Stepping up to the Future

NH CITIZENS HEALTH INITIATIVE

A Pound of Prevention

New Hampshire Citizens Health Initiative
Health Promotion and Disease Prevention Policy Team

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Table of Contents

Executive Summary

The Health Promotion and Disease Prevention Policy Team of the New Hampshire Citizens Health Initiative has released its first report on health care in New Hampshire, "A Pound of Prevention." This report utilizes the most current data available in 2006. The Citizens Health Initiative is a long term, broad-based coalition that brings together private citizens, businesses, medical providers, and community agencies to improve the health of New Hampshire's citizens. The initiative has three major goals, each with a working group assigned to it:

1. Promoting improved health and disease prevention
2. Improving the quality of health care
3. Promoting openness of information

This paper addresses the first goal—promoting improved health and disease prevention.

The State of Our Health

We are a relatively healthy state.

New Hampshire's citizens are fairly healthy, compared to residents of other states and national averages. In 2005, New Hampshire was rated the healthiest state in the nation by the Annie E. Casey foundation. The United Health Foundation ranked New Hampshire the third healthiest state in 2005 and 2006. New Hampshire also fares better than national averages in five areas that influence health status: median household income, percentage of children in poverty, persons living below the poverty line, percentage of adult population with health care coverage, and high school dropout rate.

Our health varies within the state.

Not all New Hampshire citizens are equally healthy. For example, in a comparison of health indicators (such as low-birth weight babies and unintentional injury death rate), the Berlin/Gorham area scored lower than the New Hampshire average in all five categories.

We are living longer.

Generally speaking, life expectancy today is thirty years longer than it was at the start of the twentieth century. Most of this improvement can be linked to advances in population health such as infectious disease control, automobile safety, environmental health, and new screening methods for cancer and cardiovascular disease.

New Hampshire's Health Challenges

Despite our relative good health, New Hampshire does face health challenges. The lessons learned during the previous century can help us improve the health of all our citizens in the twenty-first century. Specifically, to address the goal of health promotion and disease prevention, we must first understand the leading causes of mortality and morbidity in New Hampshire.

We have the same health challenges and leading causes of death as the rest of the United States.

According to state data compiled from vital records, the leading challenges to New Hampshire's health are the same as those faced by the rest of the United States. The six leading causes of death in New Hampshire, as in the U.S. are:

- heart disease
- invasive cancer
- cerebrovascular disease
- chronic lower respiratory disease
- unintentional injuries
- diabetes

Many of these diseases are preventable.
According to a recent paper in the *Journal of the American Medical Association*, the percentages of all deaths in the United States attributed to specific underlying causes are:

- 18.1% by tobacco
- 16.6% by poor diet and physical inactivity
- 3.5% by alcohol consumption
- 3.1% by microbial agents
- 2.3% by toxic agents
- 1.8% by motor vehicle crashes
- 1.2% by firearms
- 0.8% by sexual behaviors
- 0.7% by illicit drug use

We can improve health significantly taking on just a few of these major underlying causes of death.
The figures above suggest that we can improve health and reduce death rates in New Hampshire by addressing only a few underlying causes of death. The Health Promotion and Disease Prevention Policy Team therefore recommend focusing on the following major factors leading to illness and death among New Hampshire citizens.

Tobacco
Tobacco is the leading cause of preventable death in New Hampshire. Every year in New Hampshire, smoking is responsible for an estimated $608 million in healthcare costs and $405 million in lost worker productivity. The state of New Hampshire has not allocated funding to any smoking prevention programs since 2003, while the tobacco industry has spent an estimated $141.7 million on marketing in New Hampshire every year.

Nutrition
Sixty percent of New Hampshire residents were overweight or obese in 2005. Only 29.1% of NH adults consume five or more servings of fruits and vegetables each day. From 1998 to 2000, the direct medical costs related to obesity in New Hampshire were estimated at $302 million.

Physical Activity
In 2005, 44% of New Hampshire adults did not participate in at least thirty minutes of moderate physical activity five or more days per week or vigorous physical activity for at least twenty minutes three or more days a week. Nationwide, physical inactivity was associated with direct medical costs estimated at $77.6 billion dollars in 2000.

Alcohol
In 2005, New Hampshire ranked higher than the national average regarding adults who reported having five or more drinks on one occasion. New Hampshire was among the top ten states for teens abusing alcohol or drugs in 2004. Nationally, the cost of alcohol-related motor vehicle accidents, health expenditures, crime, lost productivity, and other conditions is estimated at $276 billion annually.

Environmental Influences
Climate change, exposure to ultraviolet radiation (sunlight), airborne ozone and particular matter, lead paint, radon in indoor air, and environmental tobacco smoke ranked among the highest environmental health risks in New Hampshire. 10.3% of adults in New Hampshire have been told they currently have asthma, compared to 8% nationally. The direct and indirect costs related to asthma in New Hampshire are estimated to be $46 million.

Injury Prevention

In 2003, unintentional injuries—led by motor vehicle crashes, poisoning, and falls—were the leading cause of death for U.S. residents between 1- and 44-years-old. In New Hampshire, someone dies from an injury every fourteen hours. In 2002, non-fatal injuries in New Hampshire cost over $74 million in acute medical care alone.

Mental Health

In recent years, the score given to New Hampshire's mental health system by the National Alliance of Mental Health has fallen. In 2001, attempted suicides and suicides treated in an acute care setting were responsible for an estimated $6.2 million of New Hampshire's health care costs.

The Future and Our Health Challenges

The Citizens Health Initiative has four important messages regarding our healthcare system:

1. Any measures we undertake must be based on an understanding of the leading factors that affect population health, rather than the more "headline issues" that grab the public's attention, but have less impact on our overall health.
2. Although these leading factors that affect health are associated with personal behaviors, it's critical to recognize that many elements in our society and our health care system either discourage—or do not encourage—healthier behaviors. Therefore, improving New Hampshire's health will require an array of initiatives that address not only personal behaviors, but the social, economic and health care environments that promote or tolerate these behaviors. This will require the participation of citizens, health care providers, policy makers and employers.
3. Our current spending priorities are not consistent with the real needs of our health care system.
4. We have identified the challenges before us. Now is the time to act.

