

2003

Top 10 Health Issues Faced by Maine People

Dora Anne Mills

Maine Bureau of Health, doraamills@gmail.com

Follow this and additional works at: <https://digitalcommons.library.umaine.edu/mpr>



Part of the [Community Health and Preventive Medicine Commons](#), and the [Public Health Education and Promotion Commons](#)

Recommended Citation

Mills, Dora Anne. "Top 10 Health Issues Faced by Maine People." *Maine Policy Review* 12.1 (2003) : 30 -54, <https://digitalcommons.library.umaine.edu/mpr/vol12/iss1/6>.

This Article is brought to you for free and open access by DigitalCommons@UMaine.

Top 10 Health Issues Faced by Maine People

by Dora Anne Mills



In this article Maine's Bureau of Health Director, Dr. Dora Anne Mills, outlines the top 10 health issues facing Mainers today. As Mills points out (and as our cover illustration suggests), many of the chronic health issues facing Mainers today would be greatly alleviated if we ate less and better, exercised more, and didn't smoke. Despite the role of self determination in affecting these behaviors, Mills argues that all can be influenced through more proactive policies at the local, state, and national levels, and changes to our surrounding environments. Only when our neighborhoods, schools, workplaces, and communities are structured in ways that promote healthy lifestyles will we see real changes in the health trends of our time. 🐉

In a culture that believes in self-determination, a review of the top 10 health issues faced by Maine people points out that our health is often most strongly determined by our surrounding environments—the way our neighborhoods are structured, and factors emanating from our schools, workplaces, and communities. Since these environments are in turn heavily influenced by policy at all levels—school boards, town and city governments, legislatures, and Congress—many strategies to effectively address these top 10 health issues are in the laps of policymakers.

The health issues covered in this article are excerpted from *Healthy Maine 2010*, a book that describes the major health issues faced by Maine people and outlines changes that will help all of us to live longer and healthier lives. Created over a two-year period with input from over 500 people from across the state, *Healthy Maine 2010* identifies over 100 indicators across 10 priority areas. This article reviews a few select indicators in each of those 10 priority areas.¹

Two overarching health goals form an umbrella over these top health issues:

- Maine people are able to live longer and healthier lives;
- Health disparities are eliminated.

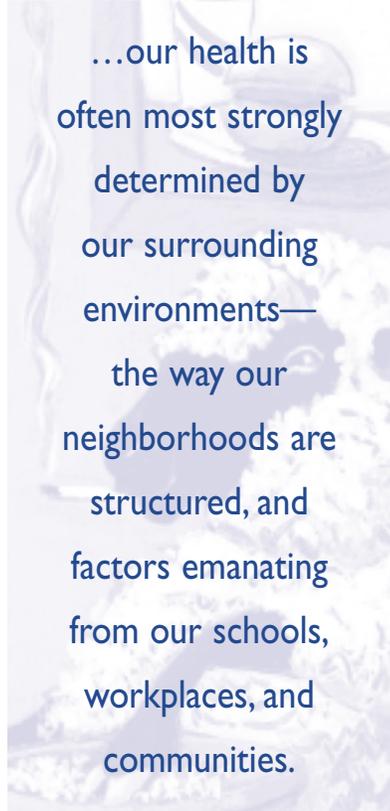
Eliminating health disparities is a new goal for statewide public health planning. Health disparities are inequalities in health status due to non-biological reasons. For instance, in the United States, two of the biggest factors contributing to one's health status are a number and a color. The number is what goes on one's paycheck—income. The color is the color of one's skin—a component of race, which is a sociological characteristic indicating how one is identified by others. *Healthy Maine 2010* highlights not only these issues as major factors leading to health disparities but also six others: age (the non-biological aspects of age), disability status, gender, life situation (with a focus on veteran status), geographic residence (rural and urban), and sexual orientation (and other sexual minorities).

We need to ensure that all interventions having an impact on health have an impact on reducing inequalities in health. This can be accomplished by coordi-

nating our health data systems so that we more effectively measure the health of Maine's populations, by identifying priority populations that face inequalities in health, by utilizing our health resources more effectively to reach out to those with poorer health status, and by evaluating our efforts. As a result, *all* Maine people can have an opportunity to live longer and healthier lives.

The following top 10 health issues are presented in alphabetical order. While it may be desirable to prioritize them further, doing so is difficult because there are so many different parameters by which to judge relative importance. For instance, if we prioritize by the leading causes of death and the leading drains on health dollars, then chronic disease, substance abuse and tobacco use, physical inactivity, and poor nutrition would lead the list, but some other important health issues on the list may not even be included. However, if we prioritize by years of lives saved, injuries and family planning (for infant mortality) would lead the list since these issues generally affect younger people. If we prioritize by the impact on quality of life, then access to health care and prevention, occupational health, mental health, and family planning (for teenage pregnancy) would lead the list. If we prioritize by the potential for devastation, then infectious diseases would lead the list. If we prioritize by the impact on future generations, then environmental health would lead the list.

The following 10 health issues are chosen as the top issues faced by Maine people since together they represent the breadth of mechanisms by which health issues can directly affect us—lives saved, years of lives saved, health dollars spent, quality of life, potential for devastation, and impact on future generations.



...our health is
often most strongly
determined by
our surrounding
environments—
the way our
neighborhoods are
structured, and
factors emanating
from our schools,
workplaces, and
communities.

How Does the United States Rank Relative to Other Countries?

COST:

- #1: The United States ranks first in the world for dollars spent per capita for health, spending almost \$3,800 per person, per year.
 - The second leading country only spends \$2,600.
 - The average of the nearly 200 countries studied is \$412 per capita, per year.
 - The average of the 10 countries with the highest disability-adjusted life expectancy is \$1,700 per capita, per year.
- #1: The United States also ranks #1 for total expenditure on health as a percent of gross domestic product.

ACCESS:

- #55: The United States ranks 55th for fairness of financial contribution to health systems. This ranking reflects how equitably people in a country contribute to health costs, with the United States ranking poorly, in part, since a large proportion of households are at risk of impoverishment because of high levels of health expenditures.

QUALITY:

- #24: Health attainment in the United States—mostly measured as disability-adjusted life expectancy—ranks only #24.
- #32: The United States ranks #32 for equality of child survival because so many children in the United States, particularly those living in poverty or who are minorities, do not have the same chances of survival as other children.

Source: *World Health Report* (World Health Organization 2000)

ACCESS TO HEALTH CARE AND PREVENTION

If you live in a European country, Canada, Japan, or almost any other developed nation, chances are you live in a country that provides its citizens basic access to public education as well as to health care and prevention interventions, the two major components of a comprehensive health system. The United States is fairly unique among developed countries in that we share this principle for elementary and secondary education, but we do not share this same principle when applied to our health system.

Indeed, among the three major measurements to gauge a health system—cost, quality, and access—the United States ranks poorly compared to other developed countries for its health system's accessibility. The *World Health Report 2000* (World Health Organization 2000), a study comparing health systems in nearly 200 countries, shows the United States is by far the most expensive country for health costs, yet ranks poorly in terms of access to its health system. In part as a result of this poor access, the United States ranks only moderately when it comes to the quality of health outcomes. [See sidebar at left.]

People who experience good access to health care are able to obtain needed, appropriate, and high quality health services in a timely manner without financial, structural, or personal barriers that limit their access. For example, they have at least basic health insurance; an adequate number of health care providers and facilities in close enough proximity; transportation is available to them; they are informed about how to enter and maneuver through the health care system and do so without discrimination or barriers due to their age, disability status, gender, sexual orientation, race, or ethnicity. Health care is conducted with sensitivity toward their culture and in a language that is understandable to them.

People who experience good access to an entire health system, including public health, also experience few financial, structural, and personal barriers to prevention and health promotion interventions. As a result, they are fully informed about choices that affect their health and they live in a healthy community.

Access to health care and to prevention is the one priority area that cuts across all the others and that affects everyone in one way or another. Health care, prevention, and population health approaches can exist, but unless we all have access to them, all of us are vulnerable to coming up short of our goal of living longer and healthier lives.

Access to Health Insurance

Health insurance is generally considered the admission ticket to our health care system; therefore, of all indicators measuring access to our health care system, health insurance rates is one of the most important (see Figure 1). However, there are limitations in using this measurement. For instance, it does not indicate the breadth of the health insurance benefits covered. It is felt that many who are insured actually face substantial barriers to health care because of underinsurance.

Maine adults who do not have health insurance are more likely to have a lower household income (25% of Maine adults with a household income less than \$25,000 lack health insurance, compared to 3.6% of those with incomes greater than \$50,000). They are less likely to have attained higher education (25% of Maine adults with less than a high school education are uninsured, compared to 4% who have a college degree) (Behavioral Risk Factor Surveillance System 2001).

Insurance rates also differ by age group. Twenty-two percent of young adults in Maine ages 18-24 lack insurance. The uninsurance rate for those ages 45-64 is 13% and for

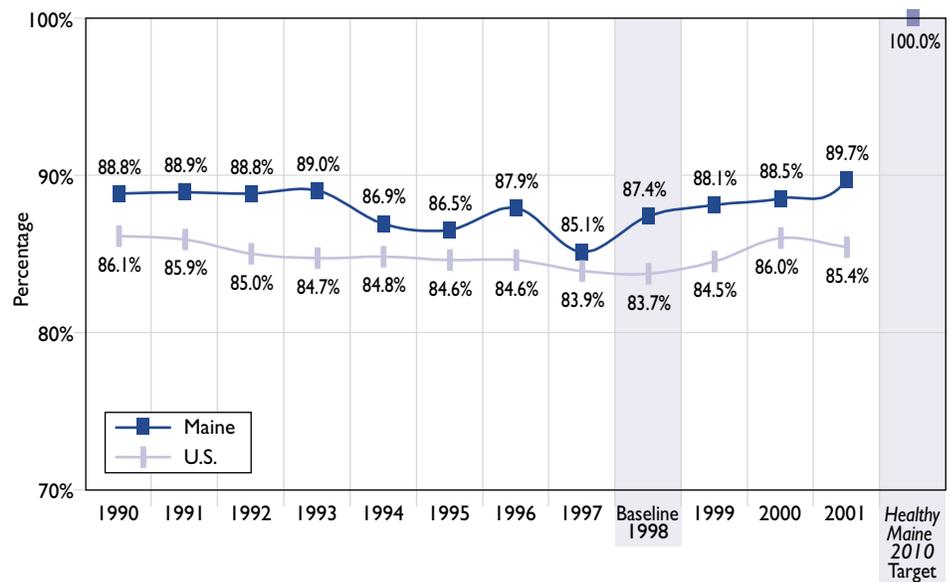
What are Medicare, Medicaid, and MaineCare?

Medicare is the federal health insurance program for people age 65 and older, and certain people with disabilities or end-stage renal disease. The federal government administers Medicare without direct state government contributions. Medicare does not cover most nursing home care or other long-term care services, or most out-patient prescription drugs. In fact, Medicare covers only about half of the health care expenditures of older Americans.

Medicaid is primarily a health insurance program for low-income parents and children, a long-term care program for elders living with low income and assets, and a funding source for some services to people with disabilities. In Maine, children and women make up about 70% of Medicaid enrollees and account for about 30% of expenditures. Elders and the disabled account for 30% of enrollees and 70% of the expenditures.

