oriented initiatives have been implemented to address a number of challenges impacting occupational health in Maine. For instance, the Maine Department of Labor in 2000 instituted a program called "Safety Works," which offers expert advice and hands-on help. "Safety Works" brings comprehensive, leading-edge workplace safety and health services at no cost to employers.

In addition, OSHA's Maine Top 200 Program has been established to assist businesses in evaluating their worksites for hazards and making available some resources to institute innovative ergonomic strategies.

A number of Maine's educational and health institutions have started addressing occupational health in new ways over the last decade. For instance, several educational institutions in Maine such as the Maine Technical Colleges, the University of Maine, and Husson College, are modifying or considering modifying their curricula to provide needed training on occupational health and safety issues. These educational programs are bringing closer to Maine's business and health care community the skills they need to meet the challenges ahead. In addition, a number of health care institutions have developed occupational health clinics to meet the needs of local industries.

While some of the factors behind the recent improvements in Maine's injury and illness rates are unknown, the general consensus is that the above efforts are having a

positive effect. Nevertheless, while overall trends are in the right direction, there is still a long way to go before reaching Maine's goals for preventing injury and illness in the workplace.

Future Objectives

A sustained commitment to occupational safety and health is therefore needed to improve the situation in the future. Occupational injuries and illnesses are among the most preventable of conditions because in most instances the causes are known. Heightened awareness and the reduction of hazardous exposures can reduce the effects of work-related health problems on workers, their families, and their employers.

A concerted effort is necessary to address the myriad of issues that are contributing to this problem in Maine. By providing the needed resources and support to health care providers, businesses, and workers, we can go a long way towards decreasing the health-related disruptions being experienced by Maine's workers and their employers. Decreasing these adverse health outcomes and their related financial hardships will decrease the loss of skilled labor to Maine's employers, make Maine business and industry more competitive, promote a healthier work force, and ultimately make Maine a healthier place to live, work, and do business.

Healthy Maine 2000 Objectives

Objectives Established to Reduce Morbidity and Mortality Among Maine's Citizens From Work-Related Injuries and Illnesses

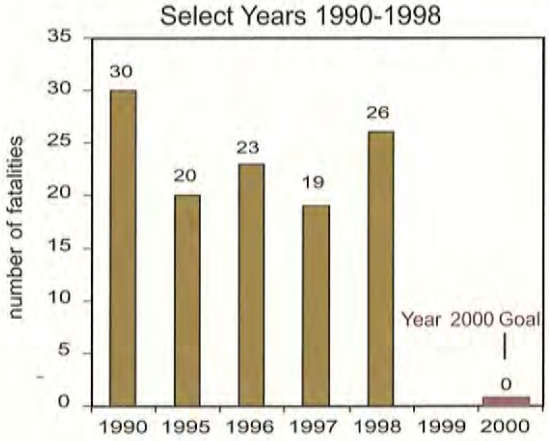
Health Status Objective

Reduce deaths due to work-related injuries to no more than 0 per year.

Maine 1990 Baseline Data: 30
Most Recent Data: 1998, 26

This data shows that there has been a decline in the number of workplace fatalities in Maine from 30 in 1990 to 26 in 1998[3]; however, 26 fatalities are an increase from the previous three years. One reason for the increase may be that the 1998 data includes self-employed people, employees in lobstering, fishing and farming industries (agricultural), which are among the top three hazardous occupations and have not been included in previous years due to the difficulty in data verification.

Maine Fatalities Due to Work-Related Injuries Select Years 1990-1998



Source: State of Maine, Department of Labor, Annual Report, *Fatal Occupational Injuries*, September, 1998

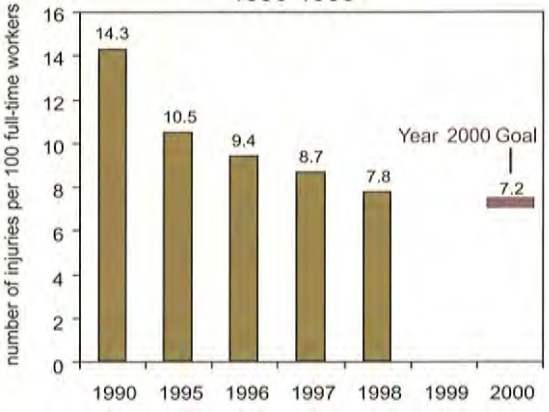
Health Status Objective

Reduce work-related injuries to no more than 7.2 cases per 100 full-time workers per year in the private sector.

Maine 1990 Baseline Data: 14.3
Most Recent Data: 1998, 7.8

Since 1990 the number of work-related injures has steadily decreased to 7.8 cases per 100 full-time workers in 1998[2]. Although the goal of 7.2 cases per 100 full time employees has not been reached, the data might suggest that if the current trend continues to decrease the goal might be reached soon.

Maine Work-Related Injuries 1990-1998



Source: State of Maine, Department of Labor, *Character of Work-Related Injuries and Illnesses in Maine*, January, 1999

Healthy Maine 2000 Objectives

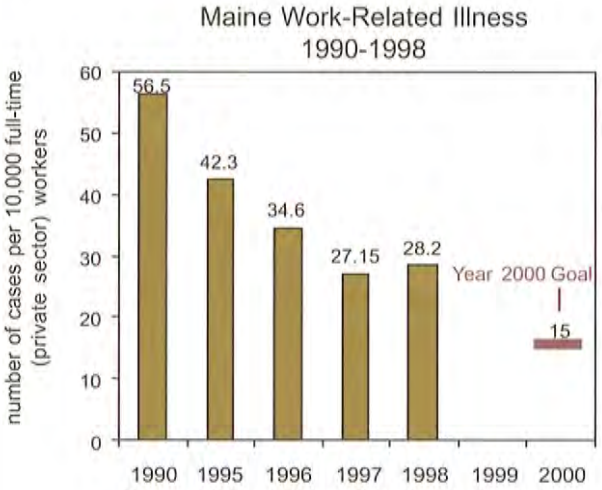
Objectives Established to Reduce Morbidity and Mortality Among Maine's Citizens From Work-Related Injuries and Illnesses

Health Status Objective

Reduce work-related illness (excluding disorders associated with repeated trauma) to no more than 15 per 10,000 full-time workers per year in the private sector.

Maine 1990 Baseline Data: 56.5
Most Recent Data: 1998, 28.2

Work-related illnesses (excluding disorders associated with repeated trauma) decreased from 56.5 per 10,000 full time workers in 1990 to 28.2 per 10,000 full time workers in 1998[2]. Skin disorders or diseases such as burns were the most common disorder in this category in 1998 (37.8%). Dust diseases of the lungs showed the largest percentage of change increasing by 144.9%. This warrants monitoring to see if a trend develops in any particular industry.



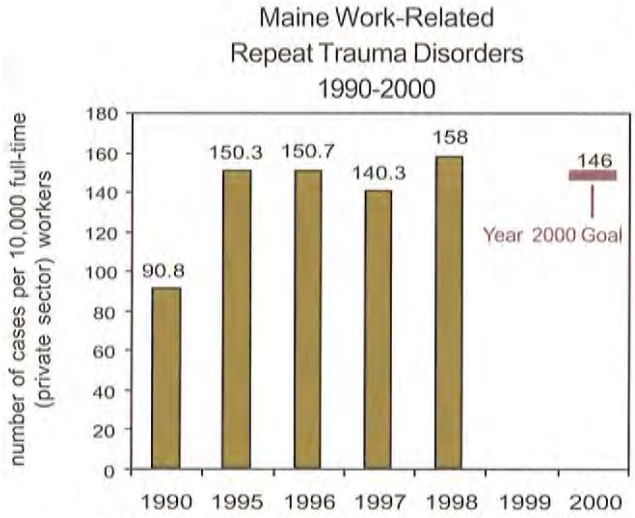
Source: State of Maine, Department of Labor, Character *of Work-Related Injuries and Illnesses in Maine*, January, 1999

Health Status Objective

Contain the rise in incidence of work-related repeated trauma disorders (RTD's) to no more than 146 cases per 10,000 full-time workers per year in the private sector.

Maine 1990 Baseline Data: 90.8
Most Recent Data: 1998, 158

Repeated trauma disorders (RTD's) increased in 1998 to 158 cases per 10,000 workers[2]. We did not reach the Year 2000 goal of containing RTD's to 146 cases per year. Manufacturing in Maine continued to experience the highest incidence rates of illness and may account for the increase in RTD due to the amount of physical exertion and repetitive tasks involved in the manufacturing processes.



Source: State of Maine, Department of Labor, Bureau of Labor Statistics, *Occupational Injury and Illnesses in Maine*, January, 1999

Healthy Maine 2000 Objectives

Objectives Established to Reduce Morbidity and Mortality Among Maine's Citizens From Work-Related Injuries and Illnesses

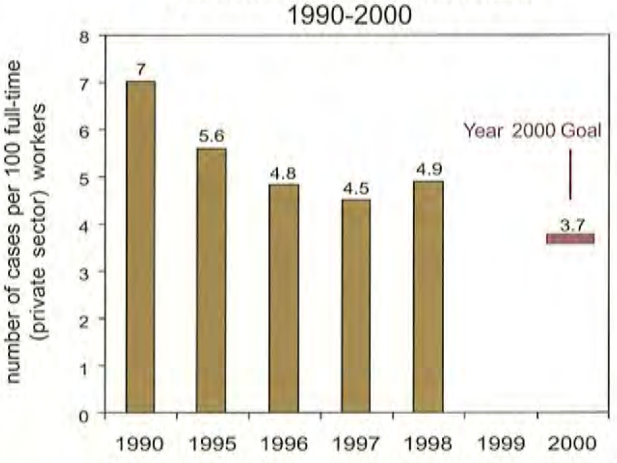
Health Status Objective

Reduce work-related injuries and illnesses resulting in lost time from work to no more than 3.7 cases per 100 full-time workers per year.

Maine 1990 Baseline Data: 7
Most Recent Data: 1998, 4.9

The number of cases resulting in lost time due to work-related injury or illness has decreased from 7 cases per 100 full time workers in 1990 to 4.9 in 1998[2]. This decrease may be due to less severe injuries happening and/or that there may be more restricted activity encouraged in return-to-work programs than there were in previous years.

Maine Lost Time Due to Work-Related Injury and Illness 1990-2000



Source: State of Maine, Department of Labor, Bureau of Labor Statistics, *Occupational Injury and Illnesses in Maine*, January, 1999

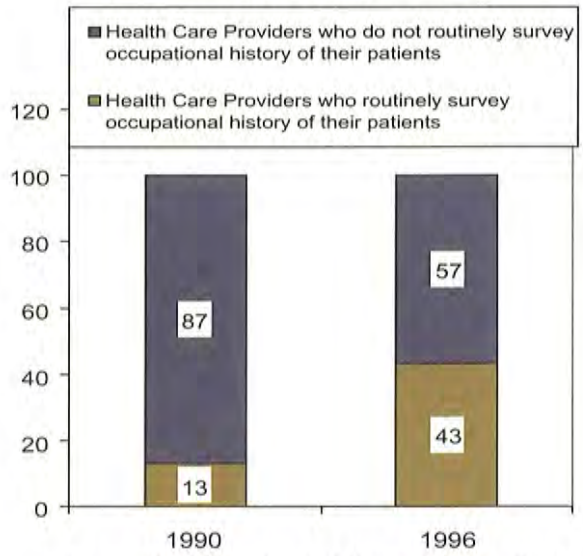
Public Awareness Objective

Increase to 75% the number of health care providers who routinely survey occupational history as a part of the evaluation of their patients.

Maine 1990 Baseline Data: 13%
Most Recent Data: 1996, 42.8%

According to a 1996 survey of physicians and physician extenders in Maine, 42.8% of them do an occupational history as part of the evaluation of their patients[9]. This is higher than the 13% reported in 1990. There has not been another survey done since the 1996 survey and plans are in process to repeat the survey in 2001.

Proportion of Health Care Providers Who Routinely Survey Occupational History 1990 & 1996



Source: Maine Department of Human Services, Bureau of Health, Occupational Health and Safety, Program Data

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2. Maine Department of Labor, Bureau of Labor Standards. Occupational Injuries and Illnesses in Maine - 1998. Augusta, Maine, December 1999, Report 708

3. Issues Facing the Maine Economy. Maine State Planning Office, Fall 1998.

4. Issues Facing the Maine Economy. Maine State Planning Office, Fall 1998.

5. Maine Department of Labor, Bureau of Labor Standards. Occupational Injuries and Illnesses in Maine - 1998. Augusta, Maine, December 1999, Report 708.

6. Maine Department of Labor, Bureau of Labor Standards. Occupational Injuries and Illnesses in Maine - 1998. Augusta, Maine, December 1999, Report 708.

7. Maine Department of Labor, Bureau of Labor Standards. Occupational Injuries and Illnesses in Maine - 1998. Augusta, Maine, December 1999, Report 708.

8. Baker, E.L. Surveillance in Occupational Health and Safety. American Journal of Public Health 79, December 1989.

9. Packard, K., and Hawkes, A. 1996 Survey of Occupational Health Practices. Sponsored by Occupational Health Program, Maine Department of Human Service s Bureau of Health and Maine Institute for Occupational Health Education, March, 1996.

Oral Health

Oral health refers to the entire mouth, not just the teeth, and implies optimal function and appearance as well as the absence of active disease. As an integral component of general health, it is a fundamentally enabling condition in healthy, productive lives.

Although preventive measures such as the use of fluorides and strategies such as school-based oral health programs have greatly reduced the incidence of dental caries (dental decay) in children, oral diseases still persist among many Maine residents of all ages. Common oral diseases include dental caries, periodontal diseases (gum diseases) and oral cancer. Other oral conditions include malocclusion, congenital defects such as cleft palate, and oral injuries.

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Healthy Maine 2000 Goal

Improve the Oral Health of Maine Citizens

Overview

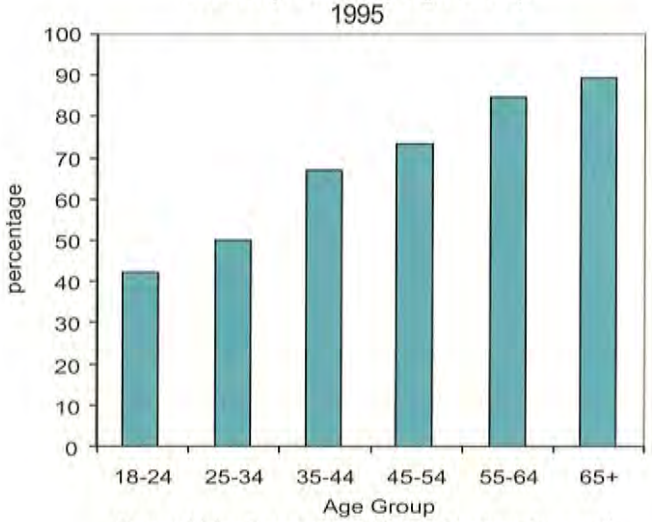
Oral health care for many people in Maine has often been a neglected and fragmented part of general health care. Regular dental visits and oral health screenings are an opportunity for early diagnosis, education, preventive measures and treatment. People who do not receive regular professional dental care may develop chronic oral diseases that can lead to complex treatment, eventual loss of teeth or other oral structures, impaired oral function, speech difficulties and compromised esthetics, as well as compromised overall health status.