I. Citizens Health Initiative

The NH Citizen's Health Initiative is a ten-year, collaborative effort to improve the health of New Hampshire's citizens. The Initiative consists of three policy teams, each working to define, implement, and evaluate a specific area of focus. These are:

Promoting improved health and disease prevention

We will create initiatives to help individuals sustain and improve health, focusing on the leading causes of illness and death in our state. (Health Promotion and Disease Prevention Policy Team)

Improving the quality of health care

We will ensure that diagnosis and treatment reflect the best approaches medicine has to offer, as defined by scientific and professional standards. (Quality of Care Policy Team)

Promoting openness of information

We will implement open, practical, and effective systems for financing and delivering health care and ensure that information on these systems is available to all involved parties in a format they can use. (Health Information and Finance Policy Team)

To reach these goals, the New Hampshire Citizens Health Initiative brings together a broad cross section of citizen representatives, joined by businesses, medical providers, and community agencies in an ongoing, goal-oriented effort to achieve a plan for our state. Our work during this ten-year initiative will be driven by information and experience, not by ideology or untested preconceptions. Actions and solutions are vetted by the larger community and undertaken in a way that is open to comment and input from the community, from the initial discussions to implementation and evaluation. Visit the Initiative website www.steppingupnh.org for more details.

Health Promotion and Disease Prevention Policy Team Challenge Statement

In 2006, New Hampshire was ranked the third healthiest state by the United Health Foundation, a decline from number one in 2003. A third place ranking is still very good but the declining rank underscores health challenges in New Hampshire. Over the decade long initiative, the work of the Health Promotion and Disease Prevention Policy Team will focus on decreasing the leading causes of illness and death among New Hampshire citizens through collaboration, evidence-based information, and sound policy recommendations to strengthen the public health system and work towards increased health and well-being of all New Hampshire citizens.

II. The State of New Hampshire's Health

The health status of New Hampshire citizens compares positively to national data. Our state ranks very high compared to other states and overall national averages on leading health indicators. For example, the *Kids Count* report by the Annie E. Casey foundation ranked New Hampshire number one in 2005 and United Health Foundation ranked New Hampshire number three in 2006. Table 1 contains a summary of selected health indicators comparing New Hampshire with the national average.

Table 1: New Hampshire Health Indicators

Health Indicator	New Hampshire	United States
Percent of babies with low birth weight (2003)	6.3%[A]	7.9%
Percent of pregnant women with adequacy of prenatal care (2004)	86.7%	75.4%
Teen birth rate, per 1,000 females, age 15 to 19 (2003)	18.9[B]	41.9
Percent of children who live in household where someone smokes (2003)	32.5%	29.5%
Percent of high school students reporting at least one drink of alcohol on one or more of the past 30 days (2005)	44.0%	43.4%
Percent of persons 12 and older reporting any illicit drug use in past month (2002–2003)	11.15%	8.25%
Percent of adults who are current smokers (2005)	20.4%	20.6%
Premature death rate (years lost per 100,000) (2003)	5,578	7,562
Unintentional injury death rate, age-adjusted (2000–2001)	28.9	35.25
Invasive cancer death rates, age-adjusted (2004)	200.9[C]	199.8
Percent adults classified obese (2005)	23.1%	24.4%

Table 1 notes:
Citations for all data included in table 1 are located in the reference section.
A: NH data is aggregated to include 2002–2003 for comparison in table 3.
B: NH data is aggregated to 2002–2003 for comparison in table 3.
C: NH data is aggregated to 2002–2003 for comparison in table 3.

Table 1 provides a sample of the medical indicators. However, research has demonstrated that an individual's socio-economic status contributes to health status. For instance, as wealth and education levels increase, health outcomes improve.[1,2,3]

Table 2 below is a summary of non-medical or social determinants of health.

Table 2: New Hampshire Social-Health Indicators

Health Determinant	New Hampshire	United States
Median household income (2000)	$49,467	$41,994
Percent of children in poverty (2005)	9%	19%
Percent of persons below poverty (2003)	6.4%	12.5%
Percent of adult population with health care coverage (2004)	87.9%	84.3%
Percent of teens who are high school dropouts (2004)	7%	8%

Table 2 notes: Citations for all data included in table 2 are located in the reference section.

Table 3 below compares medical indicators and health determinants for several regions of the state. The variations between regions are not visible when the health of New Hampshire is analyzed only at a state level.

Table 3: Snapshot of Regional Variation Using Public Health Networks

	New Hampshire	Berlin/Gorham Community Health and Safety Partnership	Cheshire Public Health Network	Manchester Health Department	Greater Portsmouth Public Health Network
Low birth weight babies (<2500 grams) (2002–2003)	6.3%	7.7%	4.5%	6.9%	5.3%
Teen Birth rate per 1,000 females, age 15–19 (2002–2003)	18.9	28.7	16.6	24.8	16.5
Unintentional injury death rate per 100,000, age-adjusted (2000–2001)	28.9	50.6	21.8	21.4	20.8
Invasive cancer death rates per 100,000, age-adjusted (2002–2003)	200.9	209.9	216.1	194.9	201.0
Median household income (2000)	$49,467	$37,965	$45,817	$62,755	$62,738

Table 3 notes: List of town included in each network and citations for all data included in Table 3 are located in the reference section.

III. Why We are Healthier These Days

During the twentieth century, life expectancy increased 30 years and many believe that this was due to advances in medical care. In 1994, John Bunker and Howard Frazier published work (supported by others) demonstrating that approximately five of those years can be attributed to advances in medical care; the remaining 25 years are attributed to advances in population health care.[4]

Population health care is a combination of local and state policy, education, surveillance, scientific development, citizen advocacy, disease screening and access to medical care which affect the health on the population level versus the individual level (which is often the case with medical care). Population health interventions usually work behind the scenes and their effect on statistics occurs over time, which is important to understand.