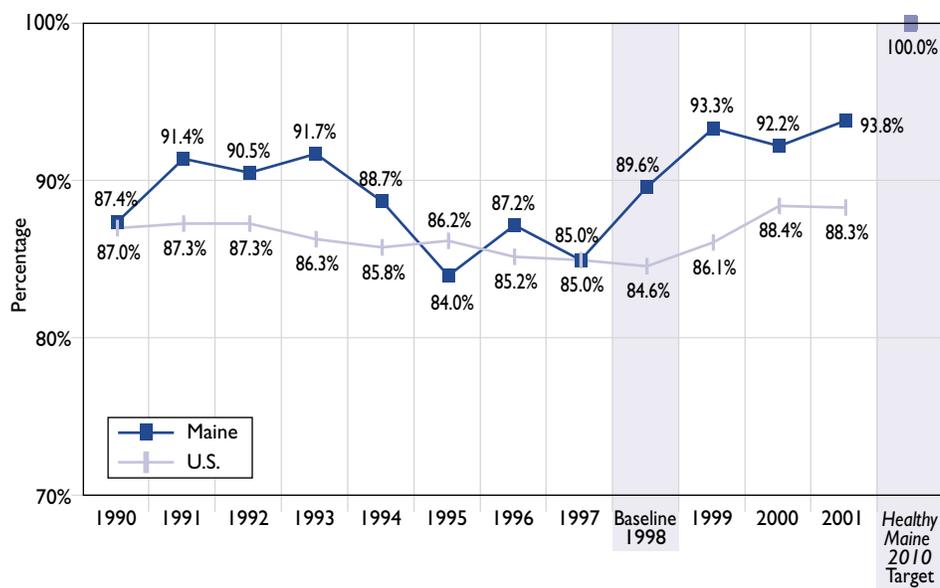
State governments administer Medicaid, though the federal government mostly funds it. Medicaid does require a direct state government contribution, and in Maine about one-third of the expenditures are state dollars. As of July 2002, **MaineCare** is the new name for the Maine Department of Human Services' health insurance programs, including Medicaid.

FIGURE 1: Proportion of People of All Ages with Health Insurance, Maine and U.S., 1990-2001



Source: Current Population Survey-U.S. Census Bureau, 1990-2001

FIGURE 2: **Proportion of Children with Health Insurance, Maine and U.S., 1990-2001**



Source: Current Population Survey-U.S. Census Bureau, 1990-2001

those over age 64 is 2%. However, if those over age 64 are insured by Medicare alone, they usually lack coverage for such essentials as pharmaceuticals and many other outpatient interventions (Behavioral Risk Factor Surveillance System 2001).

National data show that ethnic and racial minorities are more likely to lack health insurance, and sexual orientation minorities often do not have access to insurance because of a lack of domestic partner policies.

Rates of uninsurance for children in Maine have dropped since MaineCare (Medicaid) was expanded in 1997 (see Figure 2). However, an estimated 85% of uninsured children in Maine live in households with working parents who are likely to be seasonally employed, employed on a part-time basis, or self-employed. In fact, the strongest predictor of uninsurance among Maine children is the self-employment status of the head of the household. The second strongest predictor is the parents' employment in firms with two to 25 employees (Muskie/DHS 2000). [For more on access to affordable health care, see *Wolf in this issue.*]

Access to Prevention

Access to population-based prevention initiatives is important if we are ever to stem the tide of preventable illness-causing disabilities and premature deaths as well as to respond to emerging health issues. Maine is one of the few states without a system of local or regional public health agencies to provide public health capacity and accountability.

During the national anthrax attacks in late 2001, the lack of capacity was felt. Indeed, we in Maine could not communicate important health information to physicians and other providers in a timely fashion, they could only communicate with us by telephone, and we had insufficient ways to detect a possible bioterrorism or other disease outbreak early. Fortunately, federal bioterrorism funds are helping to build

public health infrastructure related to public health emergencies. We still face challenges in building public health capacity to address other health issues, but work is currently under way to determine mechanisms for using current resources more effectively so that broader public health capacity is built across the state.

Those who are most likely to be left out of prevention initiatives are those with low socioeconomic status (as measured by low income and educational attainment), ethnic and racial minorities, sexual minorities, and those with disabilities, since initiatives often do not adequately address the needs of these populations. In determining how public health can be delivered more effectively in Maine, it is important to ensure that geographic distribution be addressed as well as distribution of resources across priority populations.

Access to Oral Health

Unfortunately, in the United States, the mouth is considered separate from the rest of the body when it comes to health care. Yet poor oral health takes an enormous toll—not only on our physical health but

also on our psychosocial health since poor oral health can hinder our ability to communicate most effectively. Dental caries—particularly in children—are especially noteworthy because they are primarily preventable, and an investment in preventing them often lasts a lifetime (see Figure 3).

With access to fluoridated drinking water, sealants, good nutrition, hygienist and dental care, and education to prevent the use of nap and nighttime bottles and to encourage brushing, poor dentition can largely be prevented. Children from lower-income Maine households have poorer oral health status than children from higher-income households.

CHRONIC DISEASE

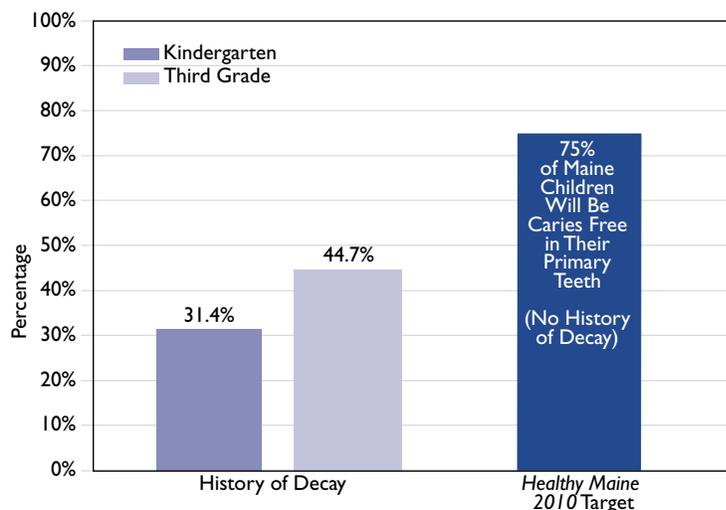
One of the biggest changes in health over the last 100 years is the dramatic change in causes of death and disability from primarily infectious and acute diseases such as pneumonia, tuberculosis, and diarrhea to chronic diseases such as heart disease, cancer, stroke, emphysema, diabetes mellitus, and arthritis. Chronic diseases are now the leading causes of illness, death, and health care costs for Maine people (see Figure 4).

In fact, nearly 75% of Maine people die from only four diseases: cardiovascular disease (heart disease and stroke), cancer, chronic lung disease (primarily emphysema), and diabetes. All of these are chronic in that the disease processes often take years until the onset of symptoms, and the symptoms themselves often disable people for a number of years. In fact, about one-third of all disabilities are caused by one of these four diseases.

These diseases also are primarily preventable. Underlying the most common chronic diseases are three behavioral risk factors—tobacco addiction, physical inactivity, and poor nutrition. On average, an estimated seven Maine people die daily from the underlying causes of tobacco addiction, and four die daily from the underlying causes of physical inactivity and poor nutrition.

With an expected doubling of Maine's elder population over the next 20 years, the burden of chronic disease is expected to grow substantially. Asthma is the only common chronic disease that occurs more often in

FIGURE 3: Proportion of Maine Kindergarten and Third Grade Children with a History of Tooth Decay, 1999



Note: A history of decay means that a child either had a cavity, a filling, or a tooth that was missing due to an extraction.

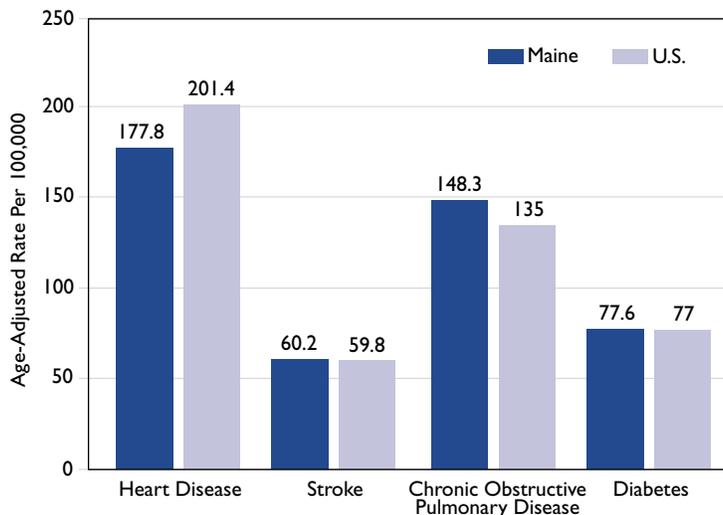
Source: Maine State Smile Survey 1999. Maine Department of Human Services, Bureau of Health, Oral Health

children than in adults. Both asthma and type 2 diabetes are increasingly common in children and young adults; the latter disease is associated with the obesity epidemic.

Men and women have different rates of preventive screenings and death due to chronic diseases (see Figure 5). For instance, men have overall higher rates of heart disease death rates, but women are at higher risk from death after a heart attack and are experiencing increasing death rates from lung cancer (compared to decreasing rates among men). Persons with low socioeconomic status and some racial and ethnic minorities (such as Native Americans and African Americans) shoulder a higher burden of chronic disease.

The four most common chronic diseases—cardiovascular disease, cancer, chronic lung disease, and diabetes—drain \$2.47 billion from Maine's health care economy each year. The economic, psychological, and social burdens of these diseases on individuals, families, and communities are beyond measure. However, these burdens can be dramatically reduced if proven advances in prevention, early detection and treatment are made

FIGURE 4: **Deaths Due to Leading Chronic Diseases, Maine and U.S., 1999**



Note: The data in this figure are taken from *Healthy Maine 2010* (see Endnote 1 for further detail).

more available to all Maine people. As a result, we can all live longer and healthier lives.

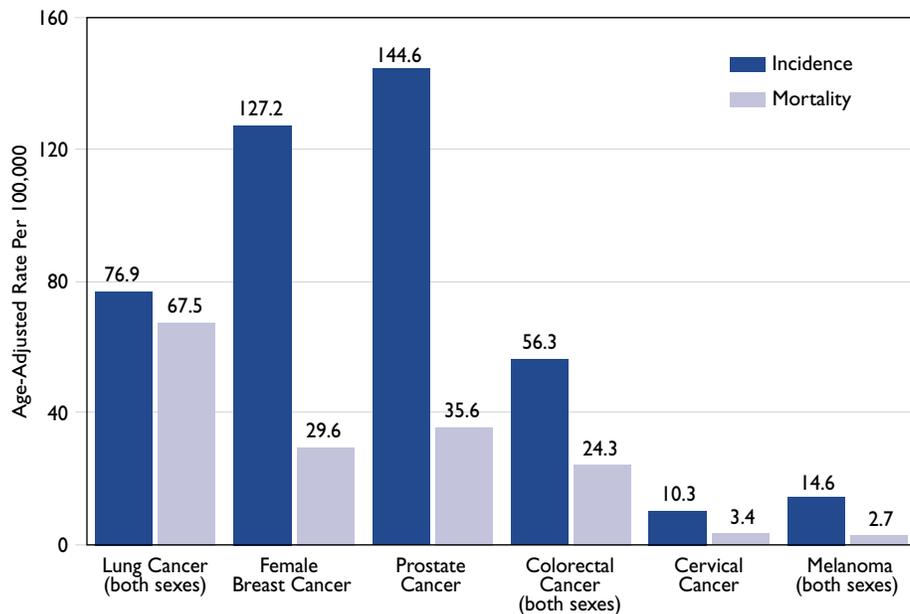
Cardiovascular Disease

Cardiovascular disease (heart disease and stroke) is the leading cause of illness, deaths, and health care costs for Maine people. Each year, about 39% of all deaths in Maine, or about 5,000 deaths, are due to cardiovascular disease. One quarter of all Maine hospital charges are for cardiovascular disease alone. Medicare and Medicaid (MaineCare) payments cover about three-quarters of these charges. Yet most cardiovascular disease is preventable. By effectively addressing tobacco addiction, obesity, uncontrolled high blood pressure and high cholesterol, we could prevent most of the disabilities, deaths, and health care costs due to cardiovascular disease.