Access to dental services in Maine for low-income individuals, particularly children, has become increasingly problematic during the past decade. The problem of access to dental services is complex, involving not only insurance benefits and reimbursement rates and policies, but also manpower factors, cultural and social issues, Maine's public health infrastructure, and the increased costs of health care.

In 1985, a random sample survey of fifth graders showed that 8 of 10 Maine children had experienced dental decay in either their primary or permanent teeth. This survey has become, to a great extent, the benchmark against which we can measure changes in the oral health of our population, since the children who participated in that survey are now young adults.

Data from the 1990 Behavioral Risk Factor Surveillance Survey indicated that by age 25, 16 percent of Maine's citizens reported having "lost most or all" of their natural teeth; 39 percent of the 45 to 54 year-olds made the same report.

Proportion of Maine People Who Have Lost Any Teeth, by Age Group
1995



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System

The 1995 Behavioral Risk Factor Surveillance Survey asked a different question: how many teeth the respondent had lost because of tooth decay or gum disease. Data indicated that 2.6 percent of the 25-34 age group and 14.6 percent of those aged 35-44 had lost six or more teeth and 50 percent of the younger group and 66.8 percent of the older group had lost at least one tooth due to preventable causes.

The degree of tooth loss in adults due to tooth decay or gum disease can be a marker of the oral health status of an entire community. A high rate may be an indicator of lack of access to dental care, insufficient exposure to fluorides, or poor oral hygiene and irregular visits to a dentist. Poor oral health in adults may result not only in eventual tooth loss but also in impaired general health, compromised nutrition, days lost from work and inability to obtain or advance in employment. Any tooth loss due to decay or gum disease is considered to compromise oral health status.

Current Initiatives

The Maine Medicaid Program instituted a substantial dental reimbursement rate increase effective January 1, 1998, along with several other administrative changes in order to improve dental access for Medicaid clients.

Another change is the administration of Maine's Early Periodic Screening, Diagnosis, and Treatment (EPSDT) program, now managed cooperatively by the Bureau of Health and the Bureau of Medical Services. The EPSDT program has the responsibility to assist all Medicaid-eligible individuals under age 21 in finding dental services. Anticipatory guidance for oral health has been integrated into the EPSDT visit schedule, with oral screenings required at ages six months, one, two and three years.

Shortage of Dental Health Professionals

Low dentist-to-population ratios in rural areas of the state may compound the access problem in those areas. Many low-income families and individuals in rural areas face major problems finding a dentist accepting new patients. However, and just as importantly, regardless of ability to pay, a number of individuals have reported traveling significant distances to obtain needed care, or waiting a long time for routine appointments. Increasingly, long waits are reported anecdotally even in bigger cities and towns. This is especially significant for specialty services such as oral surgery, orthodonture and pediatric dentistry.

Nineteen areas and two state mental health facilities in Maine have been federally designated as Dental Health Professional Shortage Areas/populations; additional areas/populations may be eligible for designation.

Dental Health Professional Shortage Area designations are based on dentist-to-population ratio and low-income population, as well as other characteristics such as fluoridation status and factors related to Maine's rural nature. This federal designation makes those areas eligible for state and federal programs, such as the State Loan Repayment Program (a State and National Health Service Corps [NHSC] sponsored program) and the placement of NHSC loan repayment providers; however, appropriate facilities or providers are not always available. Community support systems are usually necessary for these NHSC-supported providers since these health professionals must provide services to all patients regardless of the patients' ability to pay.

Nineteen areas and two state mental health facilities in Maine have been federally designated as Dental Health Professional Shortage Areas/populations.

What may well be needed are more providers along with more public and private non-profit facilities providing clinical dental care, whether functioning individually or as part of a developed network or system.

In attempts to address this difficult issue, the Bureau of Health's Oral Health Program and the Office of Primary Health Care have provided technical assistance and support to individuals and community groups, as well as to other public and private agencies, by convening workgroups, compiling a resource directory and providing data or other information.

The changes made in 1998 and 1999 in the Maine Medicaid Dental Program should be helpful, along with changes in Cub Care (Maine's Children's Health Insurance Program or CHIP), but may not fully resolve the problems faced by people in rural areas and those who cannot easily afford the dental care they need. Issues related to the supply of dentists and alternatives to the private practice system need further exploration. Broad-based efforts being undertaken by the ad hoc Maine Dental Access Coalition, a coalition of public and private agencies and community groups, as well as local initiatives, are directed at addressing these challenges. Legislative action in the First Regular Session of the 119th Legislature should also contribute

Issues related to the supply of dentists and alternatives to the private practice system need further exploration.

to long-term solutions, with funds allocated from the tobacco settlement to support community-based oral health and dental services programs, and a dental education loan program to help bring more dentists to the state to practice in underserved areas.

Emerging Initiatives

The Bureau of Health's Oral Health Program was awarded a grant (beginning in September 1999) from the federal Maternal and Child Health Bureau of the Health Resources and Services Administration. The goal of the funded Maine Oral Health Partnership Project is to develop a broad-based oral health infrastructure by working through and expanding the Maine Dental Access Coalition and by encouraging the development of community coalitions focused on oral health issues and new resources.

For the 1998-99 school year, the Oral Health Program-sponsored School Oral Health Program made 79 grants to schools, school districts and several community agencies to support classroom-based dental health education and fluoride programs for grades K-6 in nearly 250 schools throughout the State.

These programs provided education to approximately 50,000 children (more than 40% of children in those grades), of whom about three-quarters participated in the fluoride mouthrinse component of the program. Participation in the School Oral Health Program has been generally consistent over the past several years.

While fluoride protects the smooth surfaces of teeth, dental sealants prevent decay on the biting surfaces. Beginning with the 1998-99 school year, the Oral Health Program has made funding available to schools participating in the School Oral Health Program to add a dental sealant component to their activities. Nineteen schools in eight funded programs participated in school-based dental sealant programs during the 1998-99 school year. Nearly 450 students in the second and third grades received over 1400 sealants during the school year.

There is a clear need for data collection on a regular basis in order to assess and monitor the oral health of Maine citizens.

Funding can be available for up to five years, so that schools can continue to offer sealants and check for retention for children who received sealants through the programs. Plans are to fund more schools for the sealant component each year. This effort will be complemented by activities of the Maine Dental Sealant Project, through a new grant from the Maternal and Child Health Bureau of the Health Resources and Services Administration. The goal of this project is to improve access to preventive and restorative dental services by establishing new community or school based dental sealant programs, with a focus on children who are eligible for Medicaid or Cub Care, or otherwise underserved.

Evaluation

There is a clear need for data collection on a regular basis in order to assess and monitor the oral health of Maine citizens. A statewide needs assessment has been undertaken, and included primary data collection (dental screenings) with a

The objectives listed and reported in this chapter include the best numbers available within the limitations of existing data.

focus on school-aged children conducted during the second half of the 1998-99 school year and in the fall of 1999. A comprehensive report is to be completed late in 2000.

The needs assessment process should result in a coordinated approach to primary and secondary data collection and more reliable information in general about oral health status and needs in Maine. A needs assessment is seen as the initial step in the development of a comprehensive program plan that can provide information to be used to plan appropriate services and systems. The 1999 Oral Health Needs Assessment is the first comprehensive, coordinated effort to assess oral health status and needs in Maine. It has two components: the 1999 Maine State Smile Survey, which assessed the oral health status of a sample of children (primary data); and a review of oral health and related data from a variety of secondary sources. It is expected that the data collected through the 1999 Needs Assessment will impact the direction of future oral health objectives for Maine by providing more accurate baseline information.

Since the Healthy Maine 2000 Oral Health Objectives were set and then adapted in the early through the mid-1990's, some changes were made in the Bureau of Health's focus to accommodate changes in other national reporting standards. In addition, some of the original objectives were not measurable, or highly problematic without regular sources of accurate, reliable data. These objectives were dropped as the decade progressed. The objectives listed and reported in this chapter include the best numbers available within the limitations of existing data. When screening data is referenced, it should be interpreted to describe only those individuals screened and not extrapolated or projected to describe the state or a population group as a whole.

1999 Maine State Smile Survey

The Bureau of Health's Oral Health Program conducted the 1999 Maine State Smile Survey as part of a statewide needs assessment to help define what types of oral health problems exist for elementary school children in our state, what types of services are currently available, and the extent of unmet needs or underutilized resources. Based on a national model, the 1999 Smile Survey focused on children in kindergarten and third grade. Schools were chosen to participate in the survey based on a random sample of schools stratified by region; for the purposes of the survey, the state was divided into six regions. The sample size was based on ten percent of the number of students in kindergarten and third grade statewide for the 1997/98 school year. Kindergarten was chosen to aid in determining the oral health status of children as they start school. Third grade was chosen to determine the oral health status of school-aged children including the presence of dental sealants. Because the number of children who were actually screened was lower than originally expected, the overall response rate for all schools was only 54 percent; the children screened represent 7.3% of the total enrolled population in the targeted grades. Therefore, results of the 1999 State Smile Survey must be limited to describing the children screened and not the state as a whole. However, it is felt that the

As with children around the country, approximately 20 percent of the children screened in the Smile Survey had untreated dental decay.

participating schools were representative of the state and that the findings present a reasonably accurate picture of the oral health status and needs of our school-age children.

Overall, as appears to be the case nationally, many children in Maine have good oral health, but the burden of oral disease - in the case of children's tooth decay - is spread unevenly through the population. In Maine, as in many other places, poor oral health and access to care are associated with low socioeconomic status.

Results of the 1999 Maine State Smile Survey indicate that for both the kindergarten and third grade students screened, those who are eligible for the Free and Reduced Lunch Program (FRL) had significantly poorer oral health. There may have been some regional differences, but the number of children screened was too small to detect regional disparities with confidence. However, the survey clearly indicated disparities by socioeconomic status within and across regions. The kindergarten children screened who were eligible for the FRL Program were 70% more likely to have untreated decay and 60% more likely to have a history of dental decay.

The third graders eligible for the FRL Program were four times more likely to have untreated decay and three times more likely to have a history of dental disease. In terms of access to dental care, all children eligible for the FRL Program were less likely to have visited the dentist in the past year, and their parents reported more difficulty in obtaining dental care.

As with children around the country, approximately 20 percent of the children screened in the Smile Survey had untreated dental decay. Of the kindergarten children who were screened, about one in three had at least one tooth with a history of dental decay, and almost one in five had evidence of untreated decay. Nationally, dental decay affects 52% of eight-year old children. In Maine, 44.7% of the third graders who were screened had a history of dental disease. Almost one-half of the third graders had one or more dental sealants. Over half the third graders and almost one-fifth of the kindergarten children needed one or more sealants placed. Over three-quarters of the kindergarten children and over 85% of the third graders had been to a dentist within the past year. Eight to ten percent of parents indicated that they had wanted dental care for their children but had not been able to obtain it. The most common reasons given were that they could not afford the care, had no insurance, or that the dentist would not accept Medicaid or their insurance.

Healthy Maine 2000 Objectives

Objectives established to improve the oral health of Maine citizens

Health Status Objective

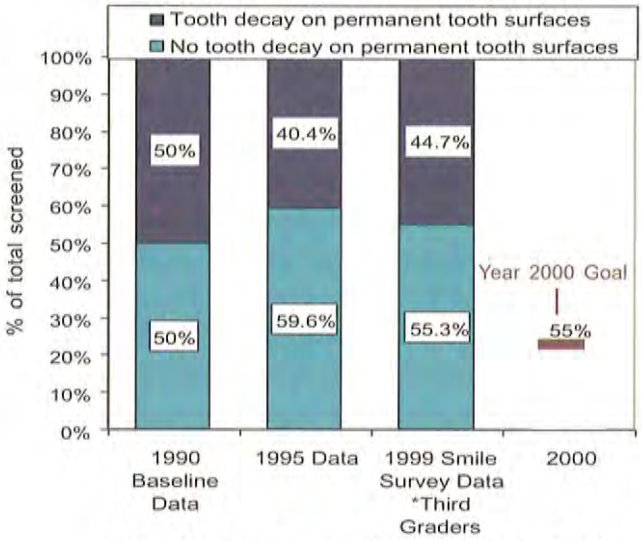
Increase, to at least 55 percent, the proportion of screened children in the fifth grade who have experienced no decay or fillings on permanent tooth surfaces.

Maine 1990 Baseline: 50% percent of screened fifth grade children had experienced no visible decay or fillings.

Most Recent Data: 1995, 59.6% of those screened had no visible decay or fillings (based on results from a small number of individual schools).[2]

Data was collected via the 1999 Smile Survey with a focus on third grade students to align with the national Maternal and Child Health Performance Measures related to dental sealants and screenings which are done at that grade level.

Proportion of Maine Fifth Grade Children Screened Who have Experienced No Decay or Fillings on Permanent Tooth Surfaces Selected Years 1990, 1995 & 1999



Source: Maine Department of Human Services, Division of Community and Family Health, Oral Health Program, Smile Survey 1999 preliminary data

Risk Reduction Objective

Reduce to 15% the proportion of screened fifth grade children who had untreated dental caries during a dental screening.

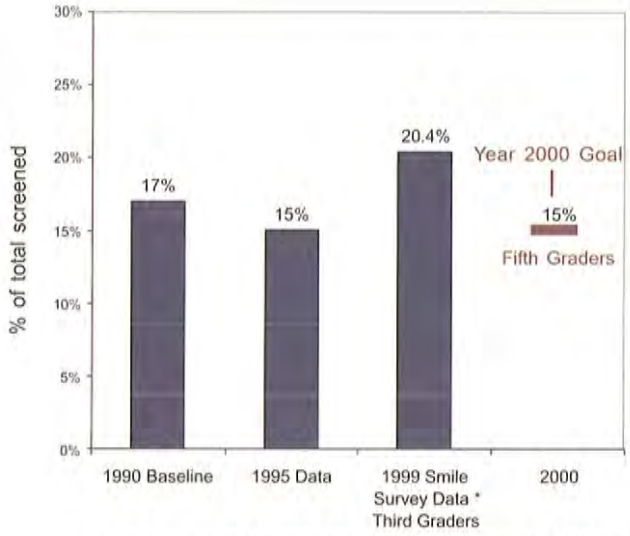
Maine 1990 Baseline: 17% of screened fifth graders had untreated dental caries.[2]

Most Recent Data: 1995, 15% of screened fifth graders had untreated caries (based on results from a small number of individual schools).[2]

Data was collected via the 1999 Smile Survey with a focus on third grade students to align with the national Maternal and Child Health Performance Measure related to dental sealants and screenings that are done at that grade level.