The graph below charts U.S. life expectancy during the twentieth century, followed by a table summarizing population health interventions during the same time frame. This summary is based on a list developed by the Centers for Disease Control and Prevention (CDC) of ten milestones in population health which have greatly contributed to the increase in life expectancy: automobile safety, environmental health, fewer deaths from cancer and cardiovascular disease, safer and healthier foods, advances in maternal and child health, oral health, and addiction.

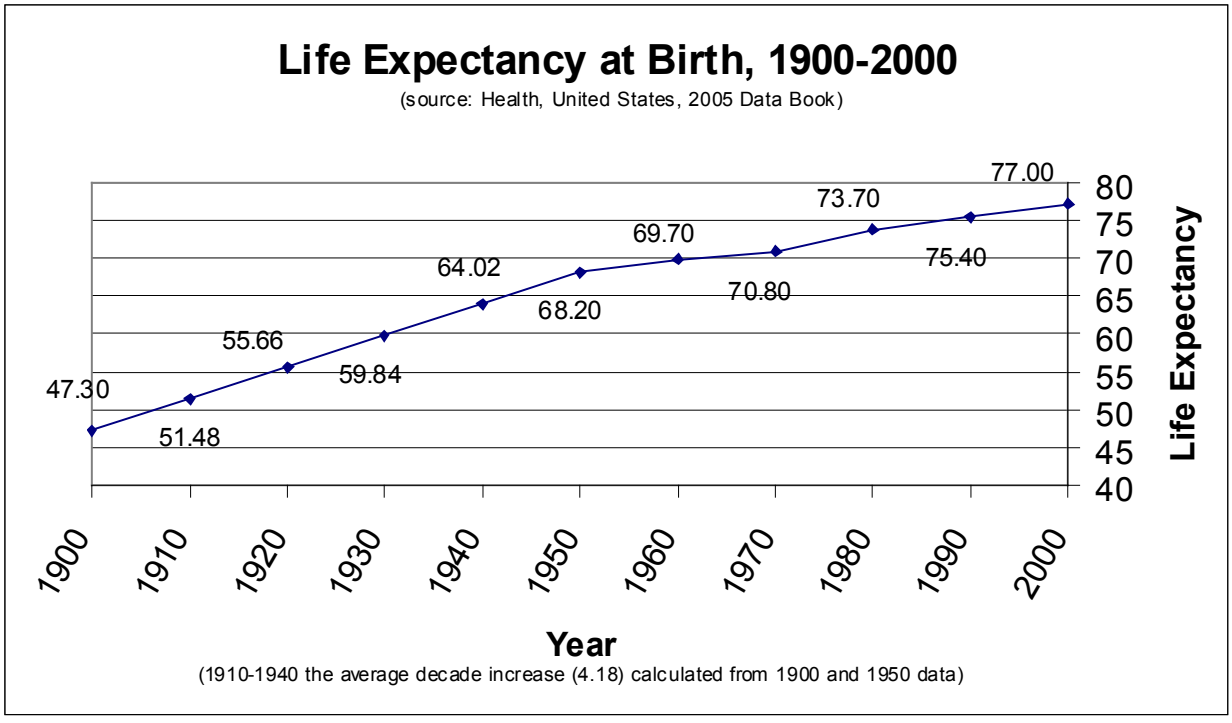


Table 4: Population Health Interventions (1850–2000)

Population Health Interventions	
1850–1899	• Improved standard of living (sanitation services, wealth) • Discovery of the germ theory • Development of vaccinations
1900	• Pure Food and Drug Act marked the beginning of regulatory action prohibiting additives in foods
1910	• 1913 America Society of the Control of Cancer established to educate public
1920	• Food fortification—addition of iodine, reducing incidence of goiter • First proving ground facility for automobile safety created
1930	• National Cancer Institute established • Modern toothbrush invented • Food fortification—addition of niacin to bread and cereals, reducing incidence of pellagra
1940	• Discovery of antimicrobial agents (penicillin) • Communicable Disease Center was created, now know as the Centers for Disease Control and Prevention (CDC)
1950	• Advances in prenatal care (science/technology) • Fluoride added to toothpaste • U.S. Public Health Service recommended community water fluoridation • Mandated childhood vaccinations • Advances in cancer screening methods • Development of the seatbelt and airbag
1960	• National Highway Safety Act and Motor Vehicle Safety Act led to changes in vehicle and highway design • Medicare/Medicaid Act provided eligible members of society with access to care • Federal Clean Air Act forced states to comply with regulations • First Surgeon General's Report on Smoking • Birth-defects surveillance system (Atlanta, GA)
1970	• Worldwide eradication of smallpox • Risk factor screening for cardiovascular disease and inventions of high blood pressure medications contributed to declining death cardiovascular death rates over the next two decades. • Environmental Protection Agency established, providing structure to a fragmented system • Tetraethyl lead was phased out as a gasoline additive and addition of lead to interior paints was banned. This dropped blood lead levels by 78% from 1978–1991,
1980	• Education and surveillance of HIV/AIDS were implemented early on to combat the epidemic. • Mothers Against Drunk Driving was created and led the way for tougher drunk driving laws. • New York is the first state to enact seatbelt laws (1984).
1990	• Nutrition Labeling and Education Act, improving dietary information for consumers

*Table 4 notes: Table 4 was created from the publication *Milestones in Public Health: Accomplishments in Public Health over the Last 100 Years.*

Population health advances in the twentieth century bring us into the twenty-first century living longer and healthier than at any other time in history. The New York Times underscored this transformation in a recent article in which they noted, since the civil war, "a change from small, relatively weak and sickly people to humans who are so big and robust that their ancestors seem almost unrecognizable". While we are living longer due to advances in population health, we are also facing new health challenges.