Chronic Lung Disease

About one in eight Maine people have a chronic respiratory disease, mainly asthma, chronic obstructive pulmonary disease (COPD), and obstructive sleep apnea. An estimated 100,000 Maine people suffer from asthma, 20,000 of whom are children. Chronic obstructive pulmonary disease includes chronic bronchitis and emphysema. About 80-90% of all COPD is due to tobacco smoke. People with low income are at higher risk for these diseases.

FIGURE 5: **Leading Preventable or Screenable Cancers that Kill Maine People, 1995-1997**



Source: Maine Department of Human Services, Bureau of Health, Maine Cancer Registry. NCHS (National Center for Health Statistics) for Maine at <http://wonder.cdc.gov>

Diabetes

An estimated 63,000 Maine people have diabetes; only two-thirds have been diagnosed. Adults with diabetes are at two to four times the risk of dying from heart disease and three times the risk of dying from stroke. Type 2 diabetes, representing about 95% of all diabetes, is highly associated with obesity. In fact, diabetes

has risen nationally a startling 49% over the past decade, paralleling an over 60% rise in obesity rates.

Cancer

Every year, about 7,000 Maine people are diagnosed with cancer, and about 3,000 die from it. Only heart disease causes more deaths than cancer. However, cancer results in the loss of more years of healthy life than heart disease since deaths due to it occur at younger ages. Cancer death rates in Maine are generally higher than the United States average. This could be due to a number of reasons, including possible delays in diagnosis, lack of access to appropriate treatment, and higher incidences of more deadly forms of cancer. Lung cancer is the leading cause of cancer deaths in Maine, causing about 1,000 deaths annually. Yet about 90% could be prevented if tobacco were eliminated. Since 1985, more Maine women have died each year from lung cancer than from breast cancer.

Cancer is increasingly a curable and preventable disease. An estimated 50% or more of all cancers can be prevented through tobacco cessation, increased physical activity, and good nutrition. The five-year survival rate for all cancers is now 62%, and the five-year survival rate for screenable cancers (cervix, colon, rectum, breast, oral, prostate, skin, and testes) is 82%.

ENVIRONMENTAL HEALTH

Exposure to hazardous agents in our air, water, soil, and food, and to physical hazards in the environment are major contributors to illness, disability, and death worldwide, causing an estimated 25% of all preventable ill health in the world. Outdoor air pollution alone is associated with an estimated 50,000 deaths annually nationwide.

Although we are usually exposed to outdoor air pollution and drinking water from sources outside our immediate surroundings, much of our exposure to environmental health hazards will occur within our home, place of work or school. For instance, indoor air quality is an increasing concern in places with inadequate heating, cooling and ventilation systems, in places where tobacco smoke is allowed, where radon is common, and where structural defects

cause moisture build up with resulting mold and other contaminants. Exposures to lead, mercury in fish, and pesticides are most likely to occur in people's homes or yards. Strategies to reduce these exposures often depend on communicating risk to the public, motivating them to test, mitigate, or otherwise reduce their risk and implementing policies that ensure these strategies can occur.

Cancer death rates in Maine are generally higher than the United States average.

Testing of Private Wells

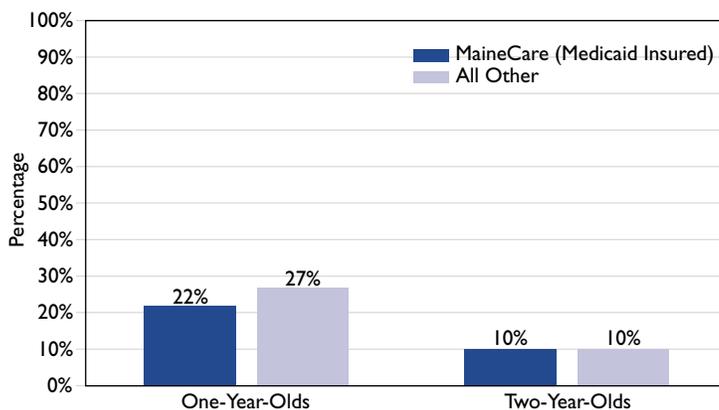
With over half (56%) of Maine residents drinking from private wells, we face challenges in ensuring that our drinking water sources are safe. For instance, an estimated 11% of Maine homes with private wells have elevated arsenic levels above the current health benchmarks, as many as 20% have elevated radon levels, and an estimated 4% have elevated uranium levels.

While public drinking water supplies are routinely tested and remediated, private water testing is only required usually when the well is drilled, and then the test focus is only on bacteria. The result is that many Maine people are exposed unnecessarily to toxins that can pose significant cancer risks (arsenic, radon, uranium), adverse pregnancy outcomes (arsenic), or kidney damage (uranium). Preliminary data indicate that only an estimated 40% of Maine residents with private wells have had their water tested for arsenic, about 30% have not, and 26% do not know whether their water has been tested for arsenic.

Lead

Lead is one of the most common environmental hazards detected among Maine children. Paint in Maine's older housing stock is usually the culprit in causing about 5% of Maine children under age six who are tested to have elevated levels. As a heavy metal, lead exerts toxic effects on brain cells, causing learning disabilities and behavior disorders.

FIGURE 6: Lead Testing Among Maine One- and Two-Year-Olds, 1998



Note: The data in this figure are taken from *Healthy Maine 2010* (see Endnote 1 for further detail).

Two main strategies are necessary to eliminate Maine’s lead problems. First, homes need to be tested and made lead safe, with a focus on those homes built before 1960. Currently, there are no laws that require routine home lead testing, even when a home is sold. Second, blood-testing rates, especially among one- and two-year-old children need to increase (see Figure 6). A focus on those children with MaineCare insurance, other low income children, and families living in rental housing is needed because they are at higher risk for lead poisoning. [For more on childhood lead poisoning, see Littell 2002.]

FAMILY PLANNING

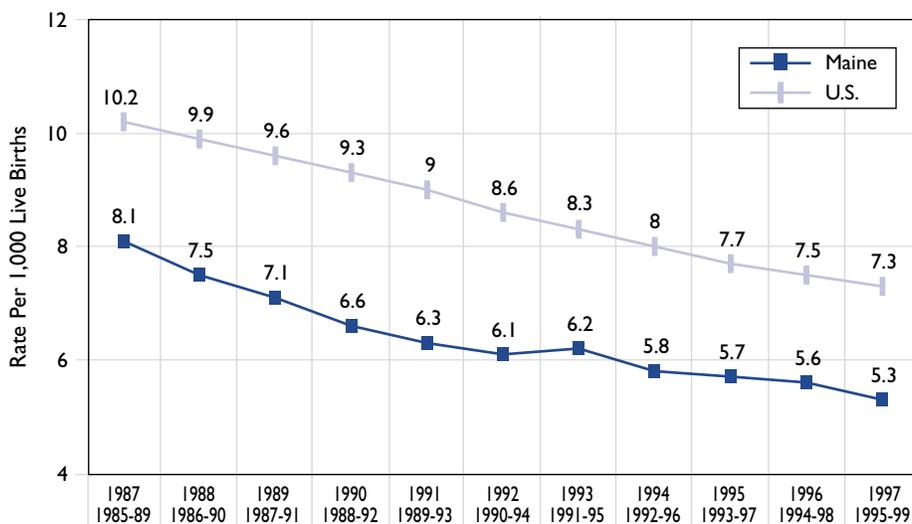
Although couples today can have considerable control over their fertility, half of all pregnancies nationally are unintended. When pregnancies are planned and desired, the health of mothers, infants, and indeed the entire family improves.

Measurements that gauge the health status of pregnant women and infants are a key barometer not only of the health of a family but also of the entire society since so many community factors, support systems, and public policies contribute toward the health of these two vulnerable populations.

Overall, compared to other states, Maine is doing well in the areas of reproductive and perinatal health. However, there is much room for improvement. Worldwide, for instance, the United States ranks 25th for infant mortality and ranks poorly for teen birthrates among developed countries.

Successful strategies and systems implemented in Maine and other geographic areas are important to recognize and understand if we are to maintain and improve upon our successes in family planning and perinatal health. Particularly as our population in

FIGURE 7: Infant Mortality Rates, Maine and U.S., Five-Year Averages, 1987-1999



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

Maine becomes more diverse, ensuring that our strategies are culturally competent and linguistically appropriate is also important if we are to improve the health of all Maine families.

Infant Mortality

Infant death is a critical indicator of the health of a society since it reflects the overall state of maternal and infant health and the many social, environmental, and health care system factors that contribute toward the health of both these vulnerable populations. One hundred years ago in Maine, about one in eight babies born did not live to see their first birthday. Today, for babies born full-term, that number has dropped to one in 1,000. During the last decade, Maine has consistently enjoyed the lowest or one of the lowest infant mortality rates in the nation (see Figure 7). However, since each infant death results in the potential loss of an entire lifetime (i.e., decades of life lost), it is important that we focus resources and policies on reducing infant deaths, especially since so many of these deaths are preventable and other countries have shown it is possible to further reduce these rates.

The leading causes of neonatal death (within the first month of life) are prematurity, birth defects, and low birth weight. The leading causes of post-neonatal mortality are sudden infant death syndrome (SIDS), birth defects, and injuries (from both child abuse and non-intentional injuries). Alcohol, illicit drug, and tobacco use during pregnancy as well as post-natal exposure to secondhand smoke are associated with preventable causes of infant deaths. Babies born to adolescents and older mothers (over age 44), as well as to African American mothers, are at higher risk for infant mortality.

Teen Pregnancy

Teen pregnancy rates are another barometer of societal health since the consequences of adolescent pregnancy are staggering—teen mothers are less likely to get or stay married, less likely to complete high school, more likely to require public assistance, and to live in poverty. Infants born to teen mothers are more likely to suffer from low birth weight, neonatal death, sudden infant death syndrome, child abuse or neglect,

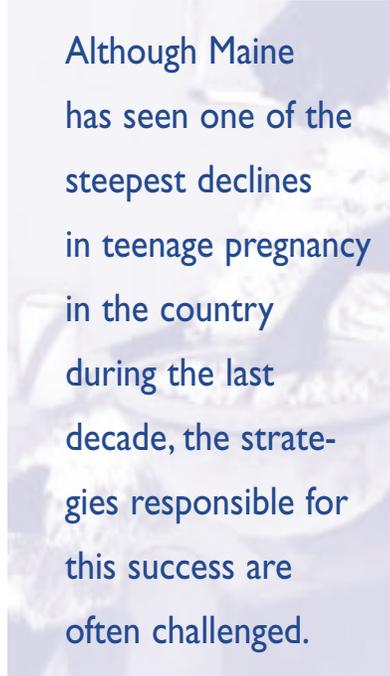
and behavioral and educational problems at later stages. Adolescents living in poverty are at higher risk for unintended pregnancies.

Although Maine has seen one of the steepest declines in teenage pregnancy in the country during the last decade, the strategies responsible for this success are often challenged. Additionally, Maine's rates could be substantially improved, especially when compared to other developed countries and Caucasian rates from other states. [See *King and Marks 2002*.] Two strategies are critical to reducing teen pregnancies and overall unintended pregnancies: improving access to comprehensive family life education in our schools and communities, and improving access to preventive reproductive health care. School board members, town officials, legislators and state officials all play a pivotal role in implementing policies that support these strategies.

