Bending the Curve

Statewide Health Improvement Program Report.

2012–2013

MINNESOTA MDH DEPARTMENT OF HEALTH

Bending the Curve:

Statewide Health Improvement Program Report

2012 – 2013

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Protecting, maintaining and improving the health of all Minnesotans

February 6, 2014

Dear Fellow Citizens of Minnesota:

After 35 years of skyrocketing increases both nationally and in Minnesota, we are beginning to bend the curve on obesity. Between 1980 and 2007, obesity doubled for adults and tripled for children, but since 2007, the rate has not changed. Because obesity rates have leveled out, we estimate 47,000 fewer Minnesotans are obese today.

While no one is ready to declare victory, and attributing this improvement to one cause is impossible, across the country and across Minnesota it appears that health improvement efforts are working. To be sure, there are many variables in what drives—or may end—the obesity epidemic of the past 35 years, but there are signs that the great deal of effort that has been applied to it locally and nationally is beginning to have its intended effect.

In a September 2012 issue brief, "Declining childhood obesity rates—where are we seeing the most progress?," the Robert Wood Johnson Foundation concludes, "Growing evidence suggests that strong, far-reaching changes—those that make healthy foods available in schools and communities and integrate physical activity into people's daily lives—are working to reduce childhood obesity rates."

Across Minnesota, there are now more farmers markets, healthy Minnesota produce in convenience stores, community gardens serving renters, and healthy food at meetings and in vending machines at workplaces. There are now more opportunities for biking and walking both for pleasure and for transportation and more programs through employers encouraging active living. Seventy-one (71) percent of schools are engaged in farm to school activities, and active classrooms and "Safe Routes to School" programs are common.

Meanwhile, in Minnesota, adult smoking rates declined from just over 22 percent in 1999 to 16 percent in 2010. This represents a 27 percent decrease in 11 years (2010 Minnesota Adult Tobacco Survey (MATS)). This didn't just happen. Policy approaches, such as restricting smoking in restaurants, bars and workplaces, as well as tobacco pricing, work to reduce commercial tobacco use.

Fifty years of efforts in tobacco, and now obesity, gives us a road map to health care costs savings. In fact, Trust for America's Health has found that an investment of $10 per person per year in proven evidenced-based community prevention programs that increase physical activity, improve nutrition and

prevent smoking and other tobacco use could save the country more than $16 billion annually within five years—a return of $5.60 for every $1 spent.

In Minnesota, a key component of that investment is the Statewide Health Improvement Program (SHIP). While there is much work to be done, we believe we are on course using the right tools. We believe that, together, we can help Minnesotans make healthy choices and thereby show real improvement in both the human and economic costs of chronic disease.

Sincerely,

Edward P. Ehlinger, MD, MSPH
Commissioner
P.O. Box 64975
St. Paul, MN 55164-0975

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Executive Summary.

The SHIP story

The Statewide Health Improvement Program (SHIP) has made significant strides in helping communities to make healthy living the norm. After its first four years, there are now more opportunities across Minnesota for active living, healthy eating and avoiding tobacco products because of SHIP.

SHIP is one piece of a national sea change in healthy living. After 30 years of escalating obesity rates, the tide is showing signs of turning as communities are increasingly prioritizing health. Farmers markets are going up. Sidewalks are now the norm for new development. Bike paths are being laid. School menus have been greatly improved. Employees are benefiting from comprehensive wellness programs in more and more workplaces.

Meanwhile, tobacco use continues to fall. Fewer people are smoking, fewer are starting, and fewer children are being exposed to secondhand smoke. This is no accident; the reasons are well known: higher prices and restrictions on where smoking is allowed are having the desired effect.

Similarly, obesity rates leveling out is no accident; it is the result of efforts by federal, state and local governments, health care providers and insurers, employers, apartment building owners, schools, nonprofits, and families and individuals. There's no one reason for this sea change; it is the result of a larger cultural shift from coast to coast with many variables.

However, in Minnesota, SHIP is leading the way.

History

In 2008, Minnesota policymakers recognized that containing spiraling health care costs could not be impacted by changes in medical care alone; investments in prevention were needed. With bipartisan support in the Legislature, Minnesota passed a groundbreaking health reform law. One key component of Minnesota's health reform efforts is an investment in preventing illness and improving health through reducing the risk factors most contributing to chronic disease, thereby reducing health care costs: SHIP.

The first two-year SHIP grants were awarded on July 1, 2009, to community health boards and tribal governments across the state to decrease obesity by increasing physical activity and improving nutrition and reducing tobacco use and exposure. All 53 community health boards and nine of 11 tribal governments received SHIP funds. Grants were awarded through a competitive process for statewide investments of $20 million in 2010 and $27 million in 2011.

For the second funding cycle, 2012-13, SHIP received $15 million, representing a 70 percent cut from the first two years. As a result, SHIP provided 18 community grants, covering just over half of Minnesota.

Results

Despite the much smaller funding amount, SHIP is helping grantees to create good health where Minnesotans live, work, learn and play. Results for 2012-13 include:

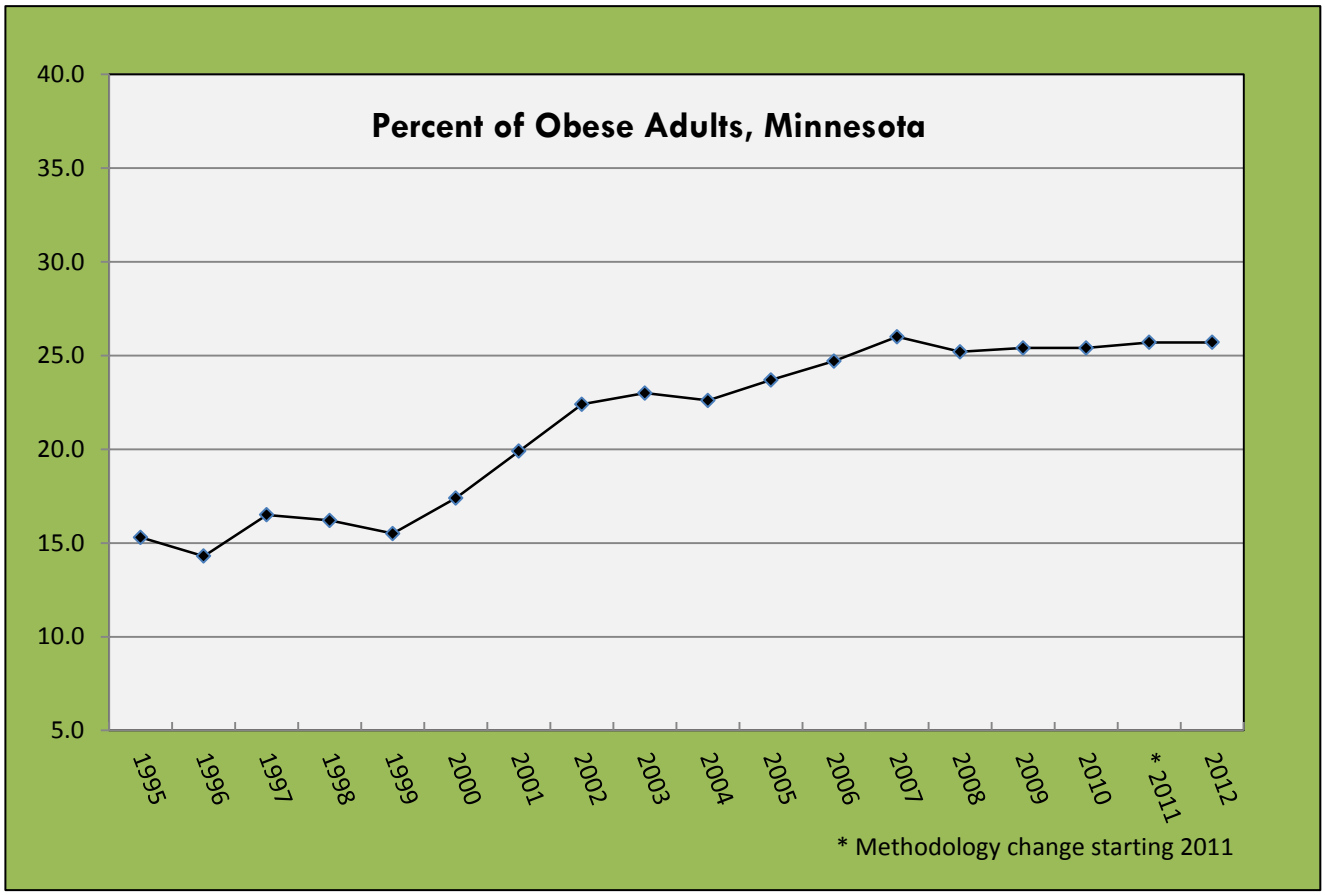
- Nearly 14,000 workers are benefiting from workplace wellness programs, improving health and productivity and containing health care costs. For example, TEAM Industries in Bagley and Park Rapids created "Wellness In Motion," encouraging employees to increase their physical activity, eat healthier, and quit smoking. For 2013, TEAM enjoyed a zero increase in health insurance premiums.
- SHIP worked with 77 farmers markets. For example, a farmers market in Baudette took in a quarter-million dollars in sales in its first year.
- SHIP supported apartment building management across the state, resulting in smoke-free policies at 98 properties encompassing 276 buildings. For example, on January 1, 2013, Riverside Plaza, home to 4,440 adults and children, decided to go smoke-free with the help of SHIP.
- 66 communities made changes to increase biking and walking. For example, the cities of Fergus Falls and Frazee adopted "Complete Streets" policies to help ensure safer crosswalks and more sidewalks and bike paths in the future.
- 429 schools now offer "Farm to School," a program that connects Minnesota farmers to schools as well as supporting school gardens. The result is fresh, healthy food for kids, more successful farmers, and students learning about agriculture. Over 100,000 kids are benefiting. For example, in Beltrami County, Kelliher Public Schools incorporated a salad bar and school garden. "My hope is that students will take their new eating habits home and educate their parents by asking for and requesting better food choices at grocery stores," says Karyn Lutz, the school's dietitian.
- SHIP worked with 160 schools on "Safe Routes to School" programs, making walking and biking to school easier for over 68,000 students. Plus, with Active Classrooms, physical activity is programmed into children's school days—improving not only health, but behavior and grades, for 118,000 students at 232 schools. At Richfield Dual Language school, one teacher credits active classroom breaks and exercise balls with improving behavior AND penmanship.

And that's just a start. SHIP grantees are increasing choices, changing norms, and helping communities to bring healthy living to more people across Minnesota.

Bending the Curve.

Obesity rates are beginning to level and even improve in Minnesota

What do we mean when we say, "Bending the curve"? It means that after 30 years of skyrocketing increases in obesity both nationally and in Minnesota, we are beginning to see rates level out and even improve. Between 1980 and 2007, obesity doubled for adults and tripled for children. From 2007 to 2012, the rate has not changed.[1] Nationally, obesity rates have gone down slightly among preschoolers, from 15.21 to 14.94 percent between 2003 and 2010.[2]



While no one is ready to declare victory, it does raise the question, why? What is working, and what does this mean for Minnesota?

In a September 2012 issue brief, *Declining childhood obesity rates—where are we seeing the most progress?,*[3] the Robert Wood Johnson Foundation concludes, "Growing evidence suggests that strong, far-reaching changes—those that make healthy foods available in schools and communities and integrate physical activity into people's daily lives—are working to reduce childhood obesity rates."

This would seem to be the case for Minnesota. Across the state, there are now more farmers markets, more healthy Minnesota produce in convenience stores, more community gardens serving renters, more preschoolers learning about nutrition, and more healthy food at meetings and in vending machines in workplaces. There are now more opportunities for biking and walking—for both pleasure and transportation—and more programs for employees to encourage active living.

Across the country and across Minnesota, it appears that health improvement efforts are working.

If there is indeed a move toward healthier living, schools may be leading the way. Between 2000 and 2012, the percentage of districts nationally that required elementary schools to teach physical education increased from 82 percent to 93 percent. Between 2006 and 2012, the percentage of districts that required schools to prohibit junk food in vending machines increased from 30 to 43 percent.[4] In Minnesota, farm to school programs have become common, with Minnesota school districts in 2011-2012 spending a total of over $9 million on locally-sourced food.[5] Contributing to this trend nationally are new school guidelines. In the opinion of the November 11, 2013, *Star Tribune*, "Today's school meals are more healthful than ever, now that federal guidelines require school meals to pass muster with the Dietary Guidelines for Americans."

Across the country and across Minnesota, it appears that health improvement efforts are working. To be sure, there are many variables in what drives—or may end—the obesity epidemic of the past 30 years, but one would expect that the great deal of effort and attention that has been applied to it locally and nationally is having its intended effect.

Because of bending the curve on obesity, we estimate 47,000 fewer Minnesotans are obese today.