The 1999 Smile Survey indicates that 20.4% of the third graders who were screened had untreated dental caries.

Proportion of Maine Fifth Grade Children Screened Who had Untreated Dental Caries During a Dental Screening, 1990 & 1995 1999 Third Grade Data



Source: Maine Department of Human Services, Division of Community and Family Health, Oral Health Program. 1999 Smile Survey Data

Healthy Maine 2000 Objectives

Objectives established to improve the oral health of Maine citizens

Risk Reduction Objective

Increase, to 60 percent, the proportion of screened fifth grade children who have received dental sealants on one or more permanent teeth.

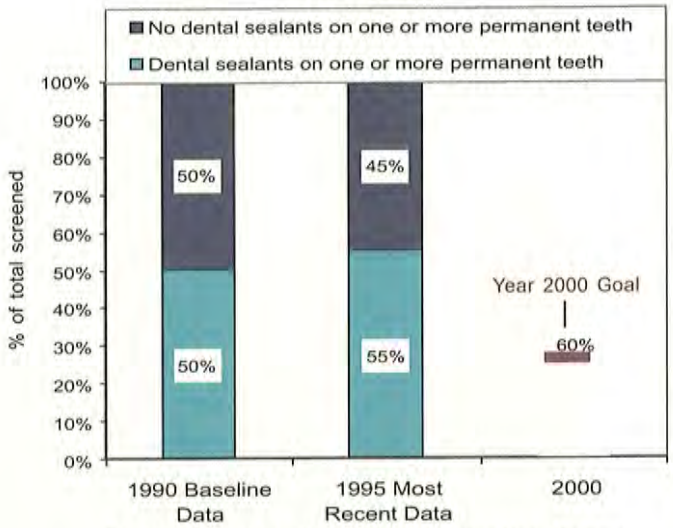
Maine 1990 Baseline: 50%[2].

Most Recent Data: 1995, 55% of fifth grade children have received dental sealants on one or more permanent teeth (based on results from a small number of individual schools)[2]

Dental sealants are thin plastic coatings that are painted on the chewing surfaces of molar teeth, an area that naturally may have deep pits and grooves. Ninety percent (90%) of tooth decay in school-age children is found on these surfaces. Sealants seal out the germs that cause decay. Sealants can be applied to molar teeth as soon as they are fully erupted in the mouth; first molars are usually present between ages 6 and 8. For most children, this will be by the time they are in second or third grade. Maine's 1999 State Smile Survey screened third-grade students to align with the related national Maternal and Child Health Performance Measure. Data indicates that almost half of the third-graders (47.6%) screened had at least one dental sealant but that 56.8% of the children screened needed at least one additional sealant placed. When the Healthy Maine 2000 objectives were set, the focus was on fifth-graders for consistency with other national data sets.

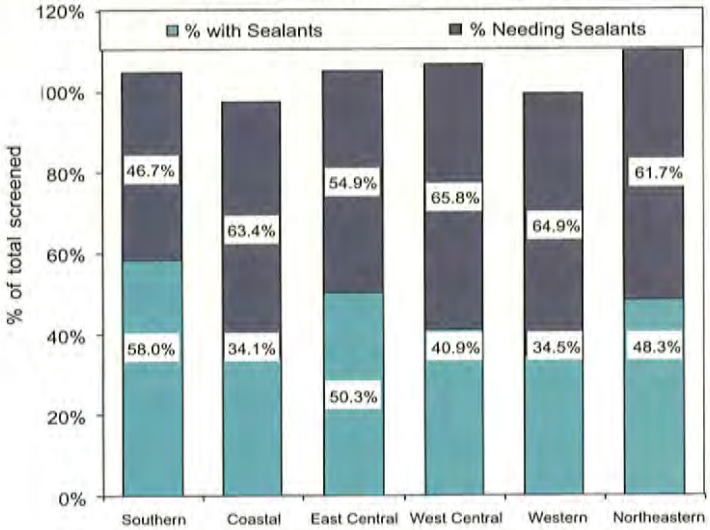
NOTE: Data collected during the 1990s and previously reported as the baseline and "most recent" data was collected in a non-standardized manner from a non-representative and voluntary sample. Screenings conducted during those years in different parts of the state show a wide variation and included children in differing grade levels. Sealant prevalence ranged from a high of 62% to 12% or less. The results could not, and should not, be extrapolated to describe the state as a whole and should only be used to describe the particular children screened. The 1999 State Smile Survey reflects a substantial improvement over previous surveys. This 1999 survey data was collected in a standardized manner and the sample was more respresentative than data from earlier surveys.

Proportion of Maine Fifth Grade Children Screened Who Have Received Dental Sealants On One or More Permanent Teeth 1990 & 1995



Source: Maine Department of Human Services, Division of Community and Family Health, Oral Health Program

1999 Maine Smile Survey
Proportion of Third Grade Children Screened With or Needing Dental Sealants by Region



Source: Maine 1999 State Smile Survey, Maine Department of Human Services, Bureau of Health, Oral Health Program, publication pending

Note: The result above do not add up to 100% as some children had one sealant, but also needed additional sealants.

Healthy Maine 2000 Objectives

Objectives established to improve the oral health of Maine citizens

Surveillance Objective

Increase, to 10, the number of elementary schools and agencies that voluntarily report oral health data.

Maine 1990 Baseline: Eight schools participated in dental screenings and reported data.[2]

Most Recent Data: 1998-1999 school year, 13 funded school oral health programs participated in dental screenings and reported data from 42 schools.

Schools have been asked to conduct screenings and report oral health status data on a voluntary basis for many years; this activity was reflected in this Healthy Maine 2000 objective. During the 1998-99 school year, 13 funded programs conducted screenings and reported data from 42 schools. However, staff constraints have precluded formal analysis of that data. Beginning with the 1998-99 school year, when the Oral Health program instituted a five-year grant cycle, the requirement was added for programs to conduct screenings that reflect all their participating schools by the end of the second year of funding in each cycle.

Service and Protection Objective

Decrease, to 3 percent, the proportion of screened children in the fifth grade who have never visited a dentist.

Maine 1994 Baseline: 5.5%.[2]
Note: it is likely that this objective will be changed to focus on children entering kindergarten.

Prevention of oral disease is possible if appropriate measures are applied early enough. Unfortunately, children between ages 2 and 5 are among those who receive the least dental care of any age group, and tooth decay remains the single most common chronic disease of childhood. An early first dental visit allows opportunities for parent and child education, intervention and treatment, if needed. When the Healthy Maine 2000 objectives were set, the focus was on fifth-graders for consistency with other national data sets. However, more recent data has been collected on Maine children entering kindergarten, as well as on kindergarten students through the 1999 State Smile Survey.

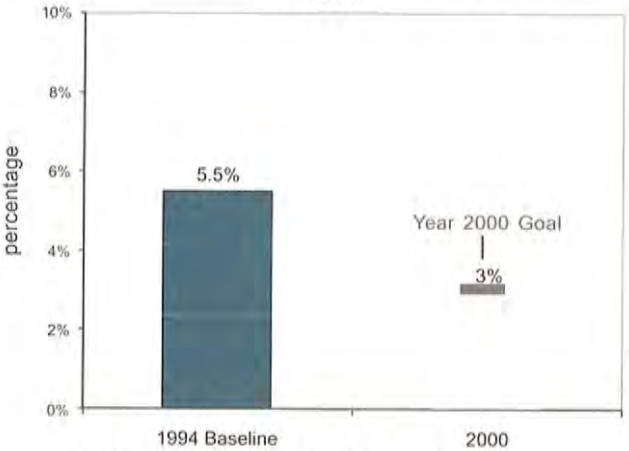
Bureau of Health's Oral Health Program's School Oral Health Program (SOHP)

Funded Programs by County & Numbers of Schools, 1999-2000 and Participating Students & Number of Students Using Weekly Fluoride Mouthrinse (FM) for 1998-99

County	# of Funded SOHP Programs	# of Participating Schools	# of Participating Students, Gr. K-6 1998-99*	# of Students Using FM, 1998-99*
Androscoggin	3	10	2624	1825
Aroostook	17	36	5918	4629
Cumberland	5	42	12872	10339
Franklin	2	5	693	317
Hancock	5	11	1276	855
Kennebec	8	17	4883	3570
Knox	2	5	1286	888
Lincoln	3	9	1723	1235
Oxford	6	19	4158	2709
Penobscot	11	37	6620	5109
Piscataquis	3	11	1039	871
Sagadahoc	2	2	403	349
Somerset	4	17	3543	2489
Waldo	4	11	1992	1469
Washington	2	13	1197	905
York	2	3	858	745
TOTALS	**79**	**248**	**51085**	**38304**

* these figures are reported at the end of the school year based on actual participation and used to determine funding for the following year.

Proportion of Maine Fifth Grade Children Screened Who Have Never Visited a Dentist
1994



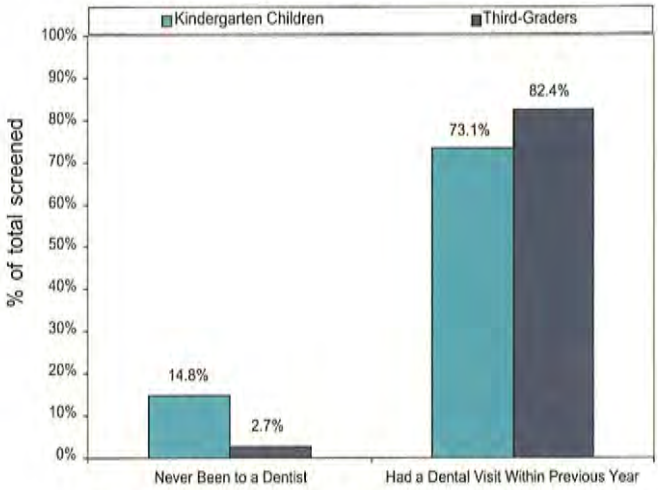
Source: Maine Department of Human Services, Bureau of Health, Oral Health Program, Unpublished Data 1990-1996

Healthy Maine 2000 Objectives

Objectives established to improve the oral health of Maine citizens

The 1999 State Smile Survey screened kindergarten and third-grade students. Of the kindergarten children for whom information is available, 14.8% had never been to a dentist, and 73.1% had had a dental visit within the previous year. For the third-graders for whom information is available, only 2.7% had never been to a dentist, 82.4% had had a dental visit within the past year and another 9.6% had been to a dentist between one and three years prior to the parent completing the survey questionnaire. These data indicate that Maine has met the objective of decreasing to 3 percent the proportion of children who have never seen a dentist by the age of eight to ten (when they would be in 5th grade). However, the proportion of kindergartners who have reportedly never seen a dentist is still too high.

Proportion of Maine Kindergarten and Third Grade Children Who Have Never Visited a Dentist
1999



Source: Maine 1999 State Smile Survey, Maine Department of Human Services, Bureau of Health, Oral Health Program, publication pending

Risk Reduction Objective

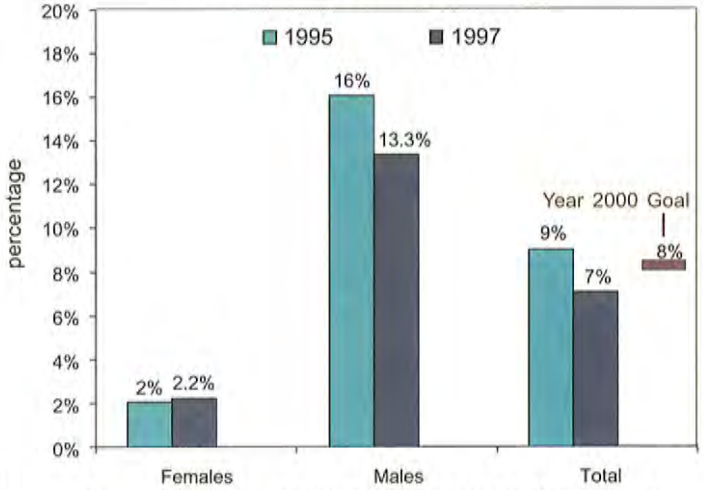
Reduce, to 8 percent, the proportion of youth who used chewing tobacco or snuff during the past 30 days.

Maine 1995 Baseline: 9% Total, 16% males, 2% females in grades 9-12 used smokeless tobacco within the past month.[4]

Most Recent Data: 1999, 7% Total, 13.3% males, 2.2% females in grades 9-12 used smokeless tobacco within the past month.[4]

The use of chewing tobacco or snuff is not a safe alternative to cigarettes. "Spit" tobacco has many of the same risks as do cigarettes because of the concentration of tobacco in the mouth. The use of these products is also linked to tooth abrasion and gum recession, which can be related to an increase in dental decay. Any use of tobacco increases the risks of gum diseases; the use of spit tobacco is clearly linked to cancers of the oral cavity. Tobacco-related oral lesions are common in teenagers who use smokeless tobacco products; such lesions occur in 35% of snuff users and 20% of chewing tobacco users.[7]

Proportion of Maine High School Youth Using Chewing Tobacco or Snuff During the Past 30 Days
1995-1997



Source: Maine Department of Education, Youth Risk Behavior Survey, 1995 & 1999

Note: 1999 data is available but is unweighted.

Healthy Maine 2000 Objectives

Objectives established to improve the oral health of Maine citizens

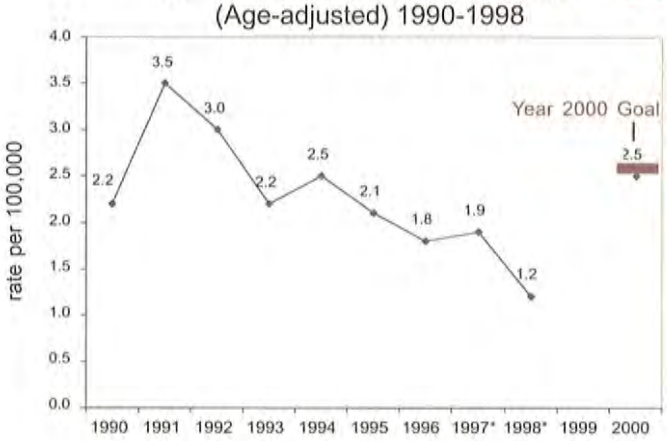
Health Status Objective

Reduce the annual oral cancer mortality rate to 2.5 per 100,000, age-adjusted to the U.S. 1940 population.

Maine 1990 Baseline: 2.2 per 100,000
Most Recent Data: 1998, 1.2 per 100,000.

Oral cancer's risk factors include tobacco use, especially when combined with heavy alcohol use, and exposure to the sun. Oral cancer refers to cancers of the lip, tongue, the palate and the floor of the mouth, the gums and the mucous membranes of the mouth, as well as cancer of the pharynx. Only about half of all persons diagnosed with oral cancer survive more than five years, but early detection through professional examination and timely treatment may be very effective in reducing mortality and morbidity. Maine has a relatively low rate of this disease, and improvements in the rate over the last decade may be attributable to increased awareness by health professionals of the need for screening examinations, as well as some changes in consumer behaviors related to risk factors. However, no specific studies have been conducted to determine what may contribute to the reduction in Maine's oral cancer mortality rate.