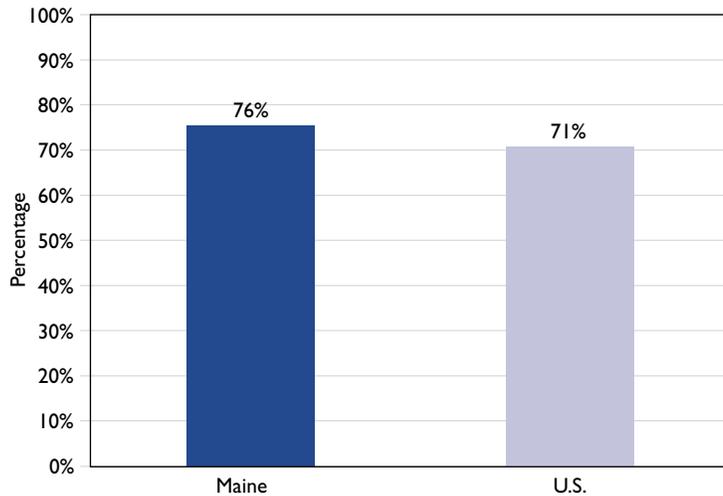
INFECTIOUS DISEASE

Overcoming the scourge of many infectious diseases through clean drinking water, good hygiene, vaccines, and antibiotics is one of the greatest public health successes of the twentieth century. However, without proper vigilance to maintain education and the systems that were responsible for these successes, we are vulnerable to a myriad of infections.

In addition, with the overuse of antibiotics in humans and animals and the resulting antibiotic resistance, as well as with increasing global travel, the importation of food and conglomeration of food production, and the increasing threat of bioterrorism, we remain susceptible to a variety of emerging diseases. In fact, over the past two decades, deaths in the United States from infectious diseases have risen—nearly 60% from 1982 to 1992 alone, and still 22% when HIV-



Although Maine has seen one of the steepest declines in teenage pregnancy in the country during the last decade, the strategies responsible for this success are often challenged.

FIGURE 8: **Childhood Vaccine Rates, Maine and U.S.***

*Two-year-olds fully immunized against diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, Hemophilus influenza B, hepatitis B, and varicella (chickenpox)

Note: The data in this figure are taken from *Healthy Maine 2010* (see Endnote 1 for further detail).

associated deaths are removed. Many of these are emerging diseases.

Maine is fortunate to have relatively low rates of a number of infectious diseases that plague other areas of the country or world such as tuberculosis and malaria. However, our vulnerability to emerging diseases is increasing: violations in food safety are more frequently causing food-borne illnesses; our infectious disease surveillance and response systems need strengthening; and our health systems are increasingly challenged to address infectious disease issues in Maine's increasing number of foreign-born residents.

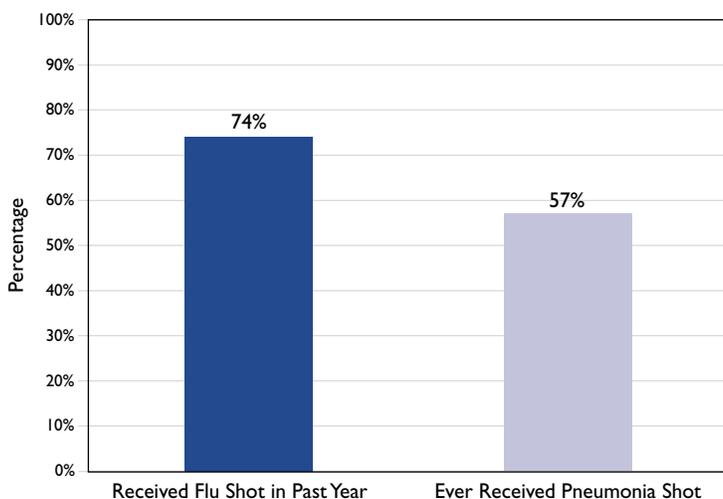
With the increased threat of bioterrorism since the events of September 11, 2001, and subsequent anthrax attacks, there is heightened awareness about vulnerabilities in our early detection, communication, and incident management systems that respond to infectious diseases. Fortunately, Congress has allocated funds to each state's health departments, including the Bureau of Health in the Maine Department of Human Services, to strengthen these systems.

Immunizations

Vaccines for children and adults are one of the safest and most effective ways to prevent diseases. Cost savings alone range from \$2 for every dollar spent on recently approved vaccines to \$24 for diphtheria, pertussis (whooping cough), and tetanus vaccines.

Maine's childhood vaccine rates rose significantly during the 1990s, due in part to the state of Maine's commitment to providing all necessary childhood vaccines for free to all licensed health care providers (thereby reducing the cost barriers to parents), and due to educational and informational campaigns to educate parents and health care providers about the benefits of vaccines as well as how to increase vaccine rates (see Figure 8). As a result of this success, the Bureau of Health's vital records do not have a report of a child dying in Maine from a vaccine-preventable disease since before 1990.

However, we face two sets of challenges. First, we need to maintain the current systems and policies responsible for this success, which will be especially challenging as new vaccines are developed. Second, we need to improve our childhood vaccination rates,

FIGURE 9: **Maine Adults Age 65 and Over Receiving Flu and Pneumonia Shots**

Note: The data in this figure are taken from *Healthy Maine 2010* (see Endnote 1 for further detail).

which continue to lag the much higher rates achieved in some other developed countries.

Most vaccine-preventable diseases in the United States, as well as in Maine, occur in adults. For instance, an estimated 50,000 nationally die every year from pneumococcal disease or influenza. People age 65 and older should have at least one pneumococcal vaccine and an annual influenza shot (see Figure 9).

Emerging Diseases

As travel increases around the globe, as our food supply becomes more centralized, as antibiotics are overused among people and livestock, and as animals and people live in increasingly crowded conditions, the risk for emerging infectious diseases is rising.

For instance, infections due to food-borne pathogens are on the rise for several major reasons: improper food preparation, storage and distribution practices, insufficient training of retail workers, and an increasingly global food supply. Many of these infections cause severe disease and are deadly, especially among high-risk populations such as children, elders, and the immunocompromised.

We face challenges in educating the consumer about safer practices, especially pertaining to meat and poultry handling, as well as to fruit and vegetable washing. Ensuring that food preparations are performed safely in our eating establishments is also a growing challenge, especially because there appears to be an increase in the number of eating establishments in Maine in which food handlers have little background in standard U.S. practices. Currently, Maine has nine sanitarians to inspect over 12,000 establishments across the state.

Other emerging diseases include a re-emergence of old diseases such as tuberculosis, gonorrhea, and syphilis, as well as newly detected diseases such as hepatitis C, Severe Acute Respiratory Syndrome (SARS), and West Nile virus.

For many emerging infectious diseases, one of the most critical strategies is early detection. Maine has lacked an active disease surveillance system, and has relied on health care providers to recognize a potential emerging disease and to report it to the Bureau of Health for investigation. However, because of federal public health emergency (bioterrorism) funds, Maine is

changing that. To improve our early detection systems, we now have hired nurse-physician epidemiology teams in each of Maine's six regions.

INJURY

At some point in their lives, most people will sustain a significant injury. For Maine citizens under the age of 58, deaths from injuries far surpass all other causes of death and are responsible for more productive years of life lost than any other cause. Even though death rates due to chronic diseases in Maine among people over age 57 surpass those due to injuries, injury death rates are higher in this age group than among younger people. In fact, injury is the third leading cause of death for all people age 85 and younger.

In addition to deaths and lifelong pain and suffering, the economic costs from serious injuries are high. Injuries represent the second leading cause of direct medical costs among civilian non-institutionalized individuals. It has been estimated that the average cost of an injury hospitalization in Maine from 1995-1997 was about \$20,600, for a total cost of \$231 million per year. Nationwide, one-third of all hospitalizations are due to injury.

Despite the enormous impact of injuries, there is a basic misconception that many are the result of unpreventable "accidents." In fact, most injuries are predictable and preventable. In Maine, as well as across the country, we face challenges in building data systems to track and evaluate the impact of

Two Major Categories of Injuries:

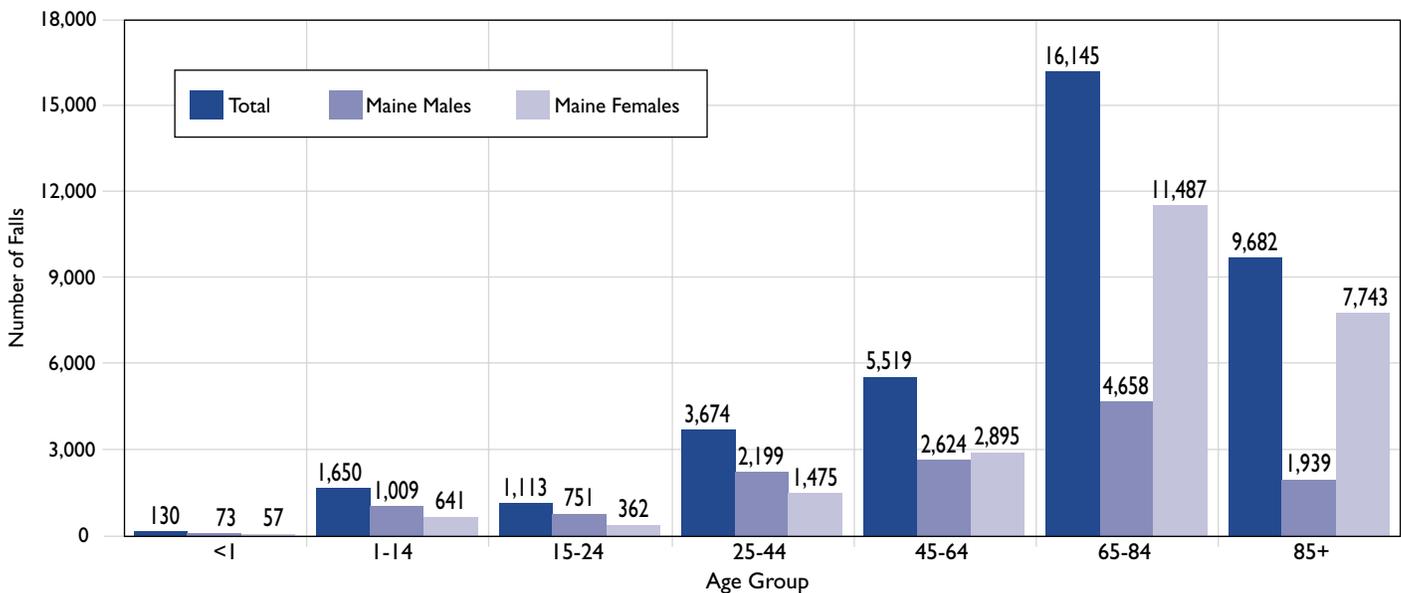
Intentional Injuries

- Those that result from purposeful human action intended to cause harm directed to self or to others;
- Account for one-third of all injury deaths;
- Most common intentional injuries are: suicide, homicide, self-injurious behavior and assault such as found in physical and sexual assault, domestic violence, and bullying.

Unintentional Injuries

- Those not expected or intended to take place, also known as "accidents";
- Account for two-thirds of all injury deaths;
- Motor vehicle crashes account for one-half of all unintentional injury deaths;
- Most common unintentional injuries are: motor vehicle crashes, falls, fires, drownings, unintentional poisonings, and suffocation.

FIGURE 10: **Fall Injury Hospitalizations in Maine, by Age and Gender, 10-year Totals, 1991-2000**



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

injuries, as well as in increasing public understanding of injury risk factors and effective prevention practices.

Although each type of injury requires its own set of prevention initiatives, often effective interventions act synergistically. For instance, those interventions that reduce alcohol abuse also reduce the risk of injury due to motor vehicle crashes, drownings, falls, and most intentional injuries. Interventions that identify and assist those individuals who are threatening violence to themselves, may also protect the safety of others.