Nationally, the positive consequences of these improvements are great—both in human and economic costs:

- If obesity remains at 2010 levels, national savings in medical expenditures over the next 20 years would be $549.5 billion.[6]
- More than 127,000 deaths per year from cardiovascular diseases could be prevented, and $17 billion in annual national medical costs could be saved, if Americans increased their consumption of fruits and vegetables to meet dietary recommendations.[7]
- Using estimates of how much people are willing to invest in measures to reduce cardiovascular disease mortality, the economic value of lives saved in the above way would exceed $11 trillion.[8]
- Even modest changes in diet could result in big payoffs. The present economic value of lives saved from boosting average daily consumption of fruits and vegetables by just one additional portion, or one-half cup per day, would be more than $2.7 trillion.[9]

What's true nationally is also true in Minnesota. Minnesota appears to have already lowered health care expenditures. In just the last two years, because of bending the curve on obesity, we estimate 47,000 fewer Minnesotans are obese today.[10]

Tobacco efforts continue to be successful

A generation before obesity control efforts, public health began working to reduce what is still today the biggest driver of health care costs: tobacco. While far from over, these efforts have shown a great deal of progress in improving health and controlling health care costs.

Smoking rates have declined since their peak in 1963 by 63 percent.[11] The trend continues. In Minnesota, adult smoking rates declined from just over 22 percent in 1999 to 17 percent in 2007, to 16.1 percent in 2010. This decrease represents a 27 percent change over 11 years.[12] This was no accident; it is due to a great deal of effort on the part of public health, both nonprofits and government alike. Policy approaches have been effective, such as restricting smoking in restaurants, bars and workplaces, as well as taking measures to move the price of cigarette use a little closer to its actual cost. According to Blue Cross and Blue Shield of Minnesota, smoking in Minnesota was responsible for $2.87 billion in excess medical expenditures in 2007—a per capita expense of $554 for every man, woman and child in the state.[13]

As smoking rates have declined and restrictions on where one can smoke increase, secondhand smoke exposure has also decreased. In 1999, 65 percent of Minnesotans had smoke-free rules at home, whereas in 2010, 87 percent of Minnesotans did, including 58 percent of smokers. Reported exposure to secondhand smoke in any location, including the community, workplace, car or home, declined 11 percentage points between 2003 and 2010.[14]

Lessons learned

Experience with community approaches to health improvement—50 years of work in tobacco and now applying this experience to obesity—gives us a road map to health care cost savings. In fact, Trust for America's Health has found that an investment of $10 per person per year in proven evidenced-based community prevention programs that increase physical activity, improve nutrition and reduce smoking and other tobacco use could save the country more than $16 billion annually within five years—a return of $5.60 for every $1 spent.[15]

In Minnesota, that investment is SHIP.

How SHIP Works: the Case for Prevention.

How is the Minnesota Department of Health (MDH) helping Minnesota bend the curve on obesity? Through primary, upstream prevention of disease.

Why prevention is effective

When many people think of disease, they think of infectious diseases such as E-Coli or the flu, something a person "catches." However, infectious disease, while important, makes up a minority of deaths in Minnesota.

Cause of Death, Minnesota 2011	Number of Deaths
Cancer	9469
Heart disease	7234
Unintentional injury	2309
Chronic lower respiratory disease	2174
Stroke (cerebrovascular disease)	2145
Alzheimer's disease	1449
Diabetes	1179
Nephritis	708
Suicide	684
Pneumonia and influenza	669

Source: The Minnesota Center for Health Statistics. http://www.health.state.mn.us/divs/chs

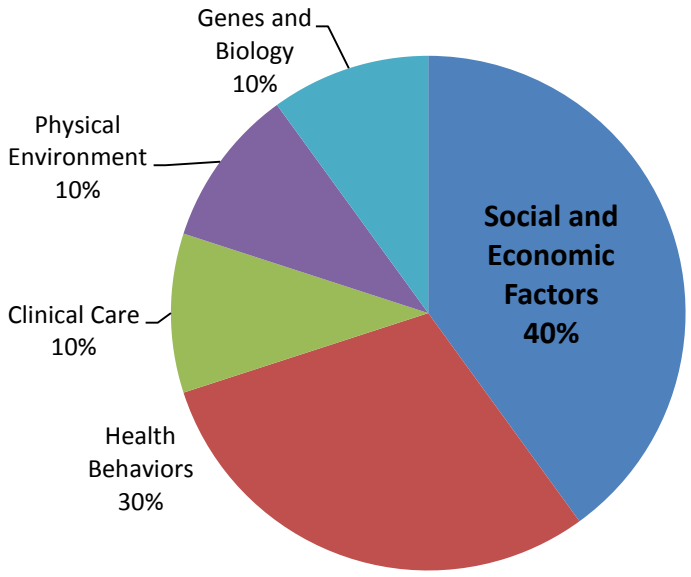
The "Real" Causes of Death: U.S. Estimate, 2000	Number of Deaths	Percentage
Tobacco	435,000	18%
Diet/activity	400,000	17%
Alcohol	85,000	4%
Microbial agents	75,000	3%
Toxic agents	55,000	2%
Motor vehicles	43,000	2%
Firearms	29,000	1%

Source: Mokdad et al, JAMA 2004 March 10; 291 (10):1238-45 U.S. 2000

In fact, the major killers of Minnesotans—cancer, heart disease, and stroke—have a large behavioral component. It is estimated that tobacco use and exposure and obesity account for an estimated one-third of all deaths in the U.S.[16] It has also been estimated that 70 percent of health and wellbeing can be attributed to social and economic factors and health behaviors.[17]

Therefore, we know what we need to do to improve health, decrease suffering, and lower health care costs: increase physical activity and improve nutrition while decreasing use of and exposure to tobacco.