Maine Oral Cancer Mortality Rates (Age-adjusted) 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Note: Rates were age-adjusted using the U.S. 1940 standard population. *Data for 1997 & 1998 is preliminary.

Risk Reduction Objective

Increase to 80%, the proportion of Maine people on water supplies who receive fluoridated water, by increasing the number of public water utilities that fluoridate.

Maine 1990 Baseline: 50.5% of Maine people on public water supplies received fluoridated water.[5]

Most Recent Data: 1999, an estimated 75% of Maine people on public water supplies receive fluoridated water.

Fluoridation of community water is the single most effective way to prevent tooth decay and improve the oral health of everyone in the community, regardless of age, economic status, or ability to access dental services. Fluoride in the water at the level maintained in drinking water helps to make the surfaces of teeth resistant to decay. It works by stopping or even reversing the decay process and keeps tooth enamel strong and solid. Water fluoridation is included as one of ten great public health achievements due to its important contribution to the improvement of dental health, general well-being and quality of life for Americans in the second half of the 20th Century.

About 75% of Maine people on public water supplies receive fluoridated water. Since only about 47% of Maine people use public water supplies, this means that overall about 35% of Maine's total population has fluoridated water in their homes. There are 65 public water systems supplying fluoridated water to 124 Maine communities.

Maine was the only state in the country to receive the Healthy People 2000 Award presented by the Association of State and Territorial Dental Directors, the Centers for Disease Control and Prevention, and the American Dental Association at an award ceremony in May 2000 during the Annual Meeting of the Association. The Healthy People 2000 Award was given to Maine for being the only state to achieve the national Healthy People 2000 Oral Health Objective to increase to 75 percent the proportion of people served by community water systems providing optimal levels of fluoride. A listing of Maine communities with fluoridated water follows on the next page.

Healthy Maine 2000 Objectives

Objectives established to improve the oral health of Maine citizens

Maine Communities With Fluoridated Water Supplies And Years Started

Anson	1983	Machias	1966	West Bethel *	
Ashland	1966	Madawaska	1960	Westbrook	1997
Auburn	1969	Madison	1983	Westfield (part)	1971
Augusta	1997	Manchester	1997	Windham	1997
Baileyville	1955	Mars Hill	1971	Winslow	1965
Bangor	1967	Mechanic Falls	1971	Winterport	1973
Bar Harbor	1963	Medway	1966	Winthrop (part)	1972
Bath	1969	Mexico	1967	Winthrop	1997
Belfast	1960	Milford	1963	Wiscassett	1989
Benton	1965	Millinocket	1960	Woolwich	1969
Bethel	1970	Monmouth *			
Biddeford	1988	Moose River	1964		
Blaine	1971	Newcastle	1971		
Bradley	1963	Newport	1972		
Brewer	1967	Northeast Harbor	1963		
Bridgton	1963	Northport	1998		
Brunswick	1955	Norway	1952		
Bucksport	1969	Oakland	1994		
Camden	1969	Old Orchard Beach	1988		
Cape Elizabeth	1997	Old Town	1963		
Caribou	1959	Orono	1962		
Chelsea	1997	Orrington (part)	1967		
Clifton	1967	Owls Head	1969		
Cumberland	1997	Oxford (part)	1952		
Cutler Naval Station	1973	Perry (part)	1967		
Damariscotta	1971	Pittsfield	1965		
Dexter	1984	Pittston	1973		
Dixfield	1971	Pleasant Point	1969		
Dover Foxcroft	2000	Portland	1997		
Eagle Lake	1974	Presque Isle	1960		
East Millinocket	1966	Randolph	1973		
Eastport	1969	Rockland	1969		
Eddington	1967	Rockport	1969		
Ellsworth	1969	Rumford	1959		
Embden	1981	Saco	1988		
Fairfield	1965	Salisbury Cove	1983		
Falmouth	1997	Sanford	1972		
Farmingdale	1973	Sangerville	1972		
Fort Fairfield	1959	Scarborough (Pine Point)	1988		
Fort Kent	1972	Scarborough	1997		
Freeport	2000	Seal Harbor	1963		
Friendship *		Skowhegan	1973		
Fryeburg	1971	South Freeport	2000		
Gardiner	1973	South Gardiner	1962		
Gorham	1997	South Portland	1997		
Greening Island	1959	Southwest Harbor	1959		
Guilford	1972	Springvale	1972		
Hampden	1965	Standish	1997		
Hermon	1967	Thomaston	1969		
Holden	1967	Topsham	1955		
Houlton	1968	Van Buren	1967		
Hulls Cove	1963	Vassalboro (part)	1965		
Indian Island	1963	Vassalboro	1997		
Indian Township	1984	Veazie	1962		
Island Falls	1967	Waldoboro *			
Jackman	1964	Warren *			
Lewiston	1970	Washburn	1961		
Limestone	1987	Waterville	1965		
Lubec	1972	West Bath	1969		

Notes:
*Community water supplies with naturally occurring fluoride

Communities listed by name indicates that all citizens served by the community water supply receive fluoridated water (1.2 ppm).

Those communities listed with "(part)" indicate either that different parts of the community implemented fluoridation at different times, or that not all citizens served by the public water supply receive fluoridated water because the community is served by morethan one water supply.

Shaded Areas Indicate Fluoridation Occurred Following the Establishment of the 1990 Health Maine 2000 Objectives and Initiatives

References

1. Maine Department of Human Services, Bureau of Health, Division of Health Promotion and Education. Behavioral Risk Factor Surveillance System Survey, 1995. Augusta, Maine, 1995.

2. Maine Department of Human Services, Division of Community and Family Health, Oral Health Program. Unpublished data, 1990-1996.

3. Maine Department of Human Services, Bureau of Health, Division of Disease Control, Cancer Registry Program. Augusta, Maine, 1996.

4. Maine Department of Education. Youth Risk Behavior Survey, 1995. Augusta, Maine, 1996.

5. Maine Department of Human Services, Bureau of Health, Division of Health Engineering, Drinking Water Program. Unpublished data. Augusta, Maine, 1996.

6. Department of Human Services, Bureau of Health, Division of Community and Family Health, Oral Health Program, and the Centers for Disease Control and Prevention, Atlanta, GA. A Study of the Oral Health of Maine's Head Start Children (tentative title), 1994-1995, unpublished data.

7. U.S. Department of Health & Human Services, Public Health Service, Oral Health in America: A Report of the Surgeon General, May 2000, collateral materials

8. Maine Department of Human Services, Bureau of Health, Oral Health Program, Maine 1999 Smile Survey, Publication Pending.

Substance Abuse

The relationships between substance abuse and other health issues are well-established in research literature. In the absence of substance abuse, the rates of motor vehicle accidents, chronic illnesses such as heart disease, respiratory disorders, and diabetes, and the spread of infectious diseases such as HIV and Hepatitis would drop significantly. The costs of addiction are not only related to health factors.

In Maine, it is estimated that substance abuse accounts for over one billion dollars a year in lost wages, medical expenses, social services and criminal justice expenditures. A substantial reduction in substance abuse has far-reaching benefits for all aspects of personal, family and community health.

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Healthy Maine 2000 Goal

Reduce Morbidity and Mortality from Alcohol and Other Drugs Through Change in the Social and Cultural Climate

Overview

The work of the Office of Substance Abuse currently addresses drug and alcohol addiction from several different angles. First, we track changing patterns of substance use and abuse through data collection. Second, we fund services for substance abusers and their families and provide intervention services for adults convicted of driving while impaired and youth who have been involved in the juvenile justice system for substance-related offenses. Third, we provide public education and prevention programs for all age groups, with a special focus on children and adolescents.

Our collective goal for optimum health and wellness for all Maine residents cannot be realized without achieving two primary objectives: 1) the provision of effective and accessible treatment to every person with a substance addiction, and 2) a change in common knowledge, attitudes and behaviors regarding substance use and abuse. Improved treatment capacity can reduce the suffering of individuals and families already dealing with addiction. However, long-term impact on the overall pattern of alcohol and other drug use and abuse will only occur through collaboration across community, legal, educational and health sectors. Our educational focus will be to shift the public consciousness from one of glamorization and permissiveness re: substance use, to one that promotes informed personal responsibility and community support.

The recent disbursement of tobacco settlement monies will be well-utilized in fueling a sustained anti-drug campaign with longer lasting effects.

New and Emerging Trends

The attention given to substance abuse problems has waxed and waned over the past two decades, with correlating statistics regarding use and abuse. This was the case in the 1980s, when being in recovery from drug and alcohol addiction was "the new hip thing," especially among national celebrities. In 1989, a strong national and local prevention effort led to significant reductions in adolescent use of illegal drugs, which translated into a public perception that the problem had been solved. Intensive prevention campaigns were abandoned, and the loss of momentum once again led to glamorization of drug use in the 1990s, with state cuts in funding in 1992, 1996 and 1997. Concurrently, dangerous drugs of the sixties and seventies, such as heroin, resurfaced as drugs of choice for youth.

Since 1997, national attention has turned once again toward preventing adolescent experimentation with drugs. New government-media partnerships have developed anti-drug messages in a three billion dollar media campaign. In Maine, we are seeing increased media coverage of alcohol and heroin addictions. Once again, the powerful influence of media has shifted the public perception of what is normal or stylish, creating a positive climate for reduced drug use trends. Educational campaigns have been augmented by research conducted in the past decade, which has given some clues regarding how to best prevent or delay initial substance use among adolescents. The recent disbursement of tobacco settlement monies will be well-utilized in fueling a sustained anti-drug campaign with longer lasting effects.

In terms of substance abuse treatment, success rates for long-term recovery have been mixed at best. However, expansion of research in the areas of addiction's etiology and effective treatment is bringing new hope for early identification of risk factors and successful intervention. Knowledge of

the relationship between genetics, brain chemistry and addiction increases almost daily. We now know that addiction is a chronic disease with genetic factors which influence the amount and duration of use an individual can tolerate before becoming addicted. We are exploring the neural pathways associated with euphoria and intoxication, shedding light on the psychobiology of addiction. In time, these discoveries will lead us closer to finding a cure for a disease which was once seen as incurable by many subject matter experts.

Success in meeting the Healthy Maine goals developed in 1990 is difficult to evaluate, given the somewhat contradictory data. We have increased the number of admissions for substance abuse treatment in all of the categories which were targeted in 1990, yet drug-related deaths have increased by 30%. Have treatment efforts failed, or has public and professional education led to increased identification of substance abuse as a factor of death, especially among the growing senior population? These are questions that must be closely examined if our efforts are to be more successful for future generations.

We now know that addiction is a chronic disease with genetic factors which influence the amount and duration of use an individual can tolerate before becoming addicted.

Work against substance abuse must be given consistent focus and prioritization.

Future Direction

Work against substance abuse must be given consistent focus and prioritization. Careful consideration should be given to both our failures and our successes. The success of anti-tobacco campaigns holds some valuable lessons for reducing the use of alcohol and other drugs. One lesson is that social disapproval is a powerful deterrent, especially among youth and adolescents.

If we have learned anything from the up and down trends of the past three decades, it is that education, outreach, and treatment efforts must be sustained or their impact will be short-lived. Through effective collaboration, the people of Maine can use their collective knowledge, experience, and commitment to reach all of the goals set for Healthy Maine 2000.

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality from alcohol and other drugs through change in the social and cultural climate

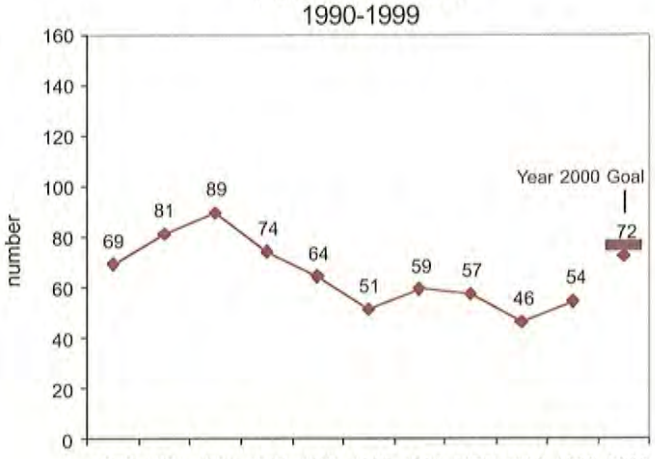
Health Status Objective

Reduce the number of alcohol related motor vehicle fatalities to no more than 72 by the year 2000.

Maine 1990 Baseline: 69 Alcohol-Related MV Deaths
Most Recent Data: 54 Alcohol-Related MV Deaths

Due to the concerted efforts mentioned earlier, we were successful in meeting this goal. We must continue to provide public education on the dangers of drinking and driving and support risk reduction efforts like Tipsy Taxi in order to assure continued progress in this objective. Now is not a time to reduce this effort, but a time to increase our public education campaign in order to sustain the positive momentum.

Alcohol-Related Motor Vehicle Fatalities in Maine 1990-1999



Source: Maine Department of Mental Health, Mental Retardation, and Office of Substance Abuse

Health Status Objective

Reduce alcohol and other drug related deaths by 10% in the year 2000.

Maine 1990 Baseline: 100 Deaths
Most Recent Data: 131 Deaths

By outward appearance, we have failed dismally on this objective as drug related deaths have increased by 30%. As reported earlier this may be due to better reporting which would, in fact, be a positive outcome related to public education. This may also be due to changing demographics.

Alcohol And Other Drug-Related Deaths in Maine 1990-1999

Source: Maine Department of Mental Health, Mental Retardation, and Office of Substance Abuse

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality from alcohol and other drugs through change in the social and cultural climate

Health Status Objective

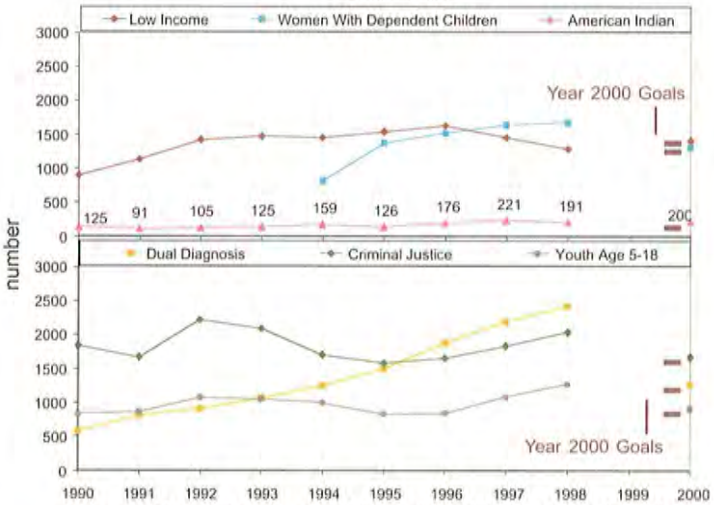
Increase by 10% the number of admissions to OSA funded programs from minority populations that need substance abuse treatment

Due to changing programming, (in order to target pregnant women and women with children, people with both mental health and substance abuse problems and adolescents), we have increased well beyond our goals the number of these populations entering treatment. During the past decade, there has been a national effort to convict people of drug related crimes, with mandatory sentencing laws and increased numbers of police officers. As a result, the number of people who are in prison or on probation because of drug related crimes has dramatically risen; therefore, the number of people served from the criminal justice population has increased dramatically as well. In 1997, in recognition of the growing percentage of alcoholics and addicts in the prison population, we began to design programs which would work for prisoners, both in the prison and after release from jail. Our intent is to decrease recidivism due to substance abuse.