Effective injury prevention initiatives have the potential to affect us all. For instance, if every vehicle occupant were properly restrained; if every vehicle driver, including snowmobile drivers, were sober; if every vehicle driver drove at or below the speed limit; if every child had a safe area in which to play; if every home had a working smoke alarm on every level and sleeping area; if every senior had a home with a low risk of falls; if no home had an unlocked or loaded gun; if every home and school were safe from abuse, then many of us would live significantly healthier and longer lives.

Motor Vehicle Crashes

On average, one person dies about every two days on Maine highways from motor vehicle crashes (an average of 186 per year). Motor vehicle crashes are among the three most common causes of hospitalization due to injury for all ages, resulting in about 1,400 hospitalizations per year.

In Maine, 27% of motor vehicle crashes are linked to alcohol, which is down from 60% only 20 years ago, primarily because of laws and education related to drunk driving. Death rates due to motor vehicle crashes are highest for those ages 16-24 years, and those over 75 years of age. Death rates are also highest for males in all age groups.

Effective strategies to reduce injuries and deaths from motor vehicle crashes include: implementing and enforcing requirements for seat belts, booster and child safety seats; allowing primary enforcement of seat belt laws (Maine only allows secondary enforcement); enforcing speed and drunk driving laws; and requiring graduated licenses (Maine law includes some aspects

of graduated licensing, but allows drivers under age 18 to carry other unaccompanied youth in the car after 90 days and allows those under 18 to drive between 10 p.m. and 5 a.m.—a common time for crashes).

Falls

Nearly 5,000 Maine people every year are hospitalized as a result of falls. Almost three-quarters of these hospitalizations occur among people over the age of 65 (see Figure 10). Falls are the leading cause of injury deaths and one of the leading causes of hospitalizations for people over age 65 in Maine.

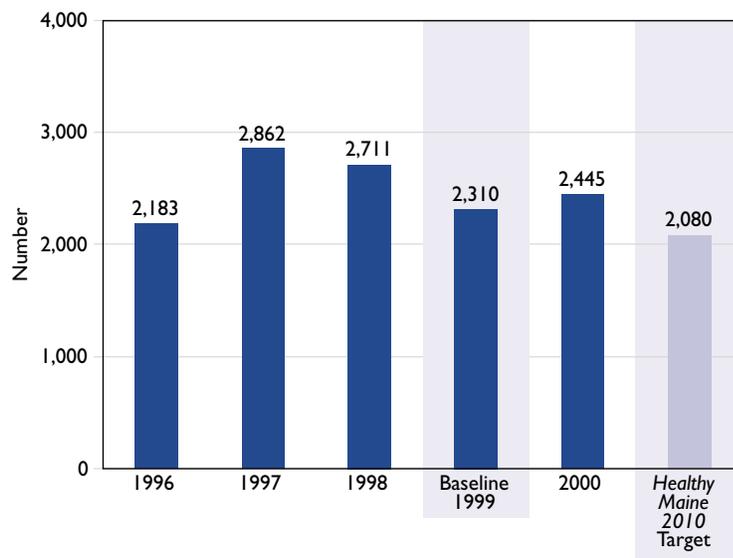
Difficulties in gait and balance, neurological and musculoskeletal disabilities, use of psychoactive medications, visual impairment, slippery surfaces, uneven floors, poor lighting, loose rugs, unstable furniture, unstable grab bars in bathrooms, and objects on the floor are all factors that contribute to falls among older people. With regular exercise and activities to improve balance, as well as some simple home improvements, many of these devastating falls can be prevented. Programs that implement these strategies can have an enormous impact on the quality of life of our seniors.

Falls also are the leading cause of injury hospitalization for children. Playground falls are one of the most common sources of these falls, yet standards for playground surfaces and equipment would prevent most of the injuries associated with these falls. Maine has no laws setting standards for playgrounds, even publicly financed playgrounds.

Physical and Sexual Assault

Physical and sexual assault, including domestic violence, child abuse, elder abuse, sexual assault, and sexual abuse, pose serious public health and safety threats throughout our society (see Figures 11 and 12). We are all affected to some degree by these violent behaviors, since no one is completely protected from them. Because the consequences of sexual and physical assault are so long-range, and include suicide attempts, substance abuse, delinquency, violent behavior, and health problems, we need to invest in comprehensive and coordinated strategies statewide.

FIGURE 11: **Substantiated Child Abuse and Neglect Reports, Maine, 1996-2000**



Source: Maine Department of Human Services, Bureau of Child and Family Services, Developed by Bureau of Health Staff

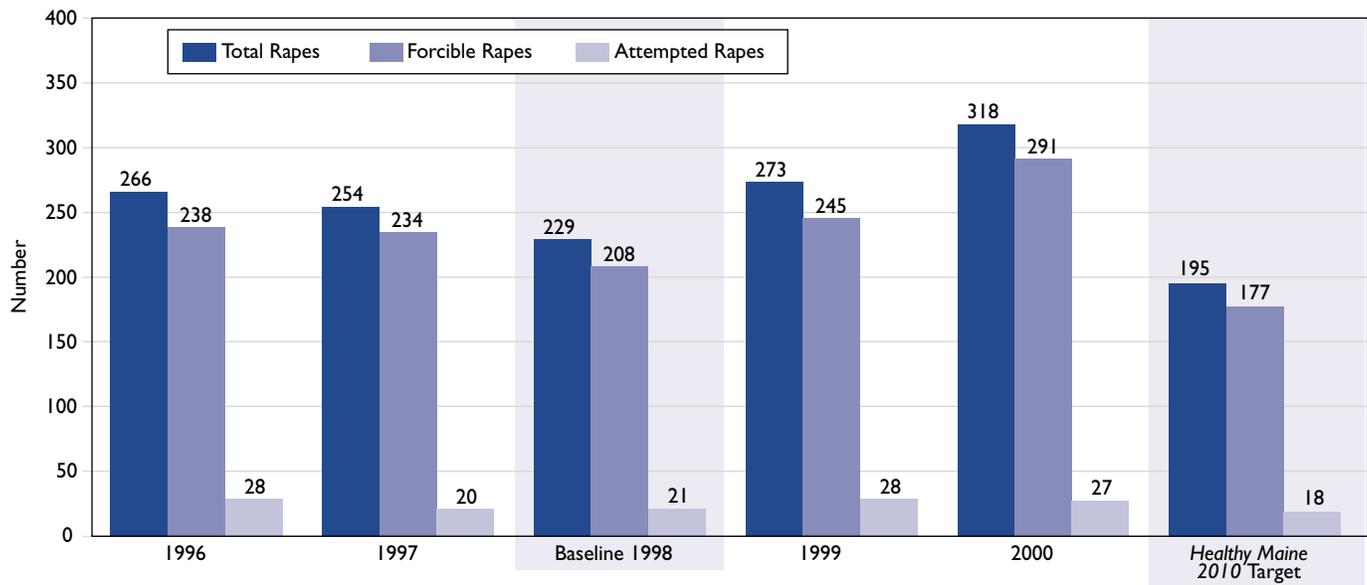
Child Abuse

In terms of child abuse, data in most states indicate that about 75% of the perpetrators are the victims' parents. Most of the remainder are either relatives or caregivers. Since the effects of child abuse can last a lifetime, implementing effective prevention and treatment strategies is a critical investment. Again, these strategies call for a comprehensive approach that involves the coordination of public health programs, social services, law enforcement, public education, and community-based prevention interventions.

Sexual Assault

Sexual assault is one of the more under-reported crimes, especially among children. Nationally, only about 15% of sexual assault victims report the crime to the police. National data also indicate that about one in three women and one in five men will be sexually victimized in their lifetime. Today, there is more awareness of intimate partner violence during pregnancy, sexual assaults of sexual minorities, assaults of disabled

FIGURE 12: Reported Forcible and Attempted Rapes, Maine, 1996-2000



Note: Data are for reported rapes only. A majority of attempted and forcible rapes go unreported each year.

Source: Maine Department of Public Safety, Developed by Bureau of Health staff

people, elders, and racial or ethnic minorities. There is also an increasing awareness of the impact that childhood victimization or the witnessing of violence has on adult perpetration of violence. Indeed, many of those convicted of sexual assault in adulthood were themselves either the victims of, or observers of, violent acts as children.

MENTAL HEALTH

Mental disorders generate an immense public health burden that is often under-recognized. For instance, in the United States, mental illness is on par with heart disease and cancer as a cause of disability.

Affecting persons of all racial and ethnic groups, both genders, and all educational and socioeconomic groups, mental disorders have been called equal-opportunity disorders. About one in five adolescents and adults through age 64 have had a diagnosable mental disorder in any given year, while about one in four older adults over age 64 experience mental disorders such as depression, anxiety, substance abuse, and dementia. Alzheimer's

disease alone is one of the leading causes of nursing home placements.

Like the rest of the nation, Maine has undergone an evolution in the past several decades in the way mental illnesses are recognized and treated. Since the development of numerous medications and other therapies that successfully treat a number of mental illnesses, the locus of intervention for significant mental illness has changed from centralized institutions (such as the Augusta Mental Health Institute and the Bangor Mental Health Institute) to communities, with only occasional assistance from centralized institutions. We continue to face challenges in destigmatizing mental illness and ensuring access to appropriate services, especially at the community level.

Employment Among Adults with Serious Mental Illness

Creating a stable and supportive environment for people with a serious mental illness is an important goal to improve outcomes. Ensuring a consistent home and meaningful employment are two specific strategies to achieve this goal. Studies consistently show that

most people with mental illness want to work and that meaningful employment improves their overall life satisfaction. Employment provides some independence that the paycheck gives, as well as workplace companionship and improved self-esteem. As Figure 13 shows, Maine does not do nearly enough in this area.

Children with Mental Health Problems Who Receive Treatment

For many adults with lifelong mental disorders, these disorders started in childhood. For many of these children, normal development is disrupted by environmental and psychosocial factors, which impair them from realizing their full potential as adults. During childhood, early detection of and intervention for mental disorders or factors leading to mental disorders can result in greater school retention, decreased contact with the juvenile corrections system, improved stability of home life, and improved development. Currently, the proportion of the children in Maine with mental health problems who are receiving treatment is only 28.4%—a mere fraction of those in need of services (see Figure 14).

Suicide Rate

Nationwide, about 50% more people die from homicide than suicide. However, in Maine there is a much higher proportion of people dying from suicide than homicide. For instance, there are about 170 suicides annually in Maine—on average one person every two days—which is about the same number as those who die in motor vehicle crashes. There are about 900 hospitalizations every year in Maine for suicide attempts.

Suicide rates in Maine are highest among those over age 65. Depression—which tends to be under-diagnosed and under-treated, especially among the elderly—social isolation, and chronic physical illness are all factors associated with suicide among elders.

Suicide is the second leading cause of death among Maine people ages 15-34. Only motor vehicle crashes take more teen and young adult lives than suicide in Maine. Youth suicide rates in Maine have consistently been higher than the national average. Risk factors include history of prior suicide attempts, depression,

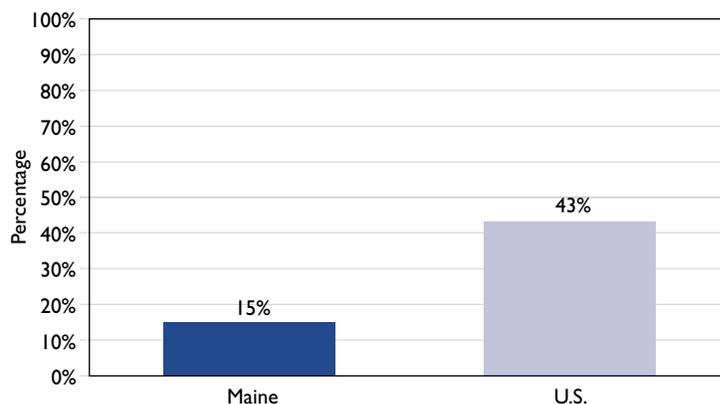
Three common categories of mental disorders:

Schizophrenia: A mental disorder lasting for at least six months, including at least one month with two or more active-phase symptoms. Active-phase symptoms include delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior, and other symptoms. Schizophrenia is accompanied by marked impairment in social or occupational functioning, but symptoms tend to wax and wane. Increasing numbers of people with schizophrenia are doing well with modern treatments, and recovery is increasingly an achievable goal.