Factors Influencing Health and Well-Being

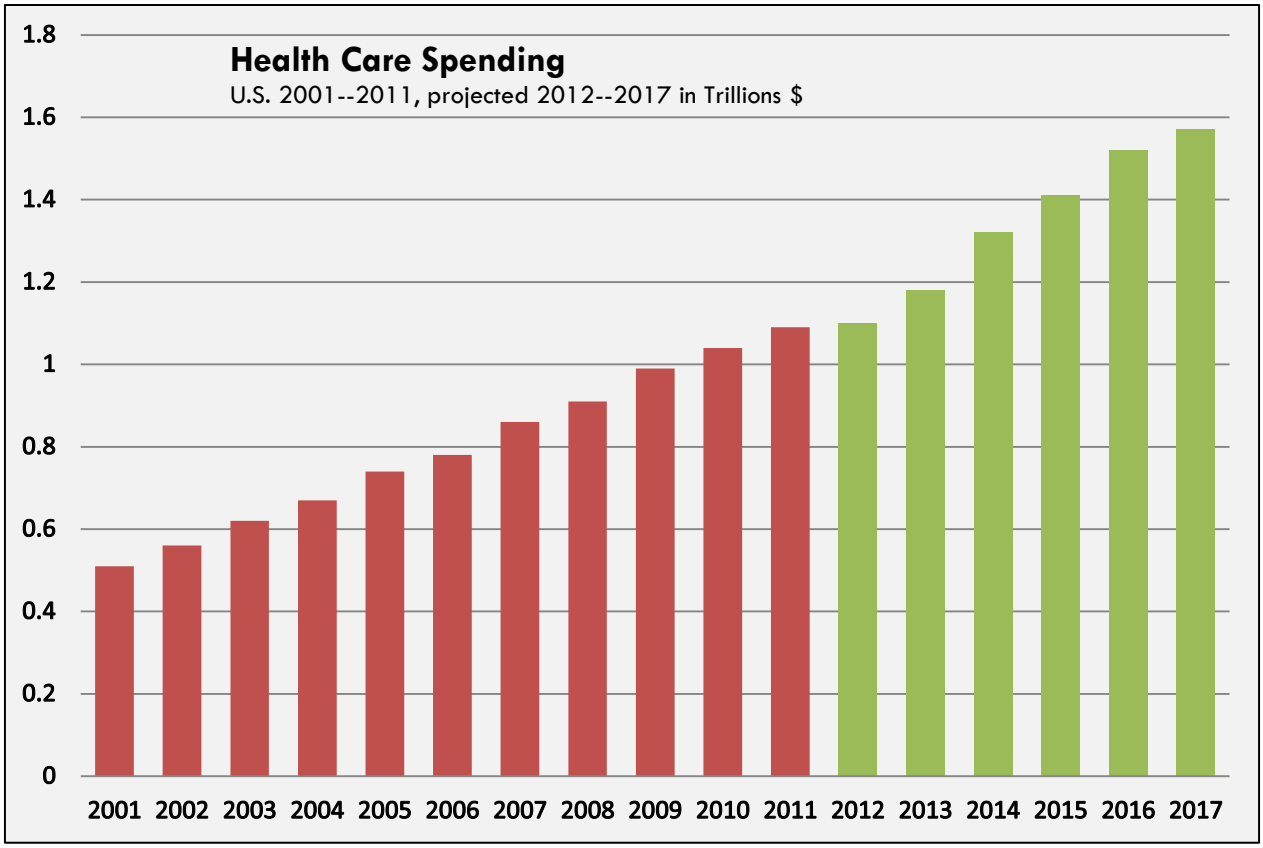


Determinants of Health Model (MN Department of Health, Office of Performance Improvement (2012). MDH Model is based on frameworks developed by Tarlov AR. Ann N Y Acad Sci 1999; 896: 281-93; and Kindig D, Asada Y, Booske B. JAMA 2008; 299(17): 2081-2083.)

SHIP saves money

There are strong economic incentives to focus more on prevention rather than treatment. Prevention is a good investment. SHIP, as part of Minnesota's 2008 health reform effort, is designed to improve health across Minnesota and thereby help rein in the ever-rising cost of health care. Unfortunately, health care spending in the country continues to spiral out of control.[18]

MDH health economics estimates are that by meeting the goals of SHIP, Minnesota would save an estimated $1,944 million in health care costs by 2020. Regarding the cost of obesity alone, according to the Robert Wood Johnson Foundation, reaching the goal of reducing Minnesota's proportion of overweight and obese adults by five percent (from 63 to 58 percent) could lead to health care savings of more than $4 billion in 10 years and $11 billion in 20 years.[19]



Source: *Bending the Obesity Cost Curve in Minnesota*: Trust for America's Health and Robert Wood Johnson Foundation. http://www.healthyamericans.org/assets/files/obesity2012/TFAHSept2012_MN_ObesityBrief02.pdf (accessed November 21, 2012)

The cost of tobacco use

Approximately 16 percent of Minnesota adults use tobacco on a regular basis, costing in excess of $2.87 billion in medical costs and contributing to 5,135 deaths in our state every year.[20] [21] This is a per capita expense of $554 for every man, woman and child in the state.[22] In addition:

- A history of tobacco use is associated with 26 percent higher medical costs for that individual.[23]
- Within three years of quitting smoking, a former smoker's health care costs are at least 10 percent less than if they continued smoking.[24]
- For every dollar spent on providing tobacco cessation treatment, the state potentially sees an average positive return on investment of $1.32.[25]
- In Minnesota, approximately 11 percent of Medicaid costs are attributable to smoking-related medical expenditures.[26]

The cost of obesity

In Minnesota, medical expenses due to obesity have been most recently estimated at approximately $2.8 billion[27] per year. A variety of studies have found that:

- 27 percent of health care costs for adults over age 40 are associated with being physically inactive, overweight and/or obese.[28]
- Per capita private health insurance spending for obese adults was $1,272 higher than that for normal weight adults in 2002.[29]
- Each additional unit of body mass index increases medical costs by nearly two percent.[30]
- Each additional day of physical activity per week reduces medical costs by almost five percent.[31]
- A Minnesota study found that adults who are 50 years and older who increase their physical activity are more likely to have significant declines in their health care costs compared to adults who continue to stay inactive.[32]

Non-health related ROI

Meanwhile, though SHIP is specifically designed to improve health and decrease health care costs, its investment in Minnesota's communities reaps social and economic benefits as well. Investments in increasing availability of fresh fruits and vegetables from local growers—for example, farmers markets or Farm to School—means farmers have access to new markets. National research shows workplace wellness decreases health care costs for employers and employees and also increases productivity through reduced absenteeism.[33] Tobacco-free multiunit housing saves building owners money in reduced damage to apartments.[34] Complete Streets are not only safer for all, but are also attractive, and many communities find them to be valuable improvements that are good for business. Safe Routes to School can save schools money in transportation costs. Given SHIP's focus on community improvement, SHIP strategies often create community benefits beyond health.

SHIP at a Glance.

The goal of SHIP

The goal of SHIP is to increase Minnesota's proportion of healthy weight adults by nine percent (from 38 to 47 percent), and to reduce young adult tobacco use by nine percent (from 27.8 to 18.6 percent) by 2020.