IV. New Hampshire's Health Challenges

To meet the goal of creating and sustaining a healthy population, focusing on health promotion and disease prevention, we need to understand the leading causes of mortality and morbidity in the state.

A review of state data compiled from vital records reveals that the leading causes of death in New Hampshire are: heart disease, invasive cancer, cerebrovascular disease, chronic lower respiratory disease, unintentional injuries, and diabetes.

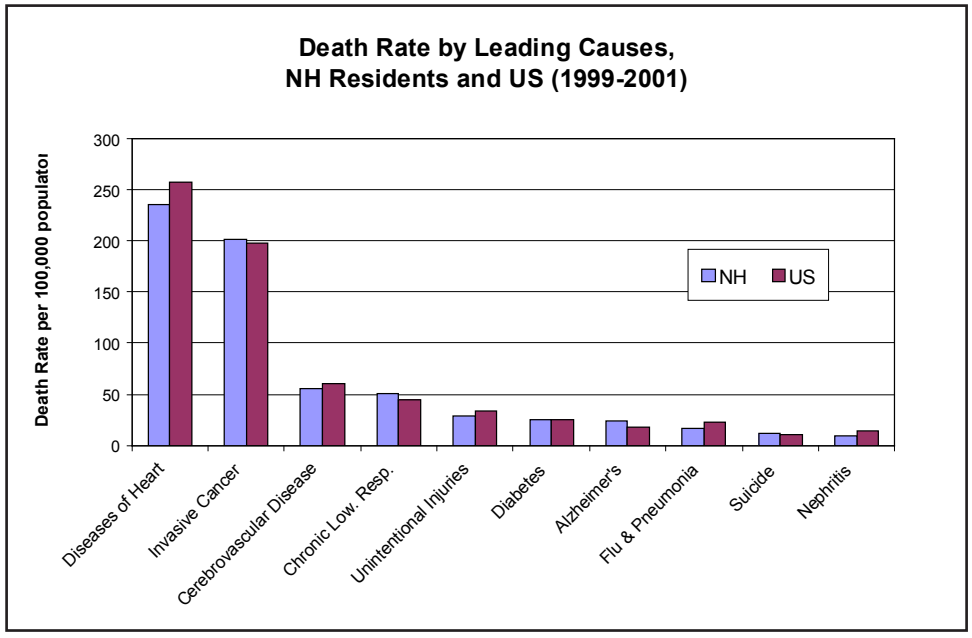
Heart Disease is the leading cause of death in New Hampshire and in the United States. Someone dies from heart disease every 34 seconds in the United States.[5]

Invasive Cancer remains the second leading cause of death for all age groups both nationally and in New Hampshire. It is the leading cause of death in New Hampshire for all age groups between 35 and 75. For 2005, it is estimated that there were 2,620 deaths due to cancer in New Hampshire, and 6,310 new cancer cases were registered in New Hampshire.[6]

Cerebrovascular disease (or "stroke") is the third leading cause of morbidity and mortality in New Hampshire and in the nation.

Unintentional Injuries claim the lives of someone every 20 hours in New Hampshire.[7] Unintentional Injuries are the leading cause of death for people ages 1–44 in the United States.[8]

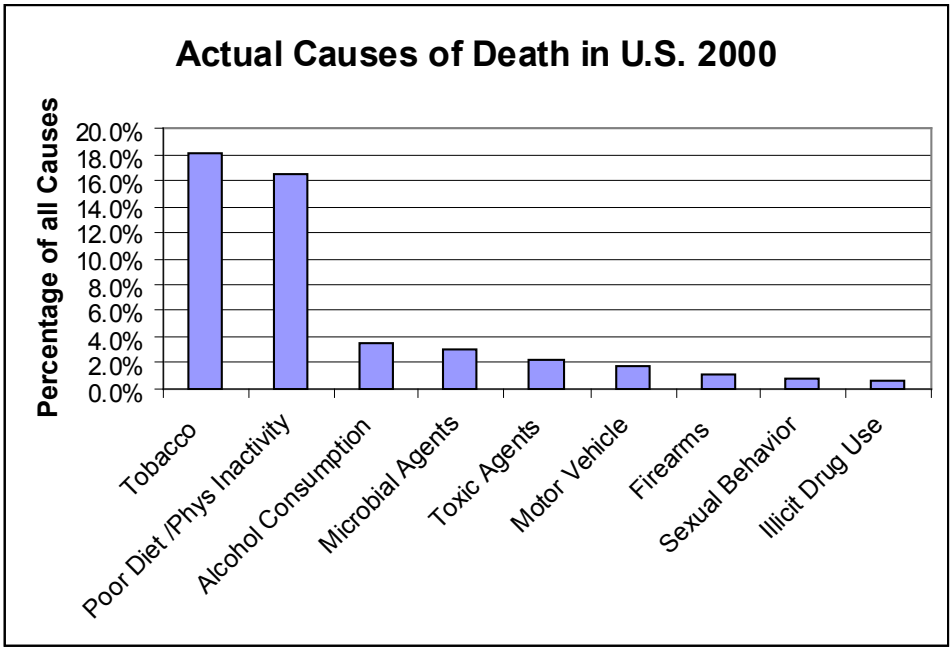
Diabetes is the sixth leading cause of death in New Hampshire. Between 1999 and 2001, 2,931 New Hampshire residents died with diabetes listed as an underlying or contributing cause of death.[9] 6.2% of the population reported a diagnosis of diabetes in 2002.[10]



*chronic lower respiratory disease included most of the same causes of death as the group chronic obstructive pulmonary disease, used as leading cause of death group prior to 1999.