Affective Disorders such as major depression and manic-depressive illness: Major depression is the leading cause of disability among adults in developed nations such as the United States. It is not simply a “blue” mood, but rather a variety of feelings such as despair and loss of interest or pleasure in nearly all things that interferes with one’s daily living.

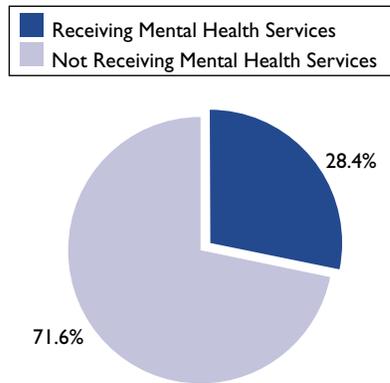
Anxiety Disorders: Include panic disorder, obsessive-compulsive disorder, post-traumatic stress disorder, and phobia. These are the most common mental disorders, affecting as many as one in 13 Americans annually.

FIGURE 13: **Proportion of Individuals with Mental Illness Receiving Community Support Services Who are Employed, Maine and the U.S., 2002**



Source: Maine Department of Behavioral and Developmental Services

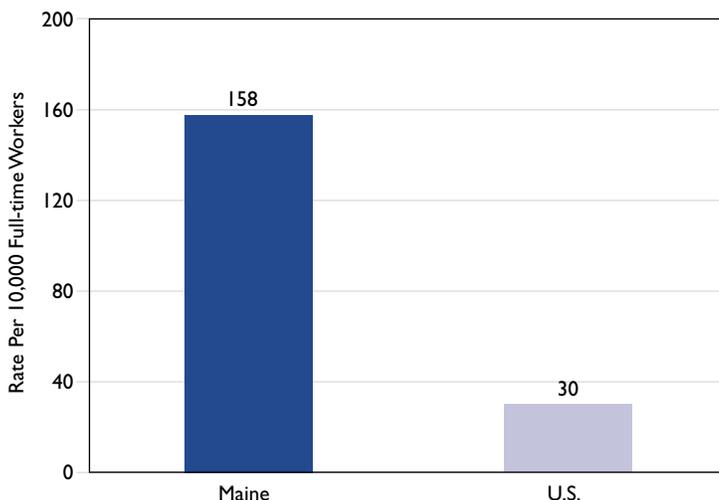
FIGURE 14: Proportion of Children with Mental Health Problems Who Receive Treatment, 2002



Note: Currently, the Maine Department of Behavioral and Developmental Services is serving 10,956 children (ages 0-20—duplicated count) of the 38,590 who are estimated to need treatment. The duplicated number may cause a slight overestimate of the current percent served.

Source: Maine Department of Behavioral and Developmental Services

FIGURE 15: Reportable Work-Related Injuries Due to Overexertion and Repetitive Motion, Maine and U.S., 2001



Note: The data in this figure are taken from *Healthy Maine 2010* (see Endnote 1 for further detail).

conduct disorder, substance abuse, sexual minority status, and history of physical or sexual abuse.

Nationally, 90% of adults who complete suicide have a diagnosed mental illness. Early identification and treatment of mental illness are strategies that are critical to reducing suicide.

OCCUPATIONAL HEALTH

Occupational health and safety is a major public health issue in Maine for many reasons, including:

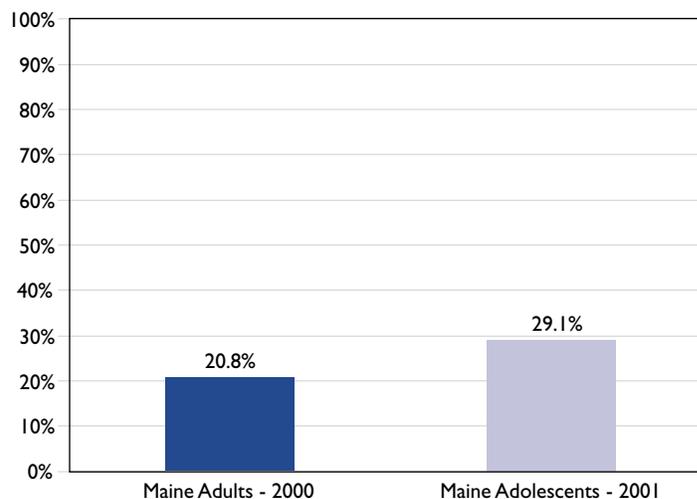
- Maine’s occupational injury and illness rates consistently exceed national rates—each month, more than 1,000 Maine people miss work due to workplace injuries or illnesses (see Figure 15);
- these health issues affect not only the affected worker and co-workers, but the worker’s entire family; and
- most of these illnesses and injuries are preventable.

The majority of workplace injuries—60%—come from routine activities such as sitting, standing, reaching, walking, or lifting. Further, about one-third of workplace injuries happen the first year a worker is on the job.

There is good news. Maine’s work-related illness and injury rates have declined significantly over the past decade. There are many possible reasons for this decline. It may be due, in part, to a dramatic change in Maine’s industry mix over the past 50 years—from largely goods-producing industries (manufacturing and construction) to mostly service-related industries (trade, health, education). The decline also may be due to changes in Maine’s workers’ compensation system, more return-to-work programs, and improved safety programs.

However, there is much that needs to be learned. Reporting requirements and enforcement for occupational injuries and health issues vary from agency to agency, and there are large gaps of data and, therefore, knowledge about some health issues faced by employees.

FIGURE 16: Physical Activity Rates Among Maine Adults and Adolescents



Note: The data in this figure are taken from *Healthy Maine 2010* (see Endnote 1 for further detail).

Repetitive Motion Injuries

Maine has a particularly high rate (83%) of repeated trauma disorders, such as carpal tunnel syndrome, tendonitis, ganglionitis, bursitis, and noise-induced hearing loss. In 2000, approximately 5,900 Maine workers were reported to have injuries due to repetitive motion or overexertion. These statistics can be improved by expanding policies and programs that ensure safe workplaces, especially for those at risk for these injuries, such as workers in jobs that require repetitive motion (e.g., key boarding), young and older workers, and workers new to their jobs.

PHYSICAL ACTIVITY AND NUTRITION

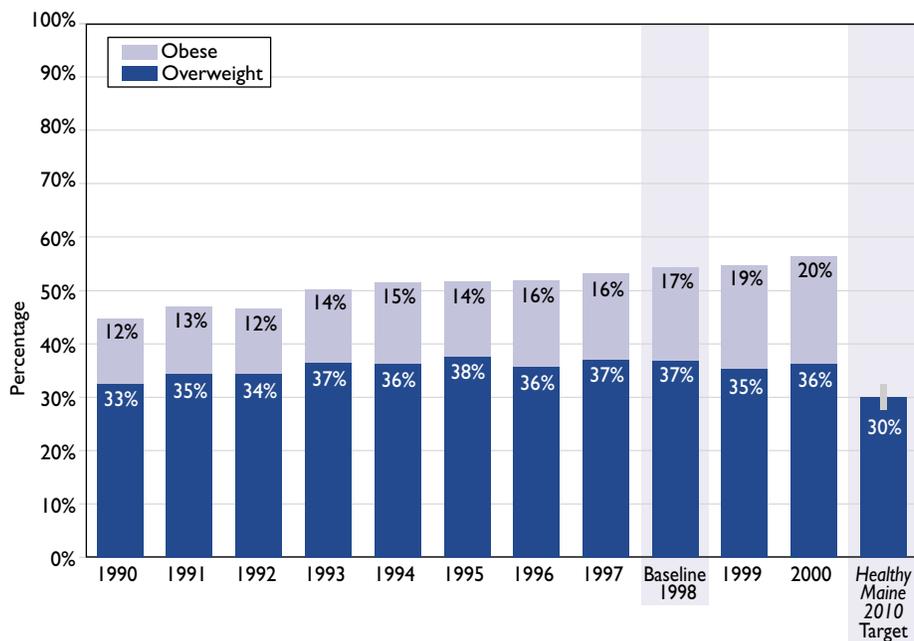
Over the last century, the scales have dramatically tipped in terms of our physical activity and nutrition, and the resulting impact is profound. One hundred years ago, our ancestors faced a life in which their daily work, primarily farming and housework, most often included physical activity and fresh foods. Even maintaining a home—cooking, cleaning, washing laundry—required daylong physical exertion. Food was most likely to be locally produced, and included a fair amount of vegetables. Health concerns pertaining to nutrition at that time were most likely to focus on undernutrition.

By contrast, today, physical activity for most is completely segregated from our work lives and neighborhoods (see Figure 16). Many of us are required to sit the vast majority of our workday, whether in front of a computer screen, at our desk or in meetings. Our neighborhoods are generally built for cars, not for pedestrians. Even safe access to our schools is often limited to car traffic. The focus of home activities is often television, video games, or computers. It is no wonder that about 26% of adults in Maine and across the country report absolutely no leisure-time physical activity (Behavioral Risk Factor Surveillance System 2001).

In terms of nutrition, instead of cooking and eating locally grown food high in fiber, we are consuming too many calories. Our calorie intake is not only increasing, but the types of calories that are increasing are unhealthy sugars and fat.

According to the U.S. Department of Agriculture, over a recent 13-year period, the average daily calorie intake in the United States has increased 15%, which is about 350 calories per day. Almost all of this increase is from refined carbohydrates, such as sugar, and fat (Putnam et al. 2000). The number one source of refined sugar consumed in the United States is soda, which contains mostly empty calories (meaning it is high in calories and low in nutrients) (USDA 2000). Many meals are not even cooked at home anymore—48% of the American family's food budget is now spent at eating establishments (Clayton 2000). Portion sizes have increased both in eating establishments and at home. Indeed, we have built obesity into the fabric of our society.

What are the results of these dramatic changes over the past 100 years? Instead of focusing on issues of undernutrition, we now have an epidemic of obesity that is disabling and killing us. Obesity rates in Maine have risen 64% in only 10 years (from 12% of Mainers to 20% during the last decade) (See Figure 17). Surveys that rely on self-reported height and weight indicate that close to 60% of Maine people are either over-

FIGURE 17: **Overweight and Obesity Rates Among Maine Adults, 1990-2000**

Source: Behavior Risk Factor Surveillance System 1990-2000, Bureau of Health, Maine Department of Human Services

Body Mass Index (BMI):

BMI, which is a measure of the weight to height ratio, is highly correlated with body fat. It is the weight (in pounds) divided by the square of height (in inches) times 704.5. It also may be calculated by weight (in kilograms) divided by the square of height (in meters).

Overweight:
BMI 25-29.9

Obesity:
BMI >29.9

weight or obese. Recent national studies that rely on direct measurements indicate this percentage may be closer to two-thirds.

Even more startling is the 100% increase during the past 20 years in the percentage of American youth who are overweight. In Maine, about 25% of high school and middle school students are either overweight or obese; this is the highest percentage in New England.

National data indicate that people with low income and low education attainment are at higher risk of becoming overweight or obese. However, Maine data do not show much variability across income and education levels.