Reaching this goal would have a substantial impact on the health of the state. A new analysis commissioned by the Trust for America's Health and the Robert Wood Johnson Foundation, and conducted by the National Heart Forum, found that if Minnesota could reduce the average body mass index of its residents by only five percent, the state could help prevent thousands of cases of type 2 diabetes, coronary heart disease and stroke, hypertension, cancer and arthritis, while saving millions of dollars. For a six-foot-tall person weighing 200 pounds, a five percent reduction in body mass index would be the equivalent of losing roughly 10 pounds. [35]

Effective, evidence-based strategies

MDH developed a menu of strategies designed to address obesity and commercial tobacco use and exposure. All strategies are evidence-based, and all reflect the current best practices in public health, drawing from sources such as *The Guide to Community Preventive Services*[36] and CDC's *Best Practices for Comprehensive Tobacco Control Programs*.[37]

An extensive body of research suggests that the community plays a big role in encouraging or inhibiting healthy behaviors in individuals.[38] Therefore, SHIP works with communities to create opportunities for healthy living by making towns safer for biking and walking, increasing access to healthy foods, making college campuses tobacco-free, and much more.

SHIP improves health by helping communities make healthy choices available to more people.

Increased opportunities for physical activity, nutritious food, and tobacco-free living…	…means more people are physically active, eat better, smoke less and are exposed less to tobacco smoke…	…which leads to a reduction of obesity and tobacco-related diseases and cancers…	…ultimately lowering health care costs and improving the quality of life of Minnesotans.

For example, SHIP works with local organizations, businesses and communities to encourage farmers markets. As a result, in the first two years of SHIP the number of farmers markets across the state jumped 95 percent, supporting access to fruits and vegetables for more Minnesota communities. Evidence shows that farmers markets have the potential to increase access to fruit and vegetables[39,40] and to then increase fruit and vegetable consumption.[41] And we know that increasing fruit and vegetable consumption by as little as one portion per day may lower the risk of coronary artery heart disease by four percent.[42]

Locally-driven, community-owned

It is one of the key tenants of SHIP that local governments, businesses, schools and community leaders are the experts when it comes to their communities. Strategies that work best in Minneapolis may or may not be the best option for Martin County or the Leech Lake Tribe. Therefore, the key to SHIP's success is working with communities so that their health improvement strategies are effective and relevant for them, fitting their needs.

Strong partnerships

Improving health outcomes requires strong public-private partnerships. SHIP has launched new community partnerships across the state not only with local public health and tribal grantees, but also with businesses, farmers, schools, community groups, chambers of commerce, hospitals, health plan insurers, city planners, county boards, tribal officials and more. These partnerships have successfully implemented changes in schools, health care systems, workplaces, and the broader community level that help assure the opportunity for better health for more Minnesotans.

Technical assistance

From the beginning of SHIP, it was clear that in order to be successful, technical assistance needed to be available to SHIP communities. A system was developed, and now a team of experts, both internal and external to MDH, provides specific trainings, responsive one-on-one technical assistance, extensive guidance documents and peer-to-peer technical assistance that bolsters grantees' ability to successfully implement SHIP strategies. At the beginning of the SHIP grants in 2009, many grantees had a steep learning curve on how to be successful in their communities. Now, as SHIP moves forward, grantees are becoming the experts, both in the state and nationally, and will increasingly help and mentor each other.

Evaluation

Evaluation is a critical component of SHIP. It tells us what is working and where improvement is needed. SHIP evaluation is rigorous and science-based. It measures the impact of the state's investment in evidence-based, community health improvement practices, which over time work to prevent costly chronic diseases, such as heart disease, stroke, diabetes and cancer.

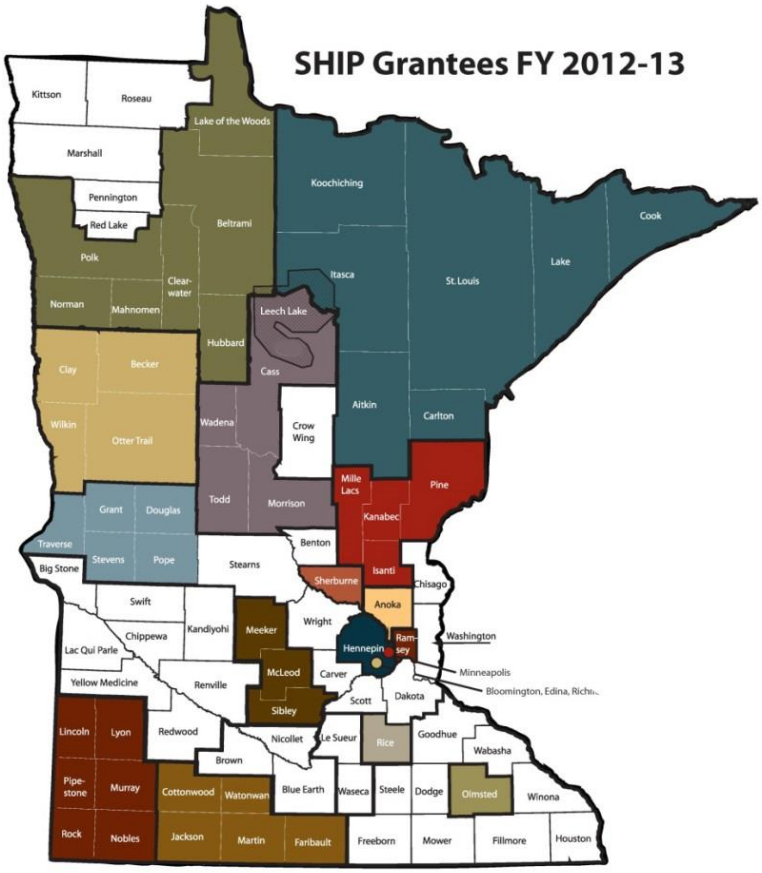
The evaluation methods and expected outcomes have evolved as SHIP grantees have advanced in developing community-based obesity and tobacco prevention strategies. The evaluation framework builds on the progress made and lessons learned from previous SHIP funding cycles. (See *Going Forward: Evaluation* for details on SHIP evaluation currently underway.)

Statewide Results.

SHIP grantees

State fiscal years 2012-13:

- Funding $15 million
- Grantees 18
- Counties 51
- Cities 4
- Tribal Governments 1



Grantees:

- Anoka County Community Health & Environmental Services
- City of Bloomington Community Health Board, in partnership with the Edina Community Health Board and Richfield Community Health Board
- Carlton-Cook-Lake-St. Louis Community Health Board, in partnership with Aitkin-Itasca-Koochiching Community Health Board
- Clay-Wilkin County Community Health Board, in partnership with Becker and Otter Tail counties
- Human Services of Faribault and Martin counties, in partnership with Watonwan County Human Services and Cottonwood-Jackson Community Health Services
- Hennepin County Community Health Board
- Horizon Community Health Board (Douglas, Grant, Pope, Stevens, Traverse counties)
- Kanabec-Pine Community Health Board, in partnership with the Isanti-Mille Lacs and Chisago County Community Health Boards
- Leech Lake Band of Ojibwe
- Meeker-McLeod-Sibley Community Health Board
- Minneapolis Department of Health and Family Support
- Morrison-Todd-Wadena Community Health Board, in partnership with the Cass Community Health Board
- North Country Community Health Board (Beltrami County, Clearwater County, Hubbard County, Lake of the Woods County), in partnership with the Polk-Norman-Mahnomen Community Health Board
- Olmsted County Community Health Board
- Rice County Community Health Board
- Saint Paul-Ramsey County Community Health Board
- Sherburne County Health & Human Services
- Southwest Health & Human Services, (including Lincoln County, Lyon County, Murray County, Pipestone County, and Rock County, but excluding Redwood County), in partnership with the Nobles Community Health Board

Helping Communities Make Healthy Living Easier.