Source: Chalsma, A., Reichel, D., Taylor, C., Leading Causes of Death of New Hampshire Residents, 1999–2001; Concord NH; NH DHHS, Division of Public Health Services, Health Statistics and Data Management Section, 2005

A recent paper from the Journal of the American Medical Association entitled "Actual Causes of Death in the United States" presented findings concerning the impact of modifiable behavioral risk factors as actual causes of death. The paper was based on a study of relevant articles published between 1980 and 2002, in hopes that quantifying the causes of death will provide insight into the effects of recent trends and the implications of missed prevention opportunities. The study reported that in 2000, 18.1% of United States deaths were caused by tobacco, 16.6% by poor diet and physical inactivity, 3.5% by alcohol consumption, 3.1% by microbial agents, 2.3% by toxic agents, 1.8% by motor vehicle crashes, 1.2% by firearms, 0.8% by sexual behaviors, and 0.7% by illicit drug use. These findings suggest the potential value of focusing on modifiable behavioral risk factors to help reduce death rates.



Source: Mokdad, A., et all; Actual Causes of Death in the United States, 2000; JAMA, March 2004-Vol 291, No. 10

The research on actual causes of death is currently available only at the national level. However, because the national and state experience are similar in terms of leading causes of death, it is appropriate to expect that the actual causes of death at the national level are similar to those in New Hampshire.

The Health Promotion and Disease Prevention Policy team recommends focusing on the major risk factors or actual causes of death leading to the illness and death of New Hampshire citizens: tobacco, diet, physical activity, alcohol, and environmental influences. In addition, injury prevention and mental health should also be examined. Focusing on these areas will provide the best cost-benefit approach to improving health in New Hampshire.

Tobacco

Defining the Tobacco Use Problem

Though the health effects of tobacco use occur on two fronts—primary use (of either inhaled or smokeless tobacco products) and secondary exposure. The health consequences are similar. Smoking is a core risk factor for many chronic diseases (including heart disease and cancer) and a trigger for others such as asthma.[11] The use of smokeless tobacco products has been linked to oral cancer and gum disease.[12] Overall, tobacco use is the leading cause of preventable death in the United States.[11] Smoking also increases the risk for pregnancy complications, premature delivery, low-birth-weight infants, still birth, and sudden infant death syndrome.[13]

Secondary exposure to smoke is linked to acute respiratory infections, ear problems, and more severe asthma in children.[14] For adults, secondary exposure affects the cardiovascular system and causes coronary heart disease and lung cancer.[11] Nationally, second-hand exposure to smoke is estimated to lead to approximately 35,000 heart disease deaths a year.[15]

The New Hampshire Numbers

- 20% of NH adults reported being current smokers(2005).[16]
- 20% of NH high school students reported using cigarettes one or more days in the last thirty days (2005).[17]
- 1.4% of NH adults indicated they currently used smokeless tobacco products (2002).[18]
- 6.5% of NH high school students reported using chew, snuff, or dip one or more days in the past thirty days (2005).[17]
- Approximately 14% of NH mothers reported tobacco use during pregnancy in 2003. Broken down by delivery payment source, almost 40% of Medicaid mothers smoked versus just under 10% of non-Medicaid mothers.[19]
- Tobacco is the leading cause of preventable death in New Hampshire.[18]
- 1,688 NH residents died from a smoking-related illness, representing 18% of all deaths statewide (1999).[18]
- Estimates project that 31,000 youth under 18 currently living in NH will die prematurely from smoking.[20]
- An estimated one-third of NH children live in a household where someone smokes (2004).[21]

Cost of Tobacco Use

- It is estimated that $608 million per year of NH's health care costs are due to smoking. [22]
- $115 million of NH health care costs associated with smoking are shouldered by NH Medicaid.[20]
- Smoking is estimated to lead to $405 million dollars annually in lost worker productivity in NH.[20]

Prevention Spending

- Though NH generates $177.5 million in tobacco tax revenues and receives $43 million in tobacco settlement dollars annually, no state budget dollars have been allocated to prevention programs since 2003.[23]
- The Centers for Disease Control recommends the state spend a minimum of $10.9 million on comprehensive prevention programming[23] in an effort to counter the estimated $141.7 million the tobacco industry spends on marketing in NH.[20]

Some of the organizations at work in New Hampshire:

- NH Tobacco Prevention and Control Program: http://www.dhhs.state.nh.us/DHHS/ATOD/TPCP.htm
- NH Smokers' Helpline and Tobacco Resource Center: 1-800-Try-to-Stop
- NH Tobacco Prevention and Control Community Coalitions http://www.dhhs.state.nh.us/DHHS/ATOD/LIBRARY/Fact+Sheet/coalitions.htm
- American Lung Association of New Hampshire: http://www.nhlung.org/index.cfm

Nutrition

Defining the Nutrition Challenge

Americans are increasingly aware of the effects overweight and obesity have on our health. A 2001 Surgeon Generals Call to Action on the topic of over weight and obesity stated that individuals who are obese (defined as a Body Mass Index, or "BMI," of 30 or higher) have a greater than 50% increased risk of premature death from all causes.[24] Each year, from 110,000 to 300,000 deaths in the United States are attributed to obesity[25,26] and the American Cancer Society attributes one-third of all cancer deaths in the United States to nutrition and physical activity risk factors.[27]

Diet contributes to coronary heart disease, high blood pressure, some cancers, and diabetes which are leading causes of death in the United States.[28] Only 3 to 4% of Americans meet four of the five recommendations of the Food Guide Pyramid for daily nutrition.[29]

The New Hampshire Numbers

- 59.9% of NH residents are overweight or obese according to BRFSS data. This is a combination of 36.8% overweight (BMI 25.0 to 29.9) and 23.1% obese (BMI 30.0 to 99.8) (2005).[30]
- The CDC reports that 11.4% of children in NH were overweight in 2005, defined as at or above the 95th percentile for BMI, by age and sex.[31]
- Only 29.1% of NH adults consume five or more servings of fruits and vegetables each day (2005).[32]
- The lowest rates of fruit and vegetable consumption are among NH adults without a high school diploma (83.8%), followed by those with a high school diploma (80.5%) (2000).[33]
- 74% of African descendants and 63% of Latinos reported consuming less than two fruits and vegetables a day on average, according to NH Reach survey of Hillsborough County (2004).[34]