We have not successfully increased the number of American Indians who enter treatment, despite our knowledge of a desperate need for increased services to this population. We must make a greater effort in the future to better understand this cultural context and create programs which will bring American Indians into treatment and be effective for them.

Two factors affect the decrease in low income people served. The first is the rebound in the economy. The percentage of people who are classified as very low income has shrunk in many parts of the state. The second factor affecting our ability to serve low income people was the previously cited set of funding cuts, which led to a decrease in the percentage of low income people in treatment.

Admissions to OSA Funded Programs
From Various Minority Populations
1990-1999



Source: Maine Department of Mental Health, Mental Retardation, and Office of Substance Abuse

Healthy Maine 2000 Objectives

Objectives established to reduce morbidity and mortality from alcohol and other drugs through change in the social and cultural climate

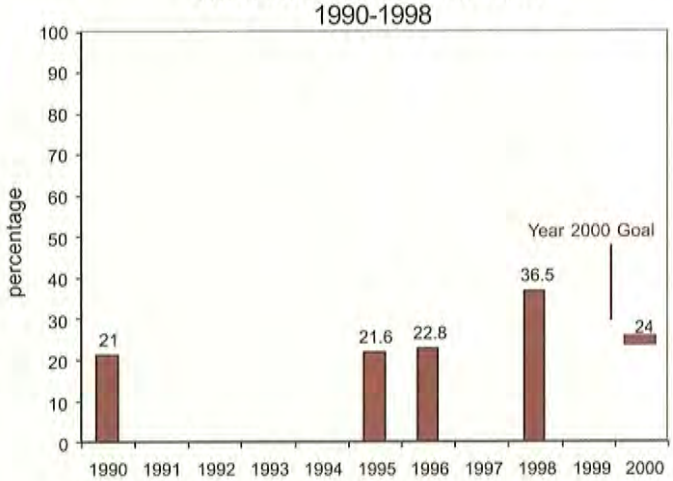
Health Status Objective

Increase to 24% the proportion of ninth graders who have never drunk alcohol.

Maine 1990 Baseline: 21%
Most Recent Data: 36.5%

We succeeded on this objective for several years, but changing social norms mid-decade have brought the number back up to 36.5%. We need to redouble our efforts using what we have learned in the prevention field and working in conjunction with the national media campaign. We have begun several local underage drinking initiatives which should bear fruit by 2002. If these initiatives prove successful, we will expand them to include other communities throughout the state.

Proportion of Maine Ninth Graders Who Have Never Drunk Alcohol 1990-1998



Source: Maine Department of Mental Health, Mental Retardation, and Office of Substance Abuse

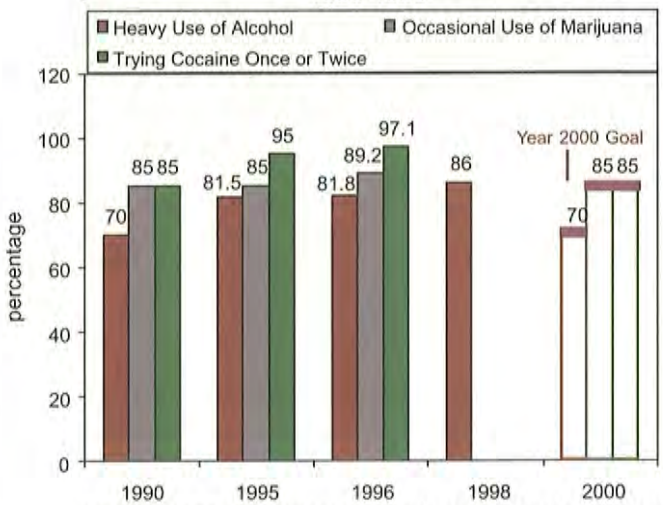
Health Status Objective

Increase the proportion of high school seniors who perceive social disapproval associated with heavy use of alcohol, occasional use of marijuana, and experimentation with cocaine.

We have succeeded in this objective. We need to work more on changing behavior, as well as perception, in the coming years. We have not succeeded in decreasing actual use by adolescents to the levels we had hoped. Social norms, which in this electronic age are often set nationally rather than locally, changed during this decade -- in ways we could not have predicted in 1990 -- to favor use of alcohol and illegal drugs.

Maine needs to direct more attention in the coming decade to the problems of alcohol and other drug abuse. We have been extremely successful in decreasing drinking and driving. We must use a similar effort to address the actual use and abuse of alcohol and other drugs. Since 1998, there has been increased attention paid to this critical problem. Because accidents and chronic disease, as well as the only infectious diseases which are still difficult to control and treat today (HIV, Hepatitis, TB) are often caused, spread, or exacerbated by substance abuse, we must set new goals and place renewed attention on solving this public health threat. Fortunately, tobacco settlement allocations give us new opportunites to address substance abuse in Maine.

Proportion of Maine High School Seniors Who Perceive Social Disapproval Associated With Certain Activities 1990-1998



Source: Maine Department of Mental Health, Mental Retardation, and Office of Substance Abuse

Teen and Young Adult Health

We envision a Maine where all adolescents have a safe environment that promotes healthy choices leading to a successful transition to adult self-sufficiency.

We work toward assuring that all Maine adolescents have access to support systems, services, information and skills that promote healthy life choices.

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Healthy Maine 2000 Goal

Improve the Health of Teens and Young Adults

Overview

The teen population is a population at risk. Regardless of other events in the life of a teenager, the growth, development, stress, and experimentation that constitutes normal adolescence puts teens at risk for various health and emotional problems. Adolescents involved in one type of risky behavior are more likely to be involved in other risky behaviors.[1] In addition, the perception that turmoil and conflict in adolescent years is "normal" may prevent some teens from getting the support and services they need.[2] Adolescents at the lowest risk are those who have strong connections to family and school, including supportive adults, and who feel valued and respected.[3]

Adolescents are often perceived as generally physically healthy. This perception, combined with increased independence in their daily schedules, and a transition from childhood medical care can result in infrequent preventive health care for this age group and even less acute care. Transportation, costs of services, and the need for confidentiality are additional barriers for teens seeking health care. Health services that are specifically designed to serve the needs of this population are unfortunately rare, especially in rural areas. Although there are some pediatricians, family and general medicine physicians, nurse practitioners, and physician's assistants throughout the state who have an interest in the adolescent population, only eight Maine physicians are licensed as adolescent medicine specialists.[4] In fact, adolescents nationwide continue to be the most medically under-served age group.[5]

Adolescents at the lowest risk are those who have strong connections to family and school, including supportive adults, and who feel valued and respected.[3]

Adolescents nationwide continue to be the most medically underserved age group.[5]

Societal changes during the second half of the twentieth century have contributed to the health problems experienced by teens. Extended families have virtually disappeared. Single parent households and dual working families are common, leaving increasing numbers of adolescents without supervision after school and during vacation. While both the national trend and the trend in Maine showed a slight decrease in children living below the poverty line from 1985 to 1996, 14 percent of Maine's children are still at or below the federal poverty line (1996).[6]

Risky behaviors of Maine's adolescents are found to be similar to those of the nation's youth. However, adolescents in Maine continue to consume tobacco products more than the U.S. average. See the Tobacco Chapter for further details.

Maine high school youth initiate sexual intercourse at a rate slightly higher than the national average, and this rate increased slightly in 1995 to 51.6%.[7] Maine continues to have decreases in adolescent pregnancy rates, birth rates and abortion rates, achieving some of the lowest rates in the country by the end of the decade.[8] Weapon carrying

has increased slightly for Maine youth, while those reporting involvement in physical fights remains the same since 1995.[7] Suicide remains the second leading cause of death for youth ages 15-24 and the third leading cause of death for 10-14 year olds.[8]

New and Emerging Trends

Safe Sexual Behaviors

Over the last decade, national trends showing increased rates of HIV infection in adolescents have heightened concerns about safe sexual behaviors in this age group. As a result, education about sexually transmitted diseases, HIV in particular, increased significantly. At the same time, a national debate over methods of teaching pregnancy and sexually transmitted disease (STD) prevention has emerged in the 1990's. This debate has resulted in increased national funding for programs restricted to abstinence-only education. These programs are designed with the belief that abstinence is the only completely effective method of disease and pregnancy prevention and that teaching about condoms sends the message to teens that having sex is acceptable. However, research during this same period shows that the most effective public health approach is to provide comprehensive information about all methods of preventing pregnancy and STDs, including abstinence.

Maine saw the sharpest decline in the nation in teen pregnancy rates during the first half of the 1990s. A combination of increasing numbers of schools teaching abstinence-based comprehensive family life education as well as improved access to preventive reproductive health care through Maine's system of 32 family planning clinics are believed to be major factors responsible for this decline.

Maine continues to have decreases in the adolescent pregnancy rates, birth rates and abortion rates.[8]

Access to Health Care

In response to the barriers teens face in receiving health care, there has been a national emergence of school-based health services in middle schools and in high schools. This model of health services provides health care to students where they are: at school. Physicians and mid-level practitioners providing school-based services diagnose and treat simple acute illness and injuries, provide individual health guidance and education, and make referrals with follow-up when additional care is needed. Some school-based health centers (SBHC) provide mental health services as well. These practitioners are familiar with the concerns and needs of adolescents and increase

Maine saw the sharpest decline in the nation in teen pregnancy rates during the first half of the 1990s.

adolescent use of health care, reducing the occurrence of more expensive complications that result when conditions are left untreated. Since 1987, Maine has gone from having no school-based health centers to 17 in 1999.

New Approaches to Adolescent Health

In the last twenty years, public health professionals addressing adolescent health have used research to develop new strategies to address unhealthy behaviors of adolescents. During this period, there has been a transition from the simple provision of education and information about the dangers involved in certain behaviors such as smoking, drinking alcohol and sexual activity, to identifying risk factors that make an adolescent more likely to participate in these behaviors and developing programs to address these risk factors.

The latest research shows that identifying and strengthening positive assets of youth can help them make good choices. The same positive approaches can reduce the likelihood of engaging a variety of risky behaviors.

Maine School-Based Health Centers

Boothbay Regional High School
Deering High School
Edward Little High School
Erskine Academy
Foxcroft Academy
Harmony Elementary School
Leavitt High School
Lewiston High School
Lewiston Middle School
Lincoln Academy
Lubec Consolidated School
Maranacook Community School
Noble High School
Oxford Hills Comprehensive High School
Portland High School
Reiche Community School
SeDoMoCha Middle School

Since 1987, Maine has gone from having no school-based health centers to 17 in 1999.

Understanding adolescent development and youth assets, valuing input from adolescents on their health needs, coordinating efforts and identifying gaps in services and supports for our young people need to be integral to our adolescent health programs.[1]

Focus Areas

Teen injuries, especially motor vehicle-related injuries and youth suicide, adolescent pregnancy, prevention and treatment of STDs, youth smoking, and teen access to healthcare will continue to need statewide responses. Comprehensive health education that addresses these areas of concern as well as physical activity and nutrition need to be provided to all adolescents. The data presented in this chapter focuses on teen pregnancy and access to health care. Access to health care for teens is discussed under new and emerging trends. Additional information on other focus areas can be found in related chapters.

Adolescent Pregnancy and Repeat Pregnancy

The negative consequences of teen pregnancy and parenting are well established. Younger teens have often not fully developed physically themselves, and therefore pregnancy can affect their own physical health. Babies born to teens are at higher risk of having low or very low birth weights and other health problems. These risks are increased by lower rates of early prenatal care for teens. (Please refer to the Maternal and Child Health Chapter for more information on prenatal care). Teen parents and their babies are also at higher risk for negative social consequences. Teen parents complete less education, earn less money, and are more likely to be single parents. Children of teen parents also have poorer educational outcomes, and are more likely to become teen parents themselves. Teens who have more than one pregnancy, and their children, are even more likely to suffer these consequences.

Most teen pregnancies are unintended. The 1997 Youth Risk Behavior Survey (YRBS) indicates that almost half of Maine's high school students say they have had sexual intercourse. Teens are less consistent users of contraceptives than adults and often delay contraceptive use until after they are sexually active, putting them at higher risk of pregnancy.

Sexually Transmitted Diseases in Adolescents

In 1998, adolescents aged 10-19 account for 40% of Chlamydia diagnoses, and another third of the diagnoses are in young adults aged 20-24. Chlamydia is the most prevalent of reported sexual transmitted diseases, and other diseases

Teen parents complete less education, earn less money, and are more likely to be single parents.

such as gonorrhea have an equally high incidence in teens and young adults. Inconsistent use of contraceptives, less stable relationships, and a higher rate of untreated disease put teens at greater risk for these diseases. Consistent condom use for those adolescents who are sexually active has increased in the 1990's, but continues to be an area of concern. Adolescents are targeted for Hepatitis B immunizations, although statewide statistics on adolescent Hepatitis B immunization rates are not available. More information on STD infections and immunizations can be found in the Immunization and Infectious Disease chapter.

The 1997 YRBS indicates that almost half of Maine's high school students say they have had sexual intercourse.

Youth Suicide and Motor Vehicle Injuries

Unintentional injuries and suicide were the two leading causes of death for 15-24 year olds in 1997. Over 80% of the unintentional injury deaths were due to motor vehicle accidents. More information on youth suicide and unintentional injury can be found in the Injury Chapter.

Healthy Maine 2000 Objectives

Objectives Established to Improve the Health of Maine's Teens and Young Adults

Health Status Objective

Reduce the pregnancy rate of 10-14 year olds to 0 per 1,000 females, the pregnancy rate of 15-17 year olds to 30 per 1,000 females, and the pregnancy rate for 18-19 year olds to 80 per 1,000 females.

