

# MAINE STATE LEGISLATURE

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*An Economic Cost Appraisal  
of Physical Inactivity, Overweight,  
and Obesity Among Maine Adults  
[18-64 Years of Age]*

**State of Maine**

Conducted  
By  
Chenoweth & Associates, Inc.

March 30, 2006

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## *Executive Summary*

**Physical inactivity, overweight, and obesity** are currently at epidemic rates in Maine and virtually every other state in the USA. For example, the most recent Behavioral Risk Factor Surveillance Survey (BRFSS) conducted by the Centers for Disease Control and Prevention (CDC) indicated that:

- 46.9 percent of Maine adults were classified as physically inactive
- 37.9 percent of Maine adults were classified as overweight, and
- 23.4 percent of Maine adults were classified as obese

In early 2006, **Anthem Blue Cross and Blue Shield** and **MaineHealth** requested Chenoweth & Associates, Inc. to conduct an economic cost appraisal of the preceding risk factors among 18-64 year-old adults in the State of Maine. The scope of the cost appraisal included specific:

- (1) specific medical care conditions physiologically tied to physical inactivity and/or excess weight
- (2) specific workers' compensation conditions (e.g., strains and sprains) physiologically tied to physical inactivity and/or excess weight, and
- (3) lost productivity indicators associated with physical inactivity and/or excess weight

Medical care claims data used for this analysis were obtained from the Maine Health Information Center (MHIC), the state's largest repository of medical claims data. Workers' compensation and productivity data were obtained from various state government sources and nationwide databases. Various prospective medicine methodologies including the Proportionate Risk Factor Cost Appraisal™ were used to quantify the direct medical care costs associated with each of the selected risk factors. Indirect costs, based on conservative multiples, were factored in, where applicable (see Table 1).

Specifically, the cost analysis revealed a combined cost for the three risk factors as **\$2.13 billion**. Prospectively, this cost will inevitably increase due to Maine's aging population, modest population growth, increasing labor costs, high risk factor prevalence, and, of course, rising medical care inflation. For example, if medical care costs continue to rise at least 8.6% per year, workers' compensation costs continue to rise at least 1.2%, and employment cost index components continue to rise at least 3.2% per year, then selected risk factor-related costs will increase from \$2.13 billion in 2003 to \$2.68 billion in 2008 or a cumulative **[5-year] increase of 26%**.

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**Table 1**  
**Direct & Indirect Costs**  
**(2003 Dollars)**

	<u>Direct</u>	<u>Indirect<sup>1</sup></u>	<u>Direct</u>	<u>Indirect<sup>1</sup></u>	<u>Direct</u>	<u>Indirect<sup>1</sup></u>
<u>Cost Category</u>	<i>Physical Inactivity</i>	<i>Physical Inactivity</i>	<i>Overweight</i>	<i>Overweight</i>	<i>Obesity</i>	<i>Obesity</i>
<b>MEDICAL CARE</b>						
• Treatments	\$14,356,793	\$43,070,379	4,482,772	13,448,316	6,321,759	18,965,277
• Rx Drugs	<u>17,417,070</u>	<u>\$52,251,210</u>	<u>5,428,425</u>	<u>16,285,275</u>	<u>7,671,056</u>	<u>23,013,168</u>
Subtotal	\$31,773,863	\$95,321,589	9,911,197	29,733,591	13,992,815	41,978,445
<b>Workers' Comp</b>						
• Medical <sup>2</sup>	1,491,282	5,965,128	376,596	1,506,384	558,038	2,232,152
• Wages	351,548	0	109,858	0	263,661	0
<b>Lost Productivity<sup>3</sup></b>						
	\$1,092,928,071	0	274,065,564	0	544,272,712	0
<b>Sub-totals</b>	\$1,125,053,482	\$95,321,589	\$284,086,619	\$29,733,591	\$558,529,188	\$41,978,445
	<u>Risk Factor</u>	<u>Total Cost</u>				
	Physical Inactivity	\$1,220,375,071				
	Overweight	313,820,210				
	Obesity	<u>600,507,633</u>				
	<b>Grand Total</b>	<b>2,134,702,914</b>				

<sup>1</sup> The ratio of indirect costs to direct costs for various medical conditions is estimated to range from 1.2:1 (low) to 15:1 (high). A conservative ratio of 3:1 was applied.