SHIP community strategies

Bringing in the New Year Smoke-Free

—North Country (Hubbard, Beltrami, Clearwater, Lake of the Woods, Polk, Norman and Mahnomen counties)

Eliminating tobacco use and secondhand smoke was a clear choice for one apartment building in Park Rapids. With the help of Smoke-Free Housing and SHIP, residents of River Heights Apartments can now rest easy knowing their building is smoke-free.

When residents were surveyed on their preference for a smoke-free apartment building, it was obvious that they wanted a healthier and cleaner environment in which to live. Sharon Voyda, manager at River Heights Apartments explained, "It is clear that the majority of residents do not want to be exposed to secondhand smoke in their homes. We believe this policy will create a safer and healthier environment for all our residents." The new smoke-free policy went into effect for their facility on January 1, 2013.

SHIP coordinator Diane Brophy organized a celebration for the residents in conjunction with the Great American Smokeout. Along with city officials and community agencies, residents shared their excitement for the policy with each other. One resident said, "I'm so glad we are going smoke-free because we live in a building with many people who have asthma, COPD and heart disease, and these are our neighbors."

Strategy: Families living free of secondhand smoke

Through the **Smoke-Free Multiunit Housing** strategy, SHIP grantees are working to decrease Minnesotans' exposure to secondhand smoke in their homes by increasing their access to smoke-free housing options. SHIP works with the housing industry and other local decision-makers to educate about the benefits of smoke-free housing and assist them with the adoption and implementation of such protections.

Nonsmoking tenants living in multiunit rental housing are often exposed to secondhand smoke from somewhere else in the building. Studies have shown that regardless of attempts to seal and ventilate individual units, the air movement throughout an apartment building can be significant.[43] According to the Minnesota Clean Indoor Air Act, the proprietor or property manager has the option of establishing and enforcing a more restrictive policy for the entire building and/or grounds. SHIP encourages building owners and managers to voluntarily adopt a more restrictive policy in order to fully protect residents, guests and staff from involuntary exposure to secondhand smoke and the health-related consequences associated with secondhand smoke.

Strategy: Smoke-Free Multiunit Housing

Logic model[44,45,46]

Results for 2012-2013:

Number of SHIP grantees participating in this strategy	Number of multiunit housing properties that passed smoke-free policies	Number of buildings	Number of units	Number of residents benefiting
15	**98**	**276**	**6,963**	**15,596**
Provides resources to facilitate smoking cessation:		**154**	**6,572**	**14,161**

Strategy: Healthier food for everyone

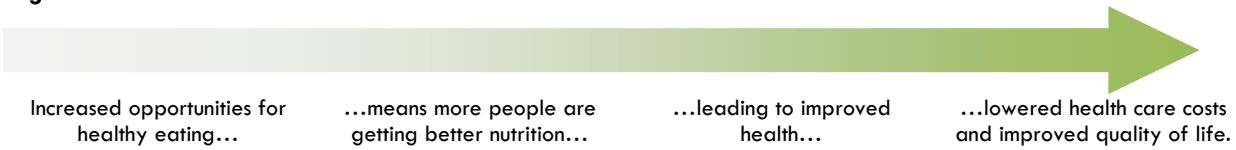
Eating a balanced diet is one of the most important ways to improve overall health. Poor eating habits that result in too many calories and not enough nutrients increase the risk of chronic disease and disability.

Healthy Food in Communities strategies work to improve access to nutritious foods such as fruits and vegetables by increasing availability and affordability in grocery and corner stores, concession facilities and other food vending; provide calorie and/or nutrition labeling on menus; facilitate the development of new farmers markets and promote their use; and facilitate the development of new community gardens and other small-scale food production strategies. For example, one popular approach is Farm to Fork. Farm to Fork connects producers to consumers, whether it be a home, a school, a hospital, or anywhere people lift a fork. For example, many food shelves are now offering fresh produce direct to Minnesota's needy families.

Since its beginning, SHIP has worked with or created over 90 farmers markets across Minnesota.

Strategy: Healthy Food in Communities

***Logic model*[47]**



Results for 2012-2013:

Number of SHIP grantees participating in this strategy	Number of sites	Number of people potentially benefiting
Farmers markets		
10	**77**	**653,700**
Farm to Fork		
6	**16**	**390,940**
Community gardens		
7	**67**	**17,541**
Corner stores		
1	**31**	**65,703**
Vending		
2	**4**	**155,361**
Menu labeling in restaurants		
4	**14**	**89,688**
Concessions		
1	**12**	**5,541**

Since SHIP began four years ago, nearly 300 communities have worked to increase biking and walking.

Strategy: Making physical activity the norm

Physical activity is very important for good health. Lack of physical activity, combined with a poor diet, is the second leading cause of preventable death and disease in the United States and is a huge economic burden on the state.[48] People who are physically active tend to live longer and have lower risk for heart disease, stroke, type 2 diabetes, depression, and some cancers.

The **Active Living** strategy includes active transportation, which integrates physical activity into people's daily routines, like walking or biking to destinations such as work, grocery stores or parks. People tend to walk and bike where they have pleasant and safe places to do so. Sidewalks, crosswalks, bike facilities such as bike paths and lanes, as well as trees, adequate safe lighting, benches, water fountains and trash removal, can all make a difference. Cities and counties that have Complete Streets policies ensure that future road projects will take into consider-ation these issues to make streets usable for more people, including kids and seniors.

Strategy: Active Living

Logic model[49]

Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating communities	Number of residents potentially benefiting
12	**61**	**1,016,281**

Kids Developing Healthy Habits at School.

SHIP school strategies

Staying Healthy and Making Money

— Healthy Northland (Carlton, Cook, Lake, St. Louis, Aitkin, Itasca and Koochiching counties)

When Linda Bockovich was hired as the head cook for Grand Marais Schools in 2009, the school food service had suffered a loss of $13,000 the previous school year. After taking advantage of SHIP opportunities, Bockovich gained knowledge, training and support to incorporate healthier school meals AND save the district money.