In terms of gender, Maine men and women are about equally likely to be obese. Maine adults ages 45-64 have the highest percentage of overweight and obesity, but young adults have one of the fastest rising rates of overweight and obesity.

Poor nutrition and physical inactivity leading to obesity results in death and disability from cardiovascular disease (heart disease and stroke), type 2 diabetes, cancer (colon cancer especially), chronic lung disease, gallbladder disease, sleep apnea, arthritis, high blood pressure, high cholesterol, and a myriad of other diseases. In fact, an estimated four people die every day in Maine from an underlying cause of poor nutrition or physical inactivity. Each year, obesity and overweight also are estimated to drain at least one half billion dollars from the Maine health care economy in health care costs.

What is needed to effectively address this obesity epidemic? The same approach that has been successfully used to address tobacco addiction in Maine can be used to address obesity. This approach involves statewide education through the media, policy changes at the state and local levels to reduce barriers to making healthy choices, community and school-based education and interventions, and ensuring access to effective treatment. Some aspects of this approach are being implemented in Maine, thanks to the Fund for a Healthy Maine (Maine's share of the national tobacco settlement) and U.S. Department of Agriculture funds.

Examples of needed policies include those that provide assurance that consumers will have more access to nutrition information and therefore be able to make a more informed choice (much like the Food and Drug Administration food labels instituted in store-bought foods); policies that ensure our schools and public housing places (such as prisons, hospitals, and long-term care facilities) offer healthy choices; policies that ensure

our communities are built and rebuilt with physical activity in mind; and those that ensure our youth are physically active during the hours they attend school.

SUBSTANCE ABUSE (INCLUDING TOBACCO)

Substance abuse and addiction are among society's most pervasive health and social concerns. In Maine, it is estimated that substance abuse costs over \$1 billion in lost wages, medical expenses, social services, and criminal justice expenditures, with tobacco contributing an additional \$500 million in health care costs. However, the social impact on one's family, friends, and community from alcohol, illicit drug and tobacco addiction is immeasurable.

There is good news. Effective prevention and treatment interventions are more delineated and available today for various substances than just a few years ago. Effective prevention interventions are very similar for all substances, including tobacco. Generally, such interventions strive to change cultural beliefs about drugs, to enforce laws (especially those that decrease the supply of drugs and those pertaining to youth access for alcohol and tobacco), to educate about the effects of different substances, to counter the mass marketing by the alcohol and tobacco industries, to provide healthy alternative activities for our youth and to improve their refusal skills, and to reduce the secondhand effects of drugs.

Effective treatment programs vary greatly among individual drug users as well as among different substances. However, recognizing this and developing these tailored treatment programs is something Maine is striving to achieve. Increasingly, the Bureau of Health—where tobacco is primarily addressed at the state level—and the Office of Substance Abuse—where other drugs including alcohol are addressed—are working together to help coordinate comprehensive approaches across the state.

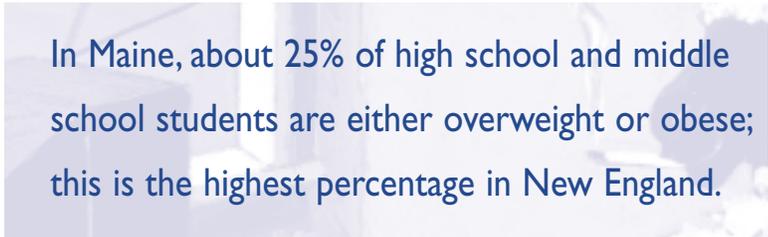
Alcohol

Alcohol-related diseases and injuries claim the lives of an estimated two people per day in Maine. Moreover, alcohol's effects are far-reaching. It not only disables the person who is alcohol dependent or who abuses alcohol, but also affects his/her family,

co-workers, and friends.

Alcohol use and dependence is very common. Nationally, 44% of adults report drinking at least 12 drinks over the past year. Of these current drinkers, 10% meet the criteria for alcohol dependence; an additional 7% meet the criteria for alcohol abuse.

Although light to moderate drinking (generally one to two drinks per day, depending on body mass index) has been shown to have some beneficial effects on the heart, particularly for men and women over age 45, this same amount of drinking at other times can be very harmful. For instance, even light to moderate alcohol use during pregnancy can be harmful to the fetus. Additionally, even small amounts of alcohol can impair one's motor skills, and is associated with a higher risk of injury and death from operating a vehicle.

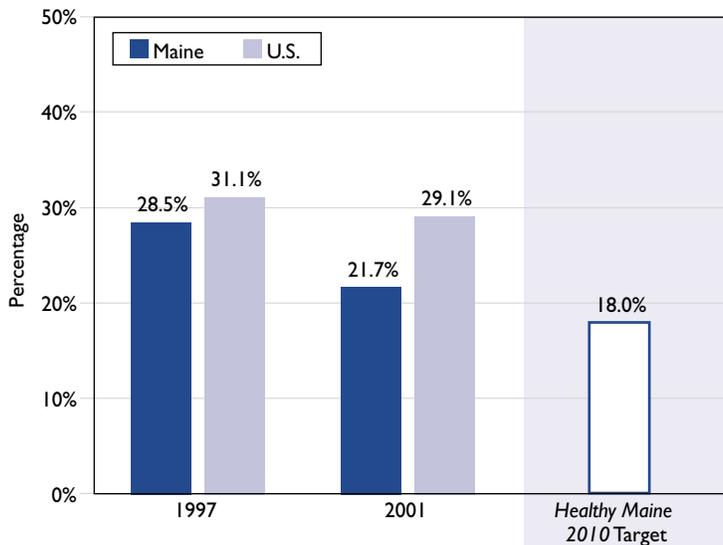


In Maine, about 25% of high school and middle school students are either overweight or obese; this is the highest percentage in New England.

Long-term heavy drinking is associated with high blood pressure; heart disease; stroke; cancers of the mouth, esophagus, throat, and larynx; cirrhosis and other liver disorders; worsening of hepatitis C; and a higher risk for colon and breast cancers. Alcohol use is also linked to a substantial portion of injuries and deaths from motor vehicle crashes, falls, fires, drownings, homicides, suicides, marital violence, child abuse, and high-risk sexual behavior.

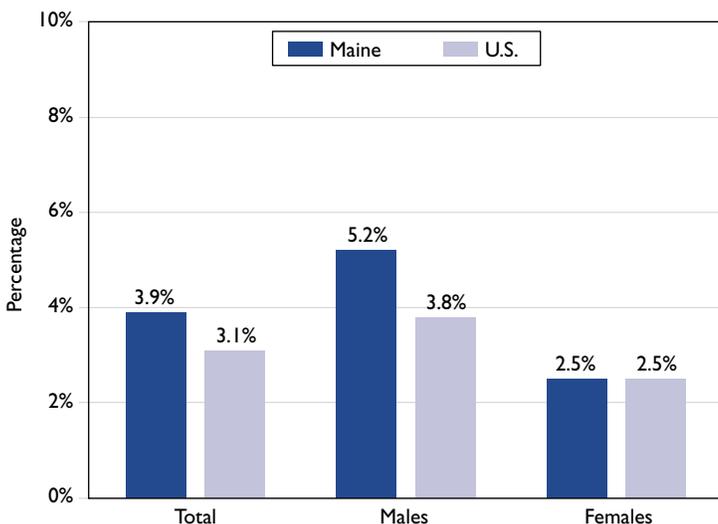
The age of onset of drinking or use of other drugs strongly predicts the development of dependence. Therefore, an important prevention goal is to increase the age and proportion of adolescents who remain alcohol and drug free. Nationally, nearly 40% of those who start drinking at age 14 or younger will develop alcohol dependence sometime in their lives; of those who start drinking at age 21 or older, only 10% will become dependent (see Figure 18).

FIGURE 18: Proportion of Maine and U.S. Adolescents (Grades 9-12) Who First Used Alcohol Before Age 13, 1997 and 2001



Source: Maine Youth Risk Behavior Survey 1997 and 2001, Maine Department of Education. National data: Youth Risk Behavior Survey 1997 and 2001, Centers for Disease Control and Prevention

FIGURE 19: Maine and U.S. Adolescents (Grades 9 - 12) Who Used Heroin One or More Times During Their Life, 2001



Source: Maine Youth Risk Behavior Survey 2001, Maine Department of Education. National data: Youth Risk Behavior Survey 2001, Centers for Disease Control and Prevention

In Maine, alcohol is the drug of choice for youth. Thirty-two percent of Maine students in grades 6-12 have consumed alcohol in the past 30 days, a number that increases to about 50% for 12th graders. Youth are particularly at high risk for the detrimental effects of alcohol, including cloudy judgment, poor academic achievement, early and unprotected sex, assault, car crashes, suicide, and drownings.

Illicit Drugs

Although there has been an overall decline in illicit drug use over the last three decades, one-third of all Americans have used an illicit drug at some time in their lifetime. Of these, 90% used marijuana and 50% cocaine. In Maine, recent illicit drugs that are on the rise include two opiates: heroin and the prescription opiate, Oxycontin. Moreover, in 2001, heroin use among adolescents exceeded the national average (see Figure 19). In fact, there has recently been an alarming 500% increase in Maine deaths due to opiates. [For more on drug use and its consequences, see *Sorg and Greenwald* in this issue.]

Use of illicit drugs is associated with serious consequences, such as injury; crime; domestic violence; lost workplace productivity; sexually-transmitted disorders including HIV, hepatitis B and C; a variety of other illnesses; and death. In addition, a substantial number of illicit drug users have co-occurring chronic mental health disorders.

According to Maine's Office of Substance Abuse, Oxycontin appears to serve as a gateway drug to heroin. Its original attraction is that it is a prescription drug with specific and accurate doses. When Oxycontin users become addicted and tolerant, the negative images of heroin are no longer a barrier to trying it. Heroin is also often more available than Oxycontin.

Tobacco

Many are calling the twentieth century the "Tobacco Century." One hundred years ago, relatively few were addicted to tobacco since cigarettes were hand-rolled, relatively expensive, and not significantly marketed. Because of the mass production and mass marketing of tobacco that began in the 1910s, a tobacco epidemic began, needlessly killing millions,

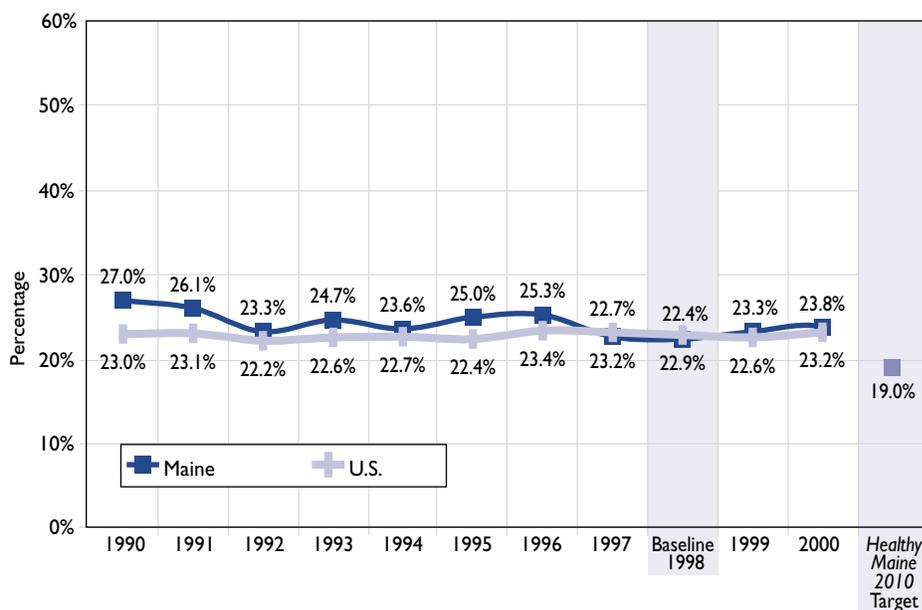
FIGURE 20: **Cigarette Smoking Among Maine and U.S. Adults (Ages 18 and Over), 1990-2000**

and resulting in tobacco becoming our number one underlying killer both here in Maine and across the nation.