Maine 1990 Baseline Data:
0.7 for 10-14 Year Olds
37.8 for 15-17 year Olds
100 for 18-19 Year Olds

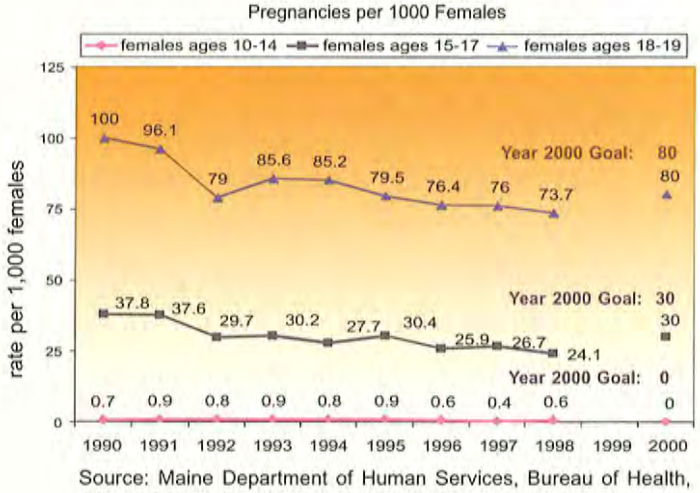
Most Recent Data, 1998:
0.6 for 10-14 Year Olds
24.1 for 15-17 Year Olds
73.7 for 18-19 Year Olds

The pregnancy rate consists of live births, fetal deaths, and abortions to adolescent females. Numbers of pregnancies for 10-14 year-olds in Maine remain low, although they have not reached 0. For both the 15-17 and 18-19 year old age groups Healthy Maine 2000 goals were met mid-decade, and have continued to decrease in the second half of the decade.

Abortion rate: Maine has experienced declines in both the teen birth rates and teen abortion rates, similar to the decline in teen pregnancy rates.

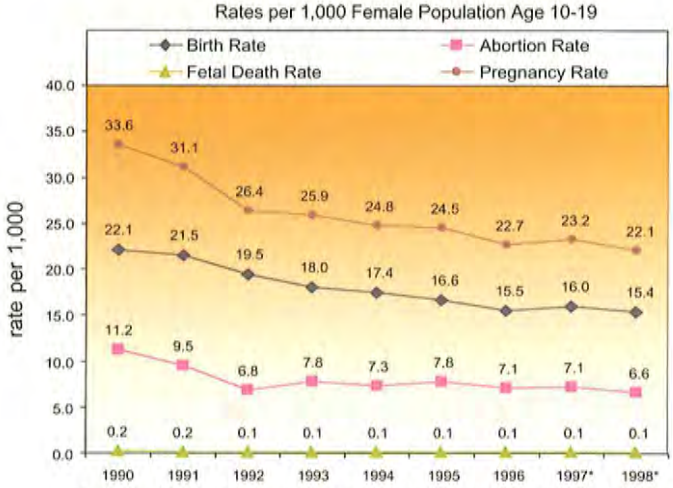
National data on pregnancy is not available due to the inconsistency of reporting across states.

Teen Pregnancies
10-14, 15-17 & 18-19 Year Olds
Maine 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Pregnancy Outcomes for Maine Adolescents
Age 10 - 19
Maine 1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

Healthy Maine 2000 Objectives

Objectives Established to Improve the Health of Maine's Teens and Young Adults

Health Status Objective

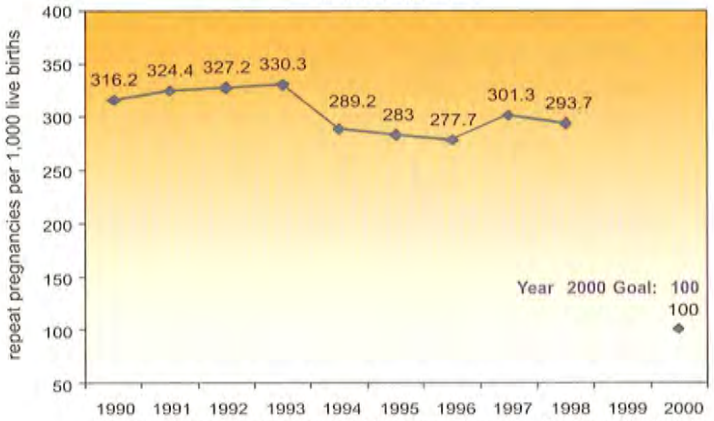
Reduce the rate of repeat pregnancies in adolescents age 10-19 years to 100 per 1000 live births

Maine 1990 Baseline Data: 316.2
Most Recent Data: 1998, 293.7

In 1998, 293.7 per 1000 adolescent females who gave birth reported a prior birth, miscarriage or abortion. This is a decrease from the baseline of 316.2 in 1990, and is a decrease from a peak of 330.3 in 1993.

Please note that these numbers do not capture teens' repeat pregnancies which do not result in a birth.

Maine Repeat Teen Pregnancies
Females Aged 10-19 Years Old
1990-1998
Per 1,000 Live Births



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

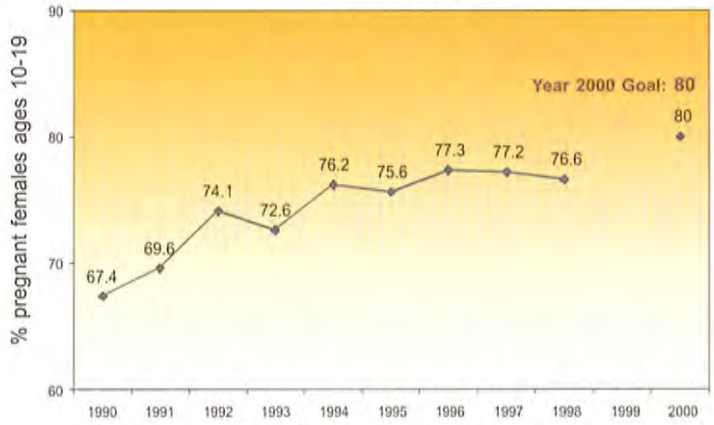
Service and Protection Objective

Increase the percentage of teens receiving prenatal care in the first trimester to 80%

Maine 1990 Baseline Data: 67.4%
Most Recent Data: 1998, 76.6%

Teens face a number of barriers to receiving prenatal care, the most significant of which are later acknowledgment of a pregnancy and lack of transportation. Nevertheless, the 1990's have seen a steady increase of teens seeking early prenatal care from 67.4% in 1990 to 76.6% in 1998.

Maine Pregnant 10-19 Year Olds
Receiving 1st Trimester Prenatal Care
1990-1998



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

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Tobacco Prevention and Control

As we start a new century, we face our biggest health challenge with a highly addictive drug that over one third of our young adults and about one quarter of all Maine people are addicted to. This drug is marketed with about $14 million per day by an industry with enormous resources to continue. This drug is tobacco.

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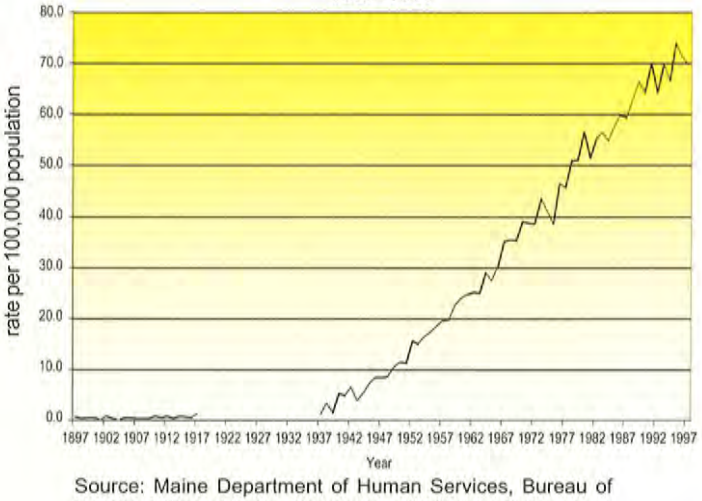
Healthy Maine 2000 Goal

To reduce death and disability due to tobacco use and involuntary exposure to environmental tobacco smoke among Maine's citizens

Overview

A century ago, tobacco addiction was virtually unheard of, as were a number of diseases it causes. About one hundred years ago, mass production methods made it possible to make thousands, then millions of cigarettes per day. Before that, cigarettes were hand-rolled, and too expensive for most. With these mass production methods, one thing was still missing – an audience to market to. Then, came World War I. The tobacco industry gave away free cigarettes to our soldiers, and they continued to do so through many of the century's wars. What appeared to be a generous offer – like that of giving soldiers chocolate bars – was really a mechanism to addict generations of our young adults throughout the last hundred years. In addition, as the century progressed, the tobacco industry employed other mass marketing techniques such as multimedia advertising campaigns.

Maine Lung Cancer Deaths
Per 100,000 Population
1897-1997



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics

The results of the tobacco industry's successful mass production and mass marketing campaigns are staggering. Tobacco is Maine's number one cause of preventable disability and death. Maine's epidemic of lung cancer started about 20 years after the tobacco industry's mass marketing and production of cigarettes. This makes sense given that a smoker's risk for lung cancer increases substantially after they have consumed tobacco for 20 years. Seven Maine people die from tobacco every day – one of them a non-smoker who dies from secondhand smoke. Tobacco disables and kills people through a number of diseases, among them: heart disease, stroke, numerous cancers such as lung, throat, and bladder cancer, emphysema, diabetes, sudden infant death syndrome, low birth weight, childhood asthma, childhood ear infections, and childhood lung infections.

Secondhand smoke causes a number of childhood diseases as well as heart disease, lung disease (emphysema and asthma) and lung cancer in adults.

Not only does primary inhaled smoke (that inhaled by the smoker) cause disease, but secondhand smoke does as well. Because it is the smoke coming off the tip of the tobacco product, it is unfiltered, and therefore contains much higher concentrations of toxic chemicals such as carcinogens (cancer-causing chemicals) than primary inhaled smoke. Secondhand smoke causes a number of childhood diseases as well as heart disease, lung disease (emphysema and asthma) and lung cancer in adults. The Environmental

Protection Agency and others have classified secondhand smoke in the most toxic class of all cancer-causing chemicals – that for which there is no safe human exposure. This puts secondhand smoke in the same class of carcinogens as radon, formaldehyde, arsenic, and benzene.

Despite the grim statistics, a decade ago there was no state tobacco prevention and control program, and no state funds dedicated toward this deadly and addictive product. Fortunately, successful strides have been taken during the past few years to assist Maine and Maine communities in addressing the staggering challenges posed by nearly 100 years of mass production and mass marketing by the tobacco industry, including their current expenditure of about $14 million per day in marketing.

Tobacco-Free Progress

In 1991, Maine successfully applied for its first tobacco prevention and control funds through the federally funded National Cancer Institute's American Stop Smoking Intervention Study (ASSIST) Project. The ASSIST Project was a seven-year planning and intervention project operated primarily by the Bureau of Health from 1991 to 1998. This funding was used to reduce tobacco use prevalence among adults and to reduce the initiation of tobacco use by Maine youth. The goals of this program included eliminating public exposure to secondhand smoke, reducing tobacco advertising and promotion, restricting access of tobacco products to minors, and reducing the consumption of cigarettes and other tobacco products through price increases such as increased taxes.

Tobacco is Maine's number one cause of preventable disability and death.

Since the excise tax increase in November of 1997, tobacco consumption (packs per capita) has decreased by 17%.

In 1993, a number of organizations and advocates came together to help pass a statewide comprehensive clean indoor air act that protects Maine people from secondhand smoke in the vast majority of indoor public environments.

Then in 1995, Maine passed a law, An Act to Reduce Tobacco Use by Juveniles, that augmented Maine's existing youth access laws and provided enforcement capacity. As a result, current Maine law makes it illegal for persons under the age of 18 to purchase, use or possess cigarettes or any other tobacco product. It is also illegal to furnish or give away cigarettes or any other tobacco products to any person under 18 years of age. Cigarette vending machines, once a common source of tobacco for youth, are banned except where unaccompanied minors are not allowed. Another provision in this law required that retailers must hold a valid license to sell tobacco products. Enforcement of the law is carried out through compliance inspections to ensure that tobacco retailers are not selling tobacco to persons under the age of 18.

The tobacco industry managed in 1995 to help pass a preemption law in Maine, as they have done in most states. The resulting law disallowed local tobacco ordinances from being stronger than state or federal laws. However, in 1997 Maine became the first state in the nation to repeal the preemption law, thus re-instating local control.

These preliminary efforts went into effect at a time of highest need. Not only was there evidence that the tobacco industry marketing appeared to be increasing, but it seemed to be targeting youth and young adults. In 1996, the Centers for Disease Control and Prevention (CDC) released an analysis

of each state's Behavioral Risk Factor Surveillance System (using 1995 data) showing that Maine led the nation in young adult smoking, with about one-third of all young adults ages 18 to 30 saying that they were addicted to tobacco products. In addition, Maine's Youth Risk Behavior Survey showed Maine had one of the highest youth tobacco addiction rates in the country.

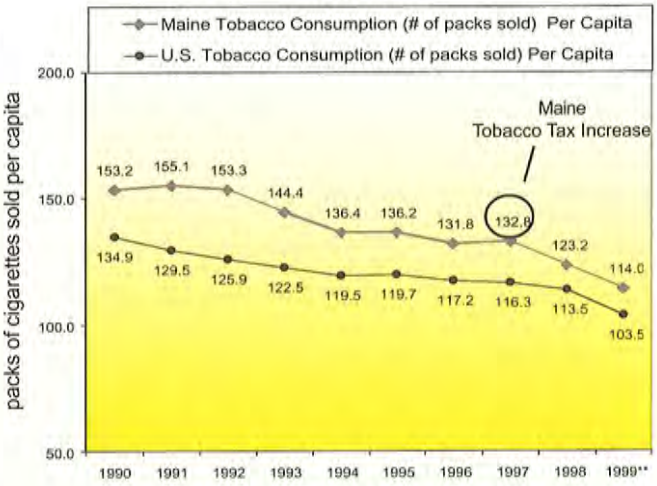
Armed with this data, and with data from other states showing the effectiveness of price increases as well as media and community-based campaigns in reducing tobacco consumption and youth smoking rates, an effort was mounted to raise Maine's tobacco excise tax and provide additional funding for tobacco control efforts. On June 20, 1997, with the support of Governor Angus S. King, Jr., legislative leaders such as Speaker of the House Elizabeth Mitchell and President of the Senate Mark Lawrence, statewide and local health organizations, a number of community activists from across the state, and the Maine Coalition on Smoking or Health, Maine enacted a law doubling the tobacco excise tax from thirty-seven cents to seventy-four cents per pack. This tax increase went into effect November 1, 1997, and at the time, resulted in Maine having the 4th highest tobacco excise tax in the nation.

The tax increase generated about $30 million in revenue and of that $3.5 million was set aside for the establishment of a tobacco prevention and control program in the Bureau of Health, the Partnership For A Tobacco-Free Maine (PTM). The PTM received funding from the excise tax for 2 years (state fiscal years 1998-1999).

Using best practices from CDC, the goal of the PTM is to create an environment in Maine that is supportive of a tobacco-free life. Its objectives are to prevent youth from using tobacco; to help those who use tobacco to quit; to protect the public from the hazards of secondhand smoke; and to eliminate health disparities. PTM's strategies are to raise awareness and education through sustained media campaigns, to provide financing and technical assistance to community and school interventions, and to evaluate all of its interventions.