Costs of Poor Nutrition

- The CDC reports direct medical costs related to obesity were estimated at $302 million from 1998 to 2000 in NH.[35]
- In 2003, $235 per person was spent on medical-costs related to obesity in NH.[36]
- Nationally, the rate of obesity among Medicare beneficiaries more than doubled from 1987 to 2002, as did spending on health care for those beneficiaries.[37]
- In 1996, $31 billion of treatment costs for cardiovascular disease among adults was related to overweight and obesity. [38]

Prevention Spending

- Nationwide, the CDC Division of Nutrition and Physical Activity provided $37.5 million during fiscal year 2006.[39]
- The NH Bureau of Prevention Services allocates approximately $92,000 in general and federal funds to support the 5 A Day for Better Health program (2007).[40]

Some of the organizations at work in New Hampshire:

- Healthy New Hampshire Foundation (http://www.hnhfoundation.org/)
- School Wellness Policy (www.teamnutrition.usda.gov/healthy/wellness_policyrequirements.html)
- 5 A Day for Better Health Program (www.dhhs.nh.gov/dhhs/nhp/5aday)
- Diabetes Education Program (www.dhhs.state.nh.us/dhhs/cdpc/dep.htm)
- Women Infants and Children Nutrition Services (www.dhhs.state.nh.us/dhhs/wic/default.html)

Physical Activity

Defining the Physical Activity Challenge

Evidence is mounting on the importance of physical activity for our health, at the same time that our lifestyles and "built environments" (the man-made surroundings we live, work, and play in) have changed in ways that limit our activity. The risk of developing cardiovascular disease, stroke, type 2 diabetes, colon cancer, osteoporosis, and depression is less in physically active people.[41] Engaging in moderate physical activity on a regular basis reduces the risk of premature death, prevents chronic disease, and improves quality of life.[42] Nationwide, physical inactivity and unhealthy eating are responsible for an estimated 400,000 deaths annually.[43]

The New Hampshire numbers

- 44% of NH adults did not participate in at least 30 minutes of moderate physical activity five or more days per week or vigorous physical activity for at least 20 minutes three or more days a week (2005).[44]
- 28% of African descendants and 31% of Latinos reported no leisure time activity in Hillsborough County, NH (2004).[45]
- NH high school students (grades 9 to 12) enrolled in physical activity classes dropped from about 50% in 1991 to 40% in 1999.[46]

Costs of Physical Inactivity

- Nationwide, physical inactivity was associated with direct medical costs estimated at $76 billion dollars in 2000.[38]
- The CDC reports a striking savings ($5.6 billion dollars nationwide) that would result if 10% more adults walked on a regular basis.[38]

Prevention Spending

- Nationwide, the CDC Division of Nutrition and Physical Activity provided $37.5 million during fiscal year 2006.[47]
- The NH Bureau of Prevention Services allocates approximately $156,000 federal and general funds to support programs promoting physical activity in adults and children (2007).[48]

Some of the organizations at work in New Hampshire:

- Healthy New Hampshire Foundation (http://www.hnhfoundation.org/)
- Governor's Council on Physical Activity and Health (contact louisem@mail.plymouth.edu)
- Action for Healthy Kids (www.actionforhealthykids.org/state_profile.php?state=NH)
- KidPower (www.dhhs.state.nh.us/dhhs/nhp/childern.htm)
- Safe Routes to School (www.saferoutesinfo.org)

Alcohol

Defining the Alcohol Challenge

Alcohol is the third leading cause of preventable death in the United States.[49] Heavy drinking and binge drinking are associated with many adverse health effects: liver disease, high blood pressure, heart disease, stroke, and cancer.[50] Alcohol use is also associated with health risk from sexual behaviors that may result in sexually transmitted diseases and an increased risk of exposure to HIV/AIDS.[51] Use of alcohol during pregnancy can result in Fetal Alcohol Syndrome, which is the leading known cause of mental retardation.[52] As with tobacco use, early alcohol use increases the likelihood of dependency later in life; drinking before age 14 results in alcohol dependency at a rate four times that of those who start after the age of 21.[53]

The New Hampshire Numbers

- 14.7% of NH adults reported having five or more drinks on one occasion compared to 14.4% nationally (2005).[54]
- 44.0% of high school students reported current alcohol use (2005).[55]
- NH is among the top ten states for teens abusing alcohol or drugs (2004).[56]
- At least 85% of inmates in NH have a history of alcohol or drug use (2002).[57]
- The percentage of NH fatalities in alcohol-related crashes was 36% (2005).[58]
- Of the 1.3% of NH pregnant women reporting drinking during pregnancy, the highest percentages were on Medicaid and had less than a high school education (2001).[59]
- Uninsured adults from age 21 to 24 were more likely to report heavy drinking (2001).[60]

The Cost

- Nationally, the cost of alcohol-related motor vehicle accidents, health expenditures, crime, lost productivity, and other conditions is estimated at $276 billion annually (2005).[61]
- The cost of underage drinking in NH, including medical, work lost and pain & suffering is $180 million, or $1,397 per year for each youth in the state (2005).[62]

Prevention Funding

- NH spent $1 million on primary prevention of substance abuse and $4 million on substance abuse treatment and rehabilitation (2004).[63]
- The total of funds allocated to substance abuse in NH (federal grants and discretionary state funding) is just under $10 million (FY2005–2006).[64]

Some of the organizations at work in New Hampshire:

- New Futures (www.new-futures.org)
- Alcohol and Other Drug Prevention Program (www.dhhs.state.nh.us/dhhs/atod/default.htm)
- Resource Guide for Alcohol and Drug Prevention and Treatment Services (www.dhhs.state.nh.us)