With the help of SHIP, Bockovich was able to attend four nutrition-related school food service trainings, make three site visits to regional school food services to learn about their methods of operation, participate in a menu and systems review of her food service with a local chef, and explore fruit and vegetable options with local distributors. As if that was not enough, Linda successfully planned and implemented a salad bar trial and an a la carte menu overhaul, as well as increased the whole grains, fresh fruits and vegetables, and low-fat proteins offered on the Cook County Schools menu.

With more healthy options, over one-third of all Cook County students chose the salad bar option during the trial period. From 2009 to 2011, whole grain use increased 15 percent, fruit 23 percent, vegetables 19 percent and low-fat protein breakfasts 91 percent. Now these fresh and healthy options are available not only to the students, but staff as well, impacting everyone at the school.

And the cost to Grand Marais Schools for all this healthy eating? Rather than costing them more, a profit was generated because more students and staff were now participating in a school lunch.

Since SHIP began in in 2009, almost 500 schools have worked on "Farm to School," giving access to locally-grown fresh fruits and vegetables to 272,000 students.

Strategy: Healthier food for kids

On average, students consume 35 to 50 percent of their total daily calories at school.[50] However, within the school setting youth are often given access to junk foods and sugary drinks that offer little nutritional value. The **Healthy School Food Options** strategy works to increase fruits and vegetables and decrease sodium, saturated fat, and added sugars in foods available during the school day on school campuses. Healthy School Food Options looks at all foods which are not part of the U.S.D.A. reimbursable school meal program (the Minnesota Department of Education works with schools to implement the U.S.D.A. reimbursable school meal program).

One highly successful program to improve nutrition is Farm to School. With Farm to School, children eat healthier and learn about where their food comes from, all while supporting local farmers. By connecting farms and schools, children, schools and farmers all benefit.

A common area of concern for school nutrition is "competitive foods." Typically, students access junk foods and sugary drinks outside of the federally-reimbursable meal programs. These competitive foods are sold in vending machines, á la carte lines within cafeterias, school stores and snack bars. Recent studies show that approximately 40 percent of students buy one or more snacks at school and 68 percent buy and consume at least one sugary drink.[51] Several studies have linked competitive foods and beverages with excess calorie consumption and obesity among school-age children. Therefore, improving these competitive food options is critical to encouraging healthy eating.

Strategy: Healthy Eating in Schools

***Logic model*[52]**

Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating schools	Number of students benefiting
18 overall (100% of grantees)	**429 overall**	**226,845 overall**
Farm to School		
13	**220**	**105,140**
School gardens		
14	**127**	**57,575**
À la carte /Competitive Foods		
11	**101**	**58,226**
Snack Carts		
11	**64**	**24,435**
School Stores		
11	**37**	**19,412**
Concessions		
8	**74**	**35,170**
Vending		
11	**61**	**27,713**
Non Food Rewards		
9	**115**	**61,585**
Food as Fundraisers		
11	**74**	**42,772**
Food at Celebrations/Parties		
11	**130**	**71,053**

In its first four years, SHIP helped over 200 schools with "Safe Routes to School," with the potential to have 128,000 students be more physically active as they walk or bike to school.

Strategy: More physical activity

The **Active Schools** strategy works to encourage opportunities for physical activity throughout the school day. This may include active transportation, quality physical education, and programs such as active classrooms, active recess, and active before/after school day options.

Benefits of increased physical activity include enhanced academic performance.[53] It can improve students' concentration, behavior, and learning retention while at the same time help them reach the recommended physical activity guidelines.

One critical way to increase physical activity is by encouraging "active transportation," or walking or biking to and from school. One highly successful program is Safe Routes to School. Safe Routes encourages infrastructure improvements, education and promotional activities. Comprehensive Safe Routes to School initiatives can help create a healthier community for generations to come.

Strategy: More Physical Activity in Schools

Logic model[54]

Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating schools	Number of students benefiting
18 overall (100% of grantees)	**369 overall**	**185,411 overall**
Safe Routes to School		
15	**160**	**68,075**
Active Classroom		
15	**232**	**118,768**
Active Recess		
15	**191**	**94,764**
Quality Physical Education		
12	**131**	**65,864**

Strategy: Helping students avoid tobacco on college campuses

Postsecondary schools are working to help students avoid exposure to secondhand smoke through **Tobacco-Free Campus** policies. Analysis as part of SHIP shows that these policies are having the intended effect: students on campuses with stronger tobacco-free policies are less likely to smoke and use smokeless tobacco than are students on campuses with weaker policies.

Nonsmokers are helped as well. Students were 141 percent more likely to report being exposed to secondhand smoke outdoors on campuses with a designated smoking area compared to students on campuses with a tobacco-free or smoke-free policy,[55] highlighting the importance of policies that prohibit tobacco use campus-wide.

Strategy: Tobacco-Free Campuses

Logic model[56,57,58]

Results for 2012-2013:

Number of grantees participating in this strategy	Number of schools that passed tobacco-free campus policies	Number of students, faculty and staff benefiting
17	**5**	**70,907 students 10,891 faculty and staff**
Number of grantees participating in this strategy	Number of schools continuing to work toward a tobacco-free campus policy	Number of students, faculty and staff potentially benefiting
17	**12**	**35,000 students 3,000 faculty and staff**

Strategy: Cessation support

Results for 2012-2013:

Number of SHIP grantees participating in this strategy	Number of schools providing cessation support	Number of students, faculty and staff benefiting
17	**34**	**90,200 students Over 9,150 faculty and staff**

Good Health Begins Early.

SHIP early childhood strategies

"I want to try a new vegetable three times a week!"

—Familias Saludables Divirtiendose (Healthy Families Having Fun) student

A bright future for Familias Saludables Divirtiendose—*Sherburne County*

In the spring of 2012, Sherburne County SHIP wrapped up a three-part class, Familias Saludables Divirtiendose (Healthy Families Having Fun) in partnership with the Big Lake Early Childhood Family Education (ECFE) and English as a Second Language (ESL)/Family Literacy programs.

"My work in the Hispanic and Latino population with individual families taught me that some of the basic obesity education is not necessarily engrained in their culture," recalled instructor Mary Zelenak, Sherburne County public health nurse.

Familias Saludables Divirtiendose was developed to help Hispanic and Latino parents promote family health through nutrition and physical activity. "Since many of these young moms recently moved to the U.S., we worked together on addressing the language and cultural barriers affecting obesity," relayed Mary.