The vast majority of the over 6000 eating establishments in Maine are now smoke free.

Maine & U.S. Tobacco Consumption
Trends in Packs of Cigarettes Consumed Per Adult
1990-1999



Source: Maine Data: State of Maine, Department of Revenue. National Data: 1990-1997, The Tax Burden on Tobacco, Historical Compilation, vol. 32, Tobacco Institute

1999 also saw the passage of legislation that prohibits the use of self-service tobacco displays in all retail establishments in Maine.

Some recent strides have been made in the legislative arena. On September 18, 1999, Maine law providing a smoke-free environment in all restaurants went into effect. The law does include exceptions for those that according to their licensing requirements cannot serve unaccompanied minors under 21

According to 1993 expenditure data, tobacco costs Maine's Medicaid system at least $60 - $96 million per year.

years of age (class A lounges, taverns, and hotel lounges). Since this law went into effect, there are now about 325 businesses in these exempt categories, compared to about 250 before the law. However, the vast majority of the over 6000 eating establishments in Maine are now smoke free.

In addition to the smoke-free restaurant law, many public schools, hospitals, and employers are creating 100% smoke free campus policies – indoors and outdoors. Even the Maine Department of Corrections, with its prisons, is 100% smoke free throughout its campuses.

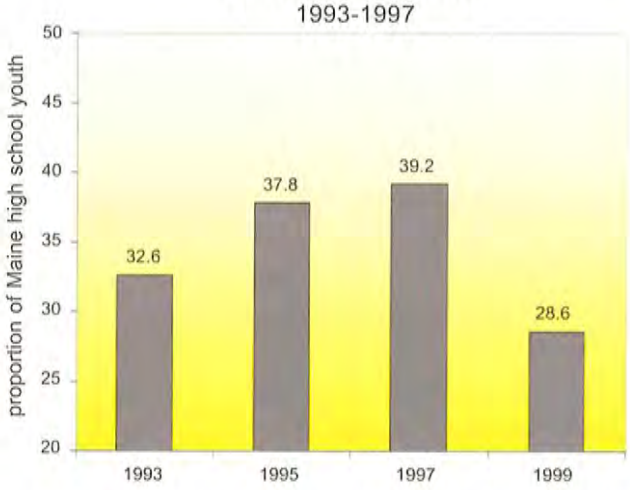
1999 also saw the passage of legislation that prohibits the use of self-service tobacco displays in all retail establishments in Maine.

Maine has shown some preliminary success in its efforts. For instance, since the excise tax increase in November of 1997, tobacco consumption (packs per capita) has decreased by 17%. Prior to the tax increase and the start of Partnership for a Tobacco-Free Maine (PTM) programs, per capita cigarette consumption in Maine had been declining at an average rate of 2% per year as figured since 1988. Therefore, the rate of decline in per capita cigarette consumption in Maine has more than tripled since the tax increase and the introduction of the PTM in 1997.

In 1997, Maine's tobacco addiction rate among high school students was 39%, and preliminary results from 1999 show it was 28.6% (nationally it was 36% in 1999). This represents a 27% decline from 1997 to 1999. Such preliminary gains against the mass marketing and mass production by the tobacco industry are encouraging. However, we have a long way to go before we reach our goal of providing an environment supportive of a tobacco-free life.

With the support of Governor King and bipartisan and independent legislative leadership, Maine allocated about $22 million for tobacco-related prevention and treatment.

Proportion of Maine High School Youth Smoking During the Past 30 Days 1993-1997



Source: Maine Department of Education, Youth Risk Behavior Survey: 1993, 1995, 1997. Note: 1999 data is from the Maine Youth Tobacco Survey and was collected in the fall of 1999. Please note that according to personal communication with the Gallup organization, rates in the fall are typically lower than spring rates since youth are younger in the fall than in the spring; however, the change in season alone could not explain the dramatic decline in youth smoking from 1997-1999.

The Future: Targets for National Tobacco Lawsuit Proceeds

A giant step toward meeting the goal of creating an environment supportive of a tobacco-free life was taken during the spring of 2000 with the allocation of the tobacco settlement. In November 1998, Maine, along with 45 other states (four others had settled already), entered into a lawsuit settlement with the tobacco industry to reimburse the states for the states' expenditures for tobacco-related illnesses through the Medicaid insurance system. According to 1993 expenditure data, tobacco costs Maine's Medicaid system at least $60 - $96 million per year. As a result of this settlement, Maine expects to receive on average about $50 million per year indefinitely.

With the support of Governor King and bipartisan and independent legislative leadership, Maine allocated about $22 million for tobacco-related prevention and treatment. A summary of these allocations follows:

$8.35 million: Community grants primarily reducing tobacco addiction through preventing youth and young adults from consuming tobacco products, assisting those who wish to quit, protecting the public from the hazards of secondhand smoke, and eliminating health disparities. Funds may also be used to prevent and/or reduce the related behavioral risk factors of physical inactivity and poor nutrition as well as for secondary prevention (risk reduction interventions). Funds for schools are to be used to address these three major behavioral risk factors through coordinated school health programs, and some funds may be used for starting school based health clinics. Grantees must include the health care delivery system, schools, and other pertinent community members or organizations. Primary (risk prevention) and secondary (risk reduction) prevention will be funded with these monies.

Secondhand smoke not only causes disease, disability, and death among our children, but children exposed to it are 75% more likely to become tobacco addicts themselves.

We face enormous challenges in preventing our youth and young adults from starting to consume tobacco products.

$6.75 million: Statewide tobacco interventions such as a comprehensive cessation program (toll free quit line with counseling and referral; ongoing training and certification of tobacco cessation counselors; and pharmaceuticals for cessation for those who cannot afford them) as well as for statewide media campaigns.

$5.4 million ($1.8 million from the tobacco settlement; the remainder from federal Medicaid matching funds): Improved prevention and treatment of tobacco-related illnesses for those with Medicaid insurance. Secondary (risk reduction) and tertiary (disease management) prevention will be funded with these monies.

$1.2 million: Evaluation of tobacco-related interventions

In addition, monies were allocated for non-tobacco substance abuse treatment and prevention ($5.5 million); for home visitations for families of newborns so that every first time parent can receive home visits for up to five years for those at risk ($4.8 million, with a resulting total of $5.4 allocated for home visits when one adds in 1995 appropriations of $0.6 million per year); for prescription drugs for the elderly ($10 million); and for child care ($8.5 million).

Summary: Progress through the Past Decade

We started the 1990s with no government funds or statewide comprehensive program going toward our biggest killer. We start this new decade with about $22 million in tobacco settlement funds earmarked for tobacco-related prevention and control, with a combination of primary (risk prevention), secondary (risk reduction) and tertiary (disease management) prevention being funded across the state.

We started the 1990's with many public places being smoke-filled, including hospitals, schools, and restaurants. We start this new decade with all indoor public places, including restaurants and other workplaces, being smoke-free with very few exceptions. Outdoor public places still commonly allow smoking, including public school campuses, hospital grounds, shopping malls, and outdoor workplaces.

We started the 1990's with only scattered and spotty tobacco cessation services available for those who wished to quit. We start this new decade building a support system for those who wish to quit, so that throughout the state all will have improved access to counseling and referral as well as cessation products.

We started the 1990's with inadequate and mostly unenforceable laws in existence on sales of tobacco to youth or youth possession and purchasing and with tobacco products easily displayed within children's reach, and with vending machines commonly found where children frequent. We start this new decade with good youth access and possession laws, with tobacco products no longer allowed to be freely displayed within children's reach, and with vending machines no longer found where unaccompanied children are found. In 1997, when youth sales laws were first fully enforced, about 1 in 5 underage youth were able to purchase tobacco products illegally. Today, that number is down to about 1 in 20.

Tobacco takes a huge toll on those who wish to quit. The vast majority of Maine people addicted to tobacco wish to quit.

Tobacco: No other legal product kills one-third of its users.

Tobacco's Toll on Maine

Tobacco continues to take a huge toll on Maine, and is a heavy burden to her people.

Tobacco is an economic drain on Maine. For every pack of cigarettes sold – at an average price of about $3 - an additional $2.50 is incurred in health costs, a burden we all pay. The tobacco industry, located in other states, reaps most of the profits. These are dollars, which if spent on other goods, would more likely stay here in Maine and benefit, rather than disable and kill Maine people.

Tobacco is an environmental drain on Maine. Unlike other major behavioral risk factors for disease, like poor diets or physical inactivity, tobacco addiction has enormous environmental effects, especially on our children. Secondhand smoke not only causes disease, disability, and death among our children and adults, but children exposed to it are 75% more likely to become tobacco addicts themselves. Despite some of the most rigorous public smoking laws in the country, many Maine children and adults are exposed to secondhand smoke on a daily basis, very commonly in public places, especially outdoor public places. We face enormous challenges in protecting the public from the hazards of secondhand smoke.

Tobacco is a pediatric disease, taking a huge toll on Maine children. Not only does secondhand smoke have profound

effects on children's health, but with about one third of our teens addicted to tobacco, about one in nine of all Maine children will eventually die a tobacco-related death. We continue to face enormous challenges in preventing our youth and young adults from starting to consume tobacco products.

Tobacco takes a huge toll on those who wish to quit. The vast majority of Maine people addicted to tobacco wish to quit. Fortunately, there are increasing numbers of products and counseling to assist them. The challenge is to ensure those resources are readily available to all who wish to quit.

Fortunately, we now have new resources made available by our legislature and Governor from the tobacco settlement in order to assist those who wish to quit, to prevent our youth and young adults from starting to use tobacco, and to protect the public from the hazards of secondhand smoke. These resources will hopefully turn the tide back away from the tobacco industry's Century, and toward a Century that is supportive of a tobacco-free life here in Maine.

Meanwhile, we need to remember that the most striking toll tobacco has is its human toll: seven Maine people who die every day; seven people who suffered from tobacco-related illness, most of them for a long time with resulting disabilities; seven families who are grieving the early loss of a loved one; seven people who will not be able to enjoy their children and grandchildren; seven people who will be sorely missed.

7 Maine People die everyday from tobacco - one of them a non-smoker.

Healthy Maine 2000 Objectives

Objectives established to reduce death and disability due to tobacco use and involuntary exposure to environmental tobacco smoke among Maine's citizens

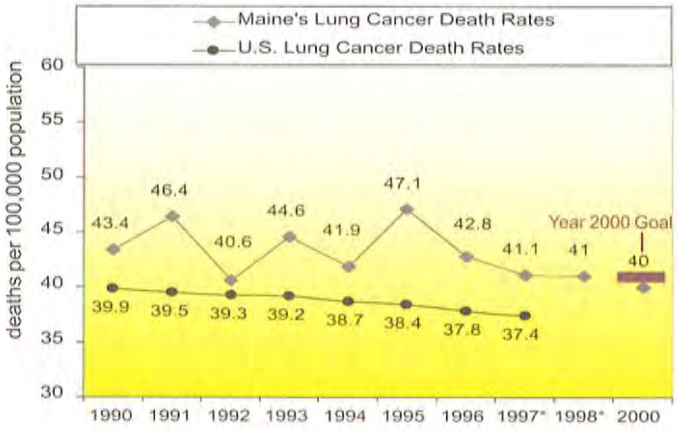
Health Status Objective

Reduce the rate of lung cancer deaths to no more than 40 per 100,000 (age-adjusted to 1940)

Maine 1990 Baseline: 43.4
Most Recent Data: 1998, 41.0

In the 1990s, age-adjusted death rates for lung cancer declined by approximately 6% in both Maine and the United States. Throughout the decade, Maine's death rate from lung cancer remained approximately 10% higher than the national death rate. Although historical trends in tobacco consumption are very strongly correlated with lung cancer death rates, lung cancer takes approximately 20 years to develop. Therefore, Maine's lung cancer rates in the 1990s largely reflect tobacco use in the 1970s. As declines in tobacco consumption grew more dramatic in Maine in the 1980s and 1990s, we anticipate lung cancer rates to begin to decline more rapidly in the coming decades.

Maine's Lung Cancer Death Rates
1990-1998
Age-Adjusted per 100,000 Population



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics * Preliminary Data

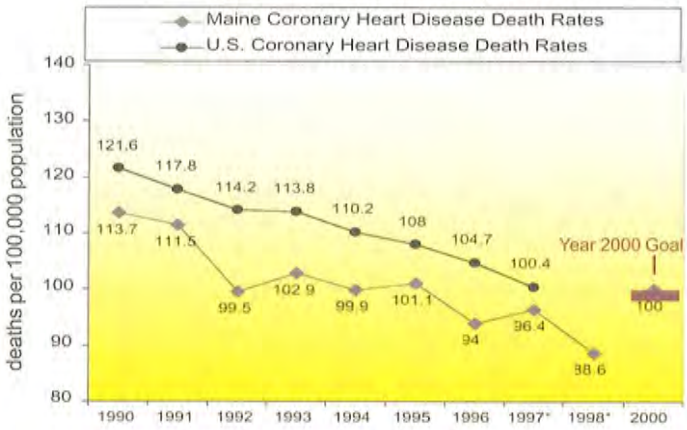
Health Status Objective

Reduce coronary heart disease deaths to no more than 100 per 100,000 (age-adjusted to 1940)

Maine 1990 Baseline: 113.7
Most Recent Data: 1998, 88.6

Tobacco contributes to more deaths from heart disease than to any other cause of death. Declining tobacco use trends translate into short-term gains in coronary heart disease mortality, with a lag-time of only 4 years. However, so many other factors, especially those related to poverty, race, and social class, contribute to deaths from heart disease, that the known relationship between tobacco use and coronary heart disease deaths can be difficult to observe in state and national trends. Age-adjusted death rates for coronary heart disease were about 5% lower in Maine than the U.S. throughout the 1990s. Both rates declined by more than 15% between 1990 and 1997.

Maine & U.S. Coronary Heart Disease
Death Rates 1990-1998
Age-Adjusted per 100,000 Population



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics * Preliminary Data

Healthy Maine 2000 Objectives

Objectives established to reduce death and disability due to tobacco use and involuntary exposure to environmental tobacco smoke among Maine's citizens

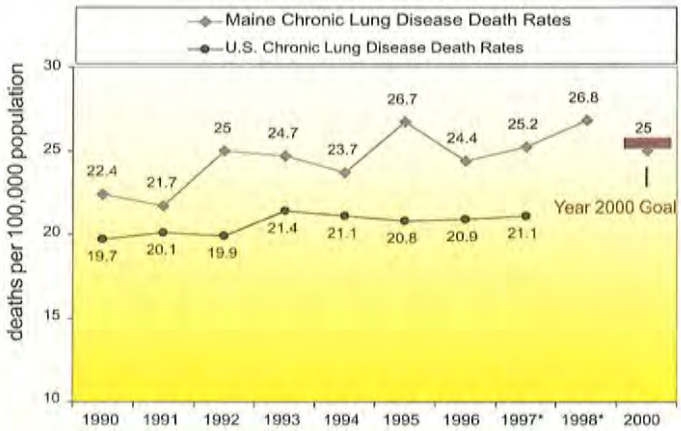
Health Status Objective

Slow the rise of deaths from chronic obstructive pulmonary disease to a rate of no more than 25 per 100,000

Maine 1990 Baseline: 22.4
Most Recent Data: 1998, 26.8

Age-adjusted death rates from chronic lung diseases increased in both Maine and the United States in the 1990s. However, the rate of increase was higher in Maine. Consequently, Maine's mortality from chronic lung diseases were approximately 15 percent higher than national in 1990, and were almost 20% higher by 1997. Chronic lung diseases take many years to develop. Therefore, these increasing trends may reflect rising cigarette consumption in Maine in the 1960s. In the United States, cigarette consumption had already begun to slow by this time. Other environmental factors, including air pollution and Maine's cold winters, may also contribute to deaths from chronic lung disease.