Environmental Influences

Defining the Environmental Challenge

Exposure to chemical, physical, and biological contaminants in our environment can influence our health in many ways, ranging from asthma attacks to developmental disorders. Based on scientific evidence, the New Hampshire Comparative Risk Project identified[55] environmental risks and ranked them according to their impact on human health. The results showed that climate change, exposure to ultraviolet radiation (sunlight), airborne ozone and particulate matter, lead paint, radon in indoor air, and environmental tobacco smoke ranked among the highest environmental health risks in New Hampshire.[65]

Asthma, which has been called a disease of industrialization, is one adverse outcome linked with several environmental hazards. Research continues to identify triggers for asthma, which include outside and inside air pollution, dust mites, exposure to volatile organic compounds (VOCs), and cockroach and mouse droppings. Asthma rates in the United States have increased more than threefold since 1980. The number of deaths caused by asthma was not reported in the 1970s because of the low rate; today, the disease results in 5,000 deaths in the U.S. each year.[66]

Lung cancer is another adverse health outcome that can be attributed to environmental hazards. Radon, the second leading cause of lung cancer,[67] is an odorless, tasteless, invisible gas produced by the decay of naturally-occurring uranium in soil and water. Radon is found in outdoor air and in the indoor air of buildings of all kinds. The American Cancer Society and Environmental Protection Agency estimate that 20,000 lung cancer deaths are caused by radon each year.

A growing area of research in environmental challenges to our health addresses the effects of our built environment. Solutions to these challenges could involve, for example: addressing land use patterns to protect groundwater supplies, agricultural lands, and forest lands; and promoting residential development patterns that minimize motorized transportation and encourage livable, walkable communities. By building more compact developments and focusing on reducing energy, the built environment can have a positive impact on greenhouse gas emissions, air pollution, and the use of finite natural resources.

The New Hampshire Numbers

- 10.3% of adults in NH have been told they currently have asthma, compared to 8% nationally (2005).[68]
- NH has 752 asthma-related hospitalizations, with 2,412 days spent in the hospital (2001).[69]
- 51% of NH residents claim they have heard of radon, know how to have their homes tested, and have had tests performed (2000).[70]
- From 1995 to 1999, there were 3,926 new cases and 3,291 deaths from lung/bronchial cancer in NH.[71]
- Ozone, primarily from the burning of fossil fuels by vehicles, is a major air pollution problem in NH. Hillsborough and Rockingham counties received an 'F' for having the most days with unhealthy ozone levels (2002–2004).[72]
- 41,000 people or 20% of homes in Hillsborough, Rockingham, and Strafford counties were using private wells that contain arsenic in concentrations that exceed federal safety standards of 10 micrograms per liter (2003).[73]

Environmental Influences continued

The Cost

- The direct and indirect costs related to asthma in NH are estimated to be $46 million (1998).[74]
- Among NH residents, emergency room charges related to asthma are $2.9 million (2001).[75]

Prevention Funding[76]

- The NH Department of Environmental Services (NHDES) expends approximately $200,000 annually in radon prevention activities.
- NHDES Pollution Prevention Program is about $250,000 annually with target of preventing exposure to toxic chemicals and other environmental contaminants.
- NHDHHS Childhood Lead Poisoning Prevention Program spends about $600,000 per year on primary and secondary lead poisoning prevention for NH children.
- $1 million dollars per year is spent on air pollution activities (aside from regulatory anti-pollution requirements) including indoor air quality, mercury and dioxin reduction, clean public transportation, anti-idling, air pollution forecasting, energy efficiency and emissions reductions from consumer products.

Some of the organizations at work in New Hampshire:

- Asthma Control Program (www.dhhs.state.nh.us)
- Manchester Health Department (www.manchesternh.gov/citygov/hlt)
- NH Department of Environmental Services (www.des.state.us)
- The Jordan Institute (www.thejordaninstitute.org)
- The NH Partnership for High Performance Schools (www.nhphps.org)

Injury Prevention

Defining the Injury Prevention Challenge

Injuries are classified as either unintentional or intentional. Unintentional injuries were the leading cause of death for U.S. residents between 1 and 44 years of age in 2003.[77] The most common causes of death from unintentional injuries are motor vehicle crashes, poisoning and falls.[78] Motor vehicle injuries are the leading cause of death among children after their first birthday.[79] Nationwide in 2001, two thirds of the 5,341 teens killed in passenger vehicles involved in motor vehicle crashes were not wearing a seatbelt.[80] For those over 65 years of age, falls are the leading cause of injury death.[81] Suicide is the leading cause of intentional deaths in both New Hampshire and the United States. In New Hampshire, there are more than seven suicides for each homicide compared to 1.7 for the United States overall.[82]

The New Hampshire Numbers

- The unintentional injury death rate for NH children was 9.0 in 2003, down from 27.6 in 1983.[83]
- The NH crude injury rate is 46.8 per 100,000 versus a U.S. rate of 56.4 (2003).[84]
- Suicide is the second leading cause of death for young people between 15 and 24 years of age in NH.[85]
- 80% of all suicide deaths are among males, while 65% of attempts are made by females. This is largely related to the methods used. Firearms account for the majority of completed suicides while poisoning is the leading means used in attempts.[86]
- Nationally, 83% of bicyclists killed in 2004 were not wearing a helmet.[87]
- Someone dies from an injury every 14 hours in NH.[88]
- In states with primary seatbelt laws*, the percentage of passenger vehicle fatalities of occupants who were unrestrained is 51%, compared to 65% in states without a primary law (2000–2004).[89]

The Cost

- In 2002, non-fatal injuries cost NH over $74 million in acute medical care. Motor vehicle crashes accounted for more than $23 million of those costs.[90]
- Nationally, average hospital costs are 55% higher for unbelted crash victims.[91]
- 85% of the costs of motor vehicle crashes fall to society.[92]
- Nationally, acute medical care costs related to self-inflicted injuries were $1,760,535.[93]
- In NH, elderly falls cost almost $5 million (2002).[94]

Prevention Funding

- NH Bureau of Prevention Services federal block grant funding for programs targeting injury prevention is approximately $81,000.[95]

Some of the organizations at work in New Hampshire:

- NH Falls Risk Reduction Task Force (www.dhmc.org)
- Buckle Up New Hampshire (www.dhmc.org)
- Falls Prevention Program (www.dhhs.state.nh.us/DHHS/MCH/default.htm)
- NH Suicide Prevention Plan (www.dhhs.state.nh.us)

*Meaning, a driver may be pulled over for not wearing a seatbelt, as opposed to secondary laws, in which the driver may only be cited after being stopped for another offense, such as speeding.