<sup>2</sup> A multiplier of 4 was used to reflect indirect-to-direct cost ratios reported in the professional literature. Source: "Measuring Indirect Costs in Workers' Compensation" by Patrick Gallagher and Christine L. Morgan. Milliman & Robertson, Inc.<sup>99</sup> Please refer to the following website:  
[[www.milliman.com/health/publications/consultants\\_corner/mr\\_health\\_cc55.html](http://www.milliman.com/health/publications/consultants_corner/mr_health_cc55.html)]

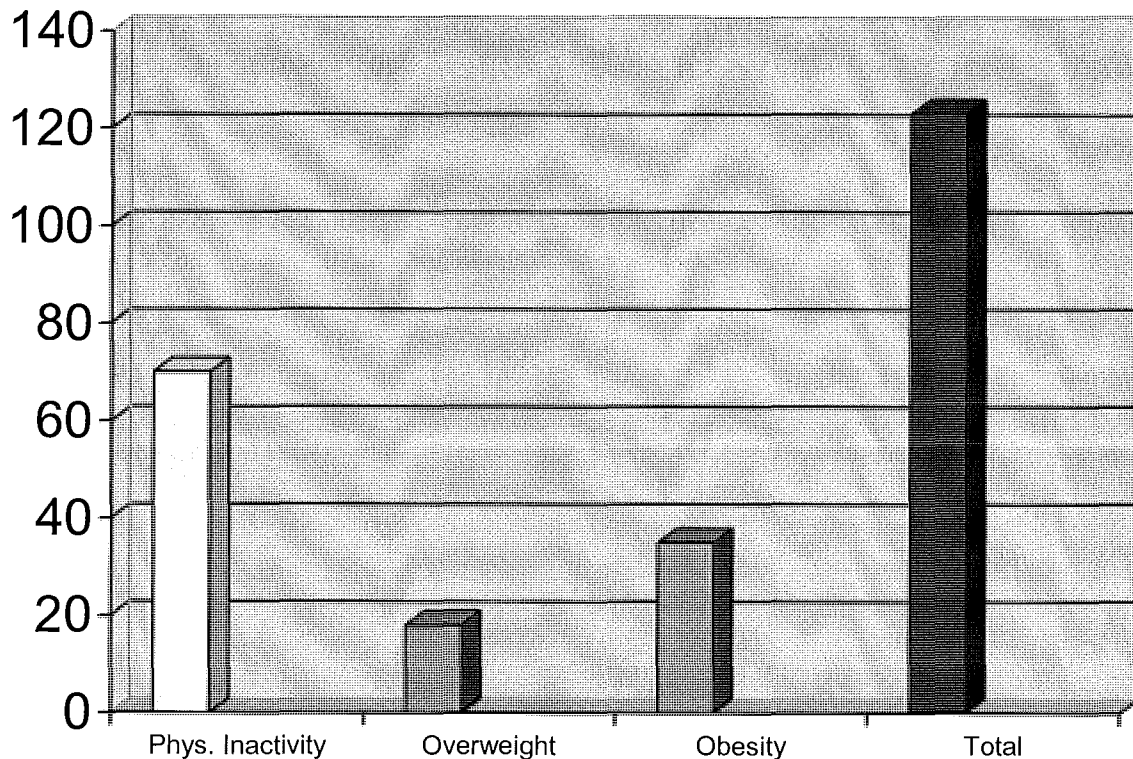
**NOTE:** the ratio of indirect to direct costs associated with workers' compensation costs is generally higher than medical care expenses due to the odds that extraneous circumstances will delay and/or impair an individual's return-to-work timeframe and on-the-job performance, e.g., adjudication, poor worker attitude, liberal return to work policy, etc. NOTE: Medical costs were not added in the sub-totals because they have already been accounted for in "medical care treatments."

<sup>3</sup> Indirect costs are not applicable in this cost category since lost productivity measures, as categorized in this analysis, are considered to be immediate (direct) costs to employers.

## The Benefit of Taking Action

If the current percentage of Maine's physically-inactive and overweight adults can be improved by a modest 5%, the state-wide financial toll from this modifiable risk factor could be substantially reduced. For example, even a modest **5% impact** could produce cost-avoidance benefits of approximately **\$613 million** over a 5 year timeframe, or **about \$123 million per year** (see Figure 1). Financially, **this cost-savings would fund [in today's dollars] more than 3,500 new workers –or- basic health insurance for about one-third of all uninsured adults in Maine.**

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**Figure 1. Average annual cost-savings with a 5% impact per risk factor (in millions).**

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Overall, the cost analysis illustrates that physical inactivity and excess weight has profound implications on the current and future health, productivity, and economic health status of all adult Mainers.