Maine's Chronic Lung Disease Death Rates
1990-1998
Age-Adjusted per 100,000 Population



Source: Maine Department of Human Services, Bureau of Health, Office of Data, Research and Vital Statistics * Preliminary Data

Services and Protection Objective

Eliminate involuntary public exposure to secondhand smoke for all Maine citizens

Secondhand smoke is the smoke emanating from the tip of the cigarette or cigar. Unlike primary inhaled smoke, secondhand smoke is unfiltered, and therefore contains much larger concentrations of carcinogens (cancer-causing) chemicals and other harmful ingredients. It is classified in the most deadly category of carcinogens - class A carcinogens - for which there is no safe level of human exposure. As a result, secondhand smoke kills on average one Maine person per day - mostly from heart disease and lung cancer.

Great strides have been made this past decade toward eliminating exposure to this deadly chemical in indoor public places. Even in face of strong opposition from the tobacco industry, Maine legislation passed in 1993 followed by Maine's smokefree restaurant law in 1999 have eliminated most public and workplace indoor smoking.

Results of Maine's Recent Smoke-free Legislation

All enclosed public places and workplaces are smoke free, including restaurants, except for:

- Bingo and Beano game locations while the game is being played.
- Hotel and/or Motel rooms that are rented to the public.
- Smoke shops under 2,000 sq. ft.
- Taverns, Class A Lounges, Hotel Lounges, Off-Track Betting Lounges (all of these cannot serve unaccompanied minors).
- Pool halls when unaccompanied minors are not present.
- Designated areas of psychiatric or substance abuse units in hospitals.

Source: Maine Department of Human Services, Bureau of Health

Healthy Maine 2000 Objectives

Objectives established to reduce death and disability due to tobacco use and involuntary exposure to environmental tobacco smoke among Maine's citizens

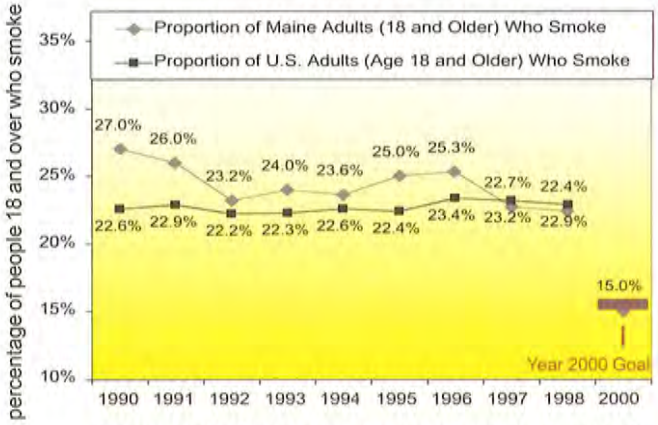
Risk Reduction Objective

Reduce cigarette smoking to a prevalence of no more than 15 percent among people age 18 and older

Maine Baseline: 27.0%
Most Recent Data: 22.9%

At the beginning of the decade, Maine's self-reported prevalence of cigarette smoking was higher than national. By 1998, Maine's prevalence of cigarette smoking had declined from 27.0% to 22.4%. This relative decline of 17% is statistically significant, and occurred at a time when national prevalence rates remained stable. Today, in all likelihood due to the state's tremendous efforts for tobacco control, Maine's rates are similar to the nation.

Cigarette Smoking
Among Maine and U.S. People Age 18 and Over
1990-1998



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk Factor Surveillance System. National level data: Centers for Disease Control and Prevention, Behavior Risk Factor Surveillance System.

*Note: National level data: Number of states and territories participating for the following years: 1990: 45; 1991: 48; 1992: 49; 1993: 50; 1994: 50; 1995: 50; 1996: 52; 1997: 52; 1998: 52.

Risk Reduction Objective

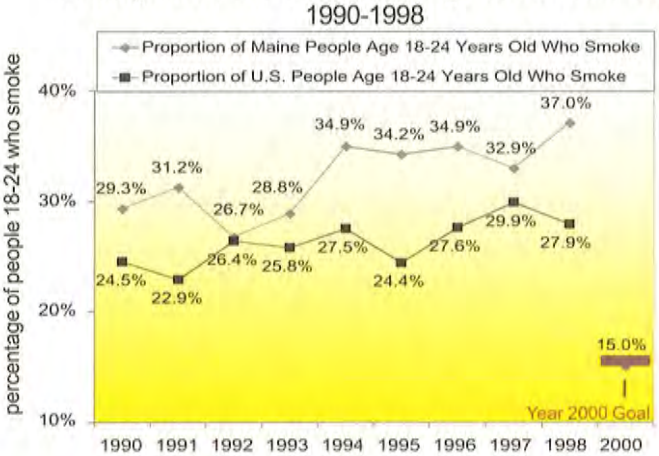
Reduce cigarette smoking to a prevalence of no more than 15 percent among people aged 18-24 Years Old

Maine Baseline: 29.3%
Most Recent Data: 37%

Cigarette smoking trends in young adults threaten to reverse the progress that Maine has made in preventing tobacco addiction in the 1990s. Although the relative increase of 26%, from 29.3 in 1990 to 37.0 in 1998 is not statistically significant, it mirrors national trends in increasing prevalence among young adults. In Maine, the prevalence of cigarette smoking in adults aged 18-24 has been higher than the national prevalence in this age group throughout the 1990s. Approximately 80% of adult smokers started smoking before age 18.[1] Clearly, continuing efforts to prevent youth from starting to smoke is critical.

[1] Office of Smoking and Health. Centers for Disease Control and Prevention. Tobacco At-A-Glance.

Cigarette Smoking
Among Maine and U.S. People Age 18-24 Years Old
1990-1998



Source: Maine Department of Human Services, Bureau of Health, Behavior Risk factor Surveillance System. National level data for 1995-1998: Number of states and territories participating for the following years: 1995: 50; 1996: 52; 1997: 52;1998: 52. Centers for Disease Control and Prevention, Behavior Risk Factor Surveillance System.

*Note: National level data for years 1990-1994, National Health Survey

Summary of Data Sources

Behavior Risk Factor Surveillance System (BRFSS)

Surveillance is the essential underpinning for all efforts by the Centers for Disease Control and Prevention (CDC) and the states to promote health and prevent disease. Surveillance is the tool that provides the necessary data to define the disease burden, identify populations at highest risk, determine the prevalence of health risks, and guide and evaluate disease prevention efforts at the national, state, and local levels.

In the early 1980s, CDC worked with the states to develop the Behavioral Risk Factor Surveillance System (BRFSS). This state-based system, the first of its kind, made available information on the prevalence of risk behaviors among Americans and their perceptions of a variety of health issues. Now active in 50 states, the BRFSS continues to be the primary source of information on major health risk behaviors among Americans. State and local health departments rely heavily on BRFSS data to address urgent and emerging health issues. The BRFSS is flexible enough to satisfy individual state needs while also meeting information needs at the national level. BRFSS data can be analyzed by a variety of demographic variables, including age, education, income, gender and racial and ethnic background. States can also add to the survey questions of special local interest. Although the BRFSS is flexible and allows for timely additions, standard core questions enable health professionals to make comparisons between states and derive national level conclusions. For more information on Maine's BRFSS, please contact Dorean Maines at the Maine Bureau of Health at (207) 287-3268.

Cancer Registry

The Maine Cancer Registry is funded jointly by the Centers for Disease Control and the State of Maine General Fund. The primary goal of this program is to achieve complete, accurate, and timely reporting of all cancers within the State in order to facilitate cancer prevention and control. Activities include: 1) collecting statewide cancer incidence and mortality data; 2) identifying cancer trends among Maine's citizens; and 3) responding to queries and data requests from researchers, other agencies and the public. For more information on the Cancer Registry, please contact Dr. Margaret Parsons, Maine Bureau of Health, Cancer Registry at (207) 287-5196

Infectious Disease Data: Sources and Reporting Requirements

Infectious disease reporting requirements are established by statute. Currently, Maine licensed health care providers and facilities are required to report approximately 50 diseases to surveillance professionals within the Bureau of Health's Division of Disease Control. Data required to be reported includes such core data elements as: disease, onset, testing, and diagnosis dates, and basic identifying information such as name, age, sex, address and occupation. Depending upon the disease and the circumstances surrounding the case report, the disease report may trigger further investigation, identification of others at-risk for or infected with the disease, and, ultimately, assure that infectious disease outbreaks are prevented or limited. Stringent protection of the confidentiality of disease reports and the resulting records and databases is required by law. Data are stored in secure locations within the Division.

Each week, Maine's reportable infectious disease data are stripped of personal identifying information, aggregated and transmitted to the Centers for Disease Control and Prevention (CDC). There they are incorporated into the national data base of some 40 infectious diseases which are monitored and reported weekly in the CDC's *Morbidity and Mortality Weekly Report.* This reporting network and database form the foundation for guiding national infectious disease prevention and control efforts. For more information, please contact Paul Kuehnert, Maine Bureau of Health, Division of Disease Control at (207) 287-5179.

Summary of Data Sources

National Center for Health Statistics (NCHS)

The National Center for Health Statistics (NCHS) is a part of the Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. NCHS is the Federal Government's principal vital and health statistics agency. NCHS works closely with other Federal agencies as well as researchers and academic institutions to meet priority public health data needs.

NCHS data systems include data on vital events as well as information on health status, lifestyle and exposure to unhealthy influences, the onset and diagnosis of illness and disability, and the use of health care. These data are used by policy-makers in Congress and the Administration, by medical researchers, state and local governments, and others in the health community.

National Immunization Survey (NIS)

The National Immunization Survey (NIS)is an ongoing, national telephone survey of households with children 19-35 months of age. The NIS is conducted under the direct supervision of the National Immunization Program of the Centers for Disease Control and Prevention (CDC). It uses a two-step approach. First, utilizing random-digit-dialing, an appropriate sized, random, stratified sample of households with age-appropriate children from all 50 states and 28 urban areas is selected. Phone interviews are then conducted eliciting vaccination histories on each of the children in the household, along with demographic and immunization-provider information. Next, follow-up mail-surveys are sent directly to each household's identified vaccination-provider. The providers are asked to confirm and supplement, as appropriate, the vaccination histories provided. For more information on the ways in which Maine uses NIS data, please contact Paul Kuehnert, Maine Bureau of Health, Division of Disease Control at (207) 287-5179.

Office of Data, Research, and Vital Statistics (ODRVS)

The Office of Data, Research and Vital Statistics (ODRVS) is located within the Bureau of Health's Office of Health Data and Program Management. The ODRVS administers Maine's vital statistics system, providing quantitative information for surveillance, planning, policy development, program management and evaluation. The Office also produces detailed population estimates for use within and outside the Department of Human Services and compiles data on health status and health resources. These functions are accomplished through the development and implementation of data collection, data processing and analytical activities. In addition, the Office provides technical assistance and consultation on survey procedures and statistical analysis to other agencies in the Department of Human Services.

The Office is comprised of two units: Statistical Services and Survey Operations. Together, these units collect and maintain Maine's vital statistics, which include data on births, deaths, induced abortions, and fetal deaths. The ODRVS conducts a survey of new mothers through the Pregnancy Risk Assessment Monitoring System (PRAMS), and also surveys physicians, dentists, and nurses. Data from all these sources are compiled, analyzed and reported on a regular basis as well as in response to special requests from researchers, other state agencies, private organizations, the Legislature, and the general public. For more information on the ways in which Maine uses ODRVS data, please contact Don Lemieux, Maine Bureau of Health, Office of Data, Research, and Vital Statistics at (207) 624-5468.

Summary of Data Sources

Pregnancy Risk Assessment Monitoring System (PRAMS)

Maine is one of sixteen states currently participating in the Pregnancy Risk Assessment Monitoring System (PRAMS). The PRAMS is a surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments. PRAMS collects state-specific, population based data on maternal attitudes and experiences prior to, during, and immediately following pregnancy. PRAMS was initiated in 1987 because infant mortality rates were no longer declining as rapidly as they had in previous years. In addition, the incidence of low birth weight infants had changed little in the previous 20 years. Research has indicated that maternal behaviors during pregnancy may influence infant birth weight and mortality rates. The goal of the PRAMS project is to improve the health of mothers and infants by reducing adverse outcomes such as low birth weight, infant mortality and morbidity, and maternal morbidity. PRAMS provides state-specific data for planning and assessing health programs and for describing maternal experiences that may contribute to maternal and child health. PRAMS provides data for state health officials to use to improve the health of mothers and infants. The PRAMS sample is chosen from all women who had a live birth recently, so findings can be applied to the state's entire population of women who have recently delivered a liveborn infant. This sample is drawn from the state's birth certificate file. Maine samples approximately 2,000 women each year. Data collection procedures and instruments are standardized to allow comparison between states. For more information on Maine PRAMS, please contact Marty Henson, Maine Bureau of Health, Office of Data, Research, and Vital Statistics at (207) 624-5456.

Youth Risk Behavior Survey (YRBS)

The Youth Risk Behavior Surveillance System was developed by the Centers for Disease Control and Prevention (CDC) in collaboration with federal, state, and private sector partners. This is a voluntary system and includes a national survey as well as surveys conducted by state and local education agencies. Previously, information was lacking about the prevalence of risky behaviors practiced by young people that put their health at risk. The YRBSS provides vital information on risky behaviors among young people to more effectively target and improve health programs. CDC provides funding and technical support to states and major cities to conduct a Youth Risk Behavior Survey (YRBS). In addition to assisting states, CDC conducts national surveys every two years to produce data representative of students in grades 9-12 in both the private and public schools in the 50 states and the District of Columbia. The 1997 survey included more than 16,000 respondents. With support from CDC, the State of Maine's Department of Human Services' Bureau of Health works collaboratively with the Maine Department of Education to administer the YRBS every two years. Youth Risk Behavior Surveys were conducted in Maine for years 1993, 1995, 1997, and 1999. Years 1995 and 1997 included young people in grades 9-12. The 1999 YRBS, also included young people in grades 6-8. The average sample size was 2,200. For more information on Maine's YRBSS, please contact the Maine Department of Education.

Notes

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