Mental Health

Defining the Mental Health Challenge

During the early 1990s, New Hampshire's mental health system (the state mental health authority) was evaluated twice by the National Alliance of Mental Health (NAMH) and twice scored very well. However, in early 2006, NAMH again evaluated New Hampshire's mental health system. This time, the state received a "D" grade in an assessment of the adult service system. Knowing that the system is not meeting the needs of New Hampshire residents affected by mental health issues is a concern for all.

One measure of the change in the New Hampshire system over the decades is the number of inpatient beds available for mentally ill individuals at the state hospital. In the 1950s, New Hampshire's population was around half a million and the number of inpatient beds available was 2,500. Now our state population has grown to 1.3 million, but the number of state hospital inpatient beds has decreased to 200.[96] There are also few private psychiatric inpatient beds available in New Hampshire. This reflects the national shift to a community-based system of care. To be effective, community-based care needs to be adequately funded to insure people's mental health problems are dealt with earlier and do not rise to the level of needing acute care in an inpatient facility.

The mental health challenge is also complicated by other health conditions. For instance, 1 in 20 Americans without heart disease experience depression but 1 in 3 with heart disease also have depression.[97] People with severe mental illness, such as schizophrenia, experience a higher prevalence of diabetes, in addition to other chronic diseases.[98] Roughly 50% of individuals with severe mental disorders are affected by substance abuse.[99] Of all people diagnosed with mental illness, 29% abuse either alcohol or drugs.[100] Overall, studies show that people with severe mental illness live shorter lives by about 10 years compared to the general population.[101]

The New Hampshire Numbers

- The NH adjusted rate of inpatient and ambulatory discharges for mental health conditions peaks between the ages of 25 to 44 and then increases again after the age of 65 (2001–2003).[102]
- 11% of African descendants and 13% of Latinos in Hillsborough County, NH reported experiencing "not good" mental health in all of the past 30 days (2002–2003).[103]
- 66.3% of NH adults reported no days during the past 30 when their mental health was not good. 10.8% reported 1 to 2 days, 11.6% reported 3 to 7 days, 7.3% reported 8 to 29 days, and 4.0% reported 30 days (2001).[104]
- NH has a suicide rate of 12.3 per 100,000 which is above the national average of 11.5 (1999–2003).[105]

The Cost

- Per capita mental health spending in NH is $117.14, placing NH 13th in the nation (2006).[106]
- Total mental health spending in NH is less than $33 million, placing NH 36th in the nation (2006).[107]
- In NH, attempted suicides and suicides treated in the acute care setting accounted for expenses estimated at $6.2 million in 2001.[108]

Prevention Funding

- NH mental health funding (federal grants and discretionary funding) is just over $3 million (FY 2005–2006).[109]

Some of the organizations at work in New Hampshire:

- States Suicide Prevention Plan (www.dhhs.nh.gov)
- Youth Suicide Prevention Project
- NAMINH (www.naminh.org)

V. Summary and Call to Action

The New Hampshire Citizens Health Initiative is a collaborative effort to improve the health of New Hampshire's citizens by addressing health promotion and disease prevention, improving quality, and promoting openness of information.

The Health Promotion and Disease Prevention Policy team will focus on decreasing the leading causes of illness and death to New Hampshire citizens through collaboration, evidence-based information, and sound policy recommendations to strengthen the public health system and work towards increased health and well-being of all New Hampshire citizens.

The health of many New Hampshire citizens is good compared to other states, but there are variations within our state that leave some citizens behind.

Why shouldn't we aspire to be among the healthiest people in the world? The United States does not score well compared to other developed nations. New Hampshire should set the bar higher.

To improve the health of all New Hampshire citizens, we need to:

Pay attention to the data

- The health of our citizens varies within the state.
  Let's examine and address the variation.
- A small number of preventable causes of death stand in the way of New Hampshire being healthier.
  Let's act on these causes.

Understand that prevention is everyone's responsibility

- This includes those seeking to prevent the onset of unhealthy behaviors—advocacy groups, legislators, policy makers, and public health officials—as well as health care providers, who play a vital role in reversing unhealthy behaviors and minimizing the harmful consequences of unhealthy behaviors.
  Together we can make changes.
- History tells us that even though the underlying causes of illness are associated with certain behaviors, behavior change alone is not the answer unless there is widespread societal change. We need a combination of legislation, policy, and technology, along with behavior change.
  Let's use all our resources.

Take action now

- We will work with those already addressing the actual causes of illness and death in New Hampshire.
  It's about our health.
- Based on the facts, we will act now.
  It's about time.

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Towns included in Public Health Network included in Table 3

Berlin/Gorham Community Health and Safety Partnership: Berlin, Dummer, Errol, Gorham, Milan, Randolph, and Shelburne.

Cheshire Public Health Network: Chesterfield, Keene, Marborough, Swanzey, Roxbury, Westmoreland, and Winchester.

Manchester Health Department: Auburn, Bedford, Candia, Deerfield, Goffstown, Hooksett, Manchester, and New Boston.

Greater Portsmouth Public Health Network: Greenland, New Castle, Newington, Portsmouth, and Rye.

For information on all of NH's Public Health Networks visit: www.nhphn.org.

Data for table 3 provided by: the Health Statistics and Data Management Section, Bureau of Disease Control and Health Statistics, Division of Public Health Services, New Hampshire Department of Health and Human Services. The analyses, conclusions, interpretations, and recommendations herein are solely those of the presenter, and are not necessarily those of the Department of Health and Human Services.

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