Today, about one-quarter of all adults and high school students in Maine are addicted to tobacco (see Figures 20 and 21). One-third of those who experiment with tobacco will become addicted, and 60% of adults who are addicted will die from a tobacco-related death. Nicotine, the active ingredient in tobacco, is as addictive as heroin. Yet it is a legal substance that the tobacco industry spends an estimated \$8 billion per year advertising, with many of those dollars aimed at our youth and young adults. What is the result of this mass production and mass marketing? Each day in Maine, an estimated seven people die from a tobacco-related death. One of these is a non-smoker, dying from secondhand smoke.

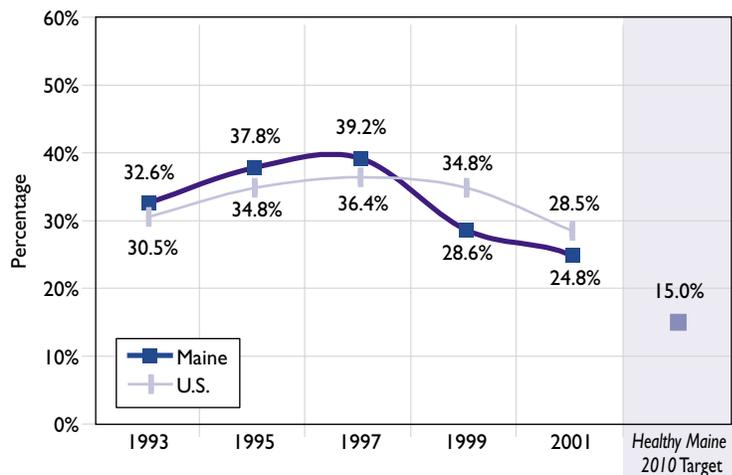
Populations at risk for tobacco addiction include youth and young adults, people with low socio-economic status, Native Americans, and sexual minorities. Fortunately, with Fund for a Healthy Maine and federal funds, Maine has implemented a comprehensive tobacco program that has resulted in one of the biggest declines in youth smoking in the country—from 39% of high school students being current smokers to 25%, as well as large declines in tobacco consumption (see Figure 22). These efforts need to continue in order to fully address this killer epidemic.

Some of the most critical public policies to effectively address tobacco are those that create smoke-free public places. Ridding indoor and outdoor public places of secondhand smoke not only protects all of us from the toxicities of secondhand smoke, which is a class A carcinogen, but also helps to reduce tobacco consumption. Maine still allows smoking in many public places, including class A lounges, hotel lounges, off-track betting lounges, pool halls, bingo/beano halls while the game is being played, school campuses, and fairgrounds.



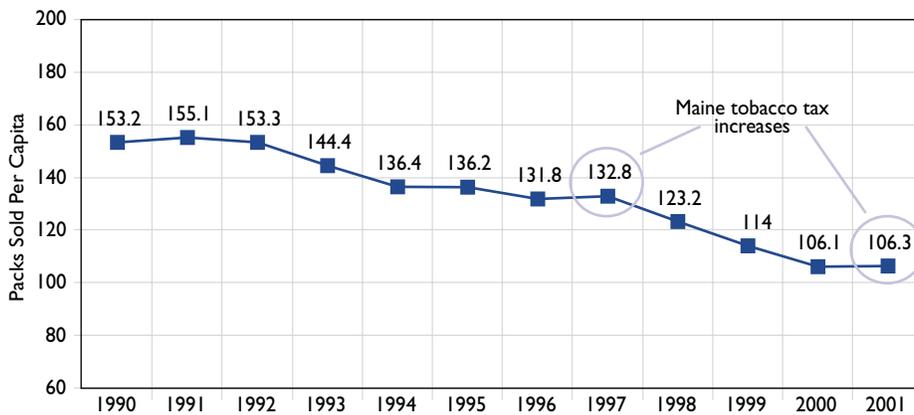
Source: Maine Behavior Risk Factor Surveillance System 1990-2000, Bureau of Health, Maine Department of Human Services. National data: Behavior Risk Factor Surveillance System, 1990-2000, Centers for Disease Control and Prevention

FIGURE 21: **Cigarette Smoking Among Maine and U.S. Adolescents (Grades 9-12), Select Years, 1993-2001**



Source: Maine Youth Risk Behavior Survey 1993, 1995, 1997, 1999 and 2001, Maine Department of Education. National data: Youth Risk Behavior Survey 1993, 1995, 1997, 1999 and 2001, Centers for Disease Control and Prevention

FIGURE 22: **Maine Tobacco Consumption Trends In Packs of Cigarettes Consumed Per Adult, 1990-2000**



Source: State of Maine, Department of Revenue

CONCLUSION

Policymakers at all levels play a critical role in determining the health of the populations they serve. This is counter to a common cultural belief in self-determination—that we are almost entirely responsible for our own health. A health system that is completely left to the individual will be driven by market forces and will result in a demand-driven health system focused on treating illnesses, since that is where the demand is. Often, there is no natural “market” driving demand for prevention initiatives, especially those that are focused on the needs of those facing the greatest health challenges—the poor and minorities.

There are numerous historical examples that provide evidence of the critical role policy plays in determining health. For instance, 100 years ago some of the biggest killers, especially among the very young, were infections contracted as a result of drinking contaminated water. For several sessions, the Maine Legislature debated whether to regulate public drinking water. The debate focused on whether state government should pass such mandates that some felt were imposing. In 1903, the legislature decided that it does play a critical role in ensuring a healthy environment for the people it serves, and passed the first

laws in Maine requiring state testing and regulation of our public drinking water. As a result of this type of regulation, water-borne infections plummeted.

A more recent example is the recognition of drunk driving in the 1970s as a common cause of death. The large decline in these deaths is not due to a sudden epiphany by drunk drivers, but rather from a planned policy approach. Because of pressures from private organizations such as Mothers Against Drunk Driving (MADD), policymakers responded. As a result, taxpayer-funded education through the media helped to change the culture against drunk driving, stronger laws were passed and

enforced, and community-based prevention initiatives were supported.

With the current top 10 health issues faced in Maine, policy also plays a pivotal role if we are to adequately address these issues. In sum:

- More affordable access to health care and access to prevention will be largely determined by state and federal governments, as it is in virtually every other developed country.
- We will not stem the tide against our biggest killers and cost-drivers—chronic diseases—unless we significantly move the primary focus of intervention from treatment to prevention. This can only be done by a planned, comprehensive approach supported by policymakers at all levels.
- Because environmental health issues often silently incur their damage and take years for their impact to be felt, policies are critical to effectively address these issues. For instance, without requirements for testing and coordinated educational efforts, lead paint and drinking-water toxins will continue to exact their toll.

- Successes seen in family planning will not continue or improve unless policymakers at every level continue to support access to preventive reproductive health care as well as a comprehensive approach to family life education in our schools and communities.
- Infectious diseases have the potential to be quickly devastating to our entire population. However, with prevention policies (e.g., immunization requirements for school children) and easy low-cost access to vaccines, with early detection policies (e.g., reporting requirements for certain diseases), and with disease management policies (e.g., policies on isolation), we can minimize the impact of infectious diseases.
- Contrary to common cultural beliefs, most injuries are not “accidents”—most are predictable and preventable. Enforcement of motor vehicle laws, a comprehensive approach to domestic violence issues at the local and state levels, prevention initiatives focusing on elders, and public playground safety standards are all examples of policies that address the common causes of injuries.
- Ensuring a supportive environment for those with mental disorders is an ongoing challenge for policymakers, who clearly play a critical role because of the vulnerabilities of this population.
- A more coordinated approach to the policies that mandate the reporting of occupational health issues would improve assessments of the health status of Maine workers and also help to ensure more effective interventions, particularly among emerging issues such as repeated trauma disorders.
- As the fastest rising health issue, obesity is built into the fabric of our society. We will only successfully reduce this epidemic if we implement policies at all levels that ensure consumers have full information by which to make deci-

sions on food choices, educate the public about nutrition and physical activity issues, ensure we have easier access to healthy choices, and revise the way we build neighborhoods.

- Left to the individual and to market forces, substance abuse unabated can be devastating. However, substance abuse can be effectively addressed with statewide education through media, community and school-based initiatives, enforcement of laws to stem supplies (such as enforcing youth access laws for tobacco and alcohol), and access to treatment. All these require policymaker support at all levels.

Whether a policymaker is a member of a school board, town or city government, the state’s legislature, or Congress, one should always hesitate and debate before passing new policies and spending taxpayer resources to ensure that the initiatives will “do no harm” and be effective. However, in a society that strongly believes in self-determination, there also is a need to recognize the critical role policy plays in determining the health of a society and addressing the health issues faced by its people. The top 10 health issues faced by Maine people give excellent examples. 🐟



Dora Ann Mills was born in Maine and raised in Farmington. She is a graduate of Bowdoin College, the University of Vermont College of Medicine, Children’s Hospital of Los Angeles Pediatric Residency Program and the Harvard School of Public Health. She has practiced medicine in Tanzania, East Africa, Los Angeles, and Farmington, Maine. In 1996, she was appointed as Maine’s chief medical officer and director of the Bureau of Health in the Department of Human Services

Please turn the page for endnote and article references.

ENDNOTE

I. Unless otherwise noted, Maine data are from *Healthy Maine 2010*, and national data are from *Healthy People 2010*. The full 300-page, two-volume *Healthy Maine 2010* was printed in December 2002, and is available through the Maine Department of Human Services' Bureau of Health Web site (www.mainepublichealth.org), or by calling 207-287-8016. For copies of *Healthy People 2010* go to <http://www.health.gov/healthypeople> or call 800-367-4725.

REFERENCES

- Behavioral Risk Factor Surveillance System, Bureau of Health, Maine Department of Human Services and Centers for Disease Control and Prevention. (2001) www.cdc.gov/brfss.
- Bureau of Health, Maine Department of Human Services. *Healthy Maine 2010*. 2 vols. Augusta, ME. December 2002.
- Clauson, A. "Spotlight on National Food Spending." *Food Review*. 23.3 (2000):15-17.
- King, Leslie and Marks, Stephen. "Teenage Births in Maine: Positive Trends But More To Be Done." *Maine Policy Review*. 11.2 (2002): 100-15.

Littell, David. "Why More Is Required To Address Maine's Childhood Lead Poisoning Problem." *Maine Policy Review*. 11.2 (2002): 116-29.

Putnam, J., L.S. Kantor, J. Allshouse. "Per Capita Food Supply Trends: Progress Toward Dietary Guidelines." *Food Review*. 23.3 (2000): 2-14.

U.S. Department of Agriculture and U.S. Department of Health and Human Services. *Nutrition and Your Health: Dietary Guidelines for Americans*. 5th Ed. Washington, D.C.: U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2000. www.health.gov/dietaryguidelines.

U.S. Department of Health and Human Services. "With Understanding and Improving Health and Objectives for Improving Health." *Healthy People 2010*. 2nd ed. 2 vols. Washington, D.C.: U.S. Government Printing Office, November 2000.

University of Southern Maine, Edmund S. Muskie School of Public Service and Maine Department of Human Services. *Health Insurance Among Maine Children*. (2000). (unpublished survey)

World Health Organization. *World Health Report 2000*. Geneva, Switzerland: 2000. (For more information: bookorders@who.int)