Nine families attended the class. The booklet *My Bright Future: Physical Activity and Healthy Eating* (available in English and Spanish) guided the classes. Parent and child activities from the *Learning About Nutrition through Activities* and *I Am Moving, I Am Learning* curriculums reinforced the learning points. Co-taught by Mary and a bilingual ECFE facilitator, Elizabeth Waldorf, the class featured three parts: basics of obesity, nutrition, and physical activity.

Families have requested expansion of the class to either once a month or weekly for nine weeks.

Strategy: Healthier food, more learning in child care

In child care, young children can only eat what their caregivers provide for them. With the **Healthy Eating in Child Care** strategy, SHIP works with providers to improve menu offerings and the eating environment in their child care programs. Changing menus to include more fruits and vegetables, as well as foods with less sodium, saturated fats and added sugars, will ultimately change the foods that children eat. And by improving the food environment, child care providers can help children become familiar with more foods and be more willing to try unfamiliar ones.

One important example of how SHIP helps is the highly successful *Learning About Nutrition through Activities* (LANA) program, developed by MDH, which has been shown to increase consumption of fruits and vegetables.[59]

Since 2009, almost 600 child care sites have pursued strategies for healthier eating, benefiting up to 12,000 children.

Strategy: Healthy Eating in Child Care

Logic model[60]

Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating child care sites	Number of toddlers and preschoolers potentially benefiting from healthier eating
5	**153**	**4,727**

Since SHIP began, more than 1,000 child care sites have increased physical activity for over 25,000 children.

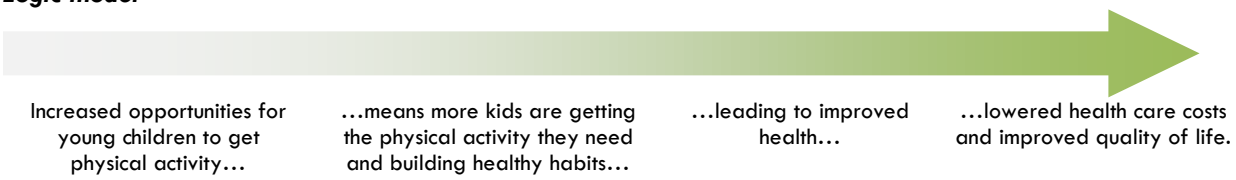
Strategy: Active kids are healthy kids

Physical activity is an important part of a healthy lifestyle for people of all ages. Therefore, the **Physical Activity in Child Care** strategy is helping providers improve the quantity and quality of physical activity for the children in their care. Since the majority of young children spend time in out-of-home care every day, child care providers and the opportunities they provide have a strong influence on the physical activity habits, skills and preferences of the children in their care.

Besides helping young children stay at a healthy weight, daily physical activity in the child care setting can help children develop the physical activity skills they will need over a lifetime. Knowledgeable caregivers can encourage walking and biking as practical means of transportation (getting to the park, for example), as well as for recreation and fun. Children should have multiple opportunities to be active every day, outdoors and/or indoors, regardless of the weather. Caregivers offer both structured and unstructured activity times to encourage moderate to vigorous physical activity as well as child-directed movement, and the physical environment is safe and equipped to support the development of age-appropriate motor skills. One program SHIP encourages is *I Am Moving, I Am Learning*, a successful program developed by Head Start.

Strategy: Physical Activity in Child Care

Logic model[61]



Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating child care sites	Number of toddlers and preschoolers potentially benefiting from physical activity
5	**208**	**4,581** (Note: not all sites reported child counts)

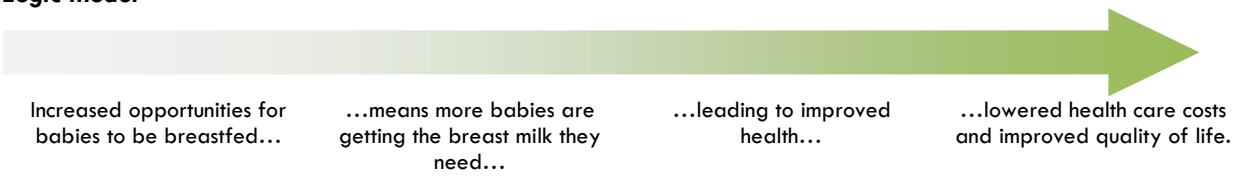
New Strategy: Supporting new mothers by encouraging breastfeeding in child care

Mother's milk is a baby's first and healthiest food. The American Academy of Pediatrics, the World Health Organization and many other national and international health organizations recommend exclusive breastfeeding for the first six months, followed by continued breastfeeding during the first year as complementary foods are introduced. According to the CDC, a baby's risk of becoming an overweight child continues to go down with each month of breastfeeding.

However, breastfeeding mothers who want to continue breastfeeding while their infant is in child care face many barriers. The **Supporting Breastfeeding in Child Care** strategy helps reduce these barriers by encouraging and educating caregivers about proper handling, storage and feeding of breast milk. Encouraging and supporting breastfeeding moms when they return to work or school makes it possible for babies to continue to be fed breast milk while they are separated from their mothers.

New Strategy: Supporting Breastfeeding in Child Care

Logic model[62]



Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating child care sites	Number of infants potentially benefiting from increased breastfeeding
4	**24**	**103** (Note: not all sites reported child counts)

Creating Win-Wins with Businesses.

SHIP worksite wellness strategies

Downs Food Group is no chicken when it comes to wellness— *Cottonwood, Jackson, Faribault, Martin & Watonwan counties*

The Downs Food Group's (DFG) poultry processing plant located in Watonwan County was not a new face to worksite wellness initiatives. For years, a partnership between DFG, Watonwan County Public Health, and Madelia Community Hospital employed Ellen Delatorre, a health educator/interpreter, to provide bilingual health education at the plants each month. This partnership has been an essential first step to meeting the needs of a growing Latino workforce, with Watonwan County holding the highest Latino population per capita in the state of Minnesota.

Now, with help from SHIP, DFG has made great strides in improving the health of their employees through a more comprehensive workplace wellness program. The program has instituted a variety of health-conscious changes that improve nutrition, reduce tobacco smoke exposure, and increase physical activity. Vending machines within the plant now offer more nutritious options. And along with a new tobacco-free grounds policy, there is also cessation support for employees.

DFG has also partnered with the local Anytime Fitness Center to offer reduced membership rates and lead employee exercise programs before and after work hours.

Wellness programs are critical in any working environment, but at DFG it was especially important. Of DFG employees, 80 percent are Latino and 10 percent are Asian. "We know that minority populations often have higher levels of health disparities, so working with DFG was very important for us in public health because it allows us to reach those we might not otherwise be able to reach," explains Chera Sevcik, SHIP supervisor.

Many people spend the better part of the week at their jobs, so affording them the opportunity to make healthy choices at their workplace is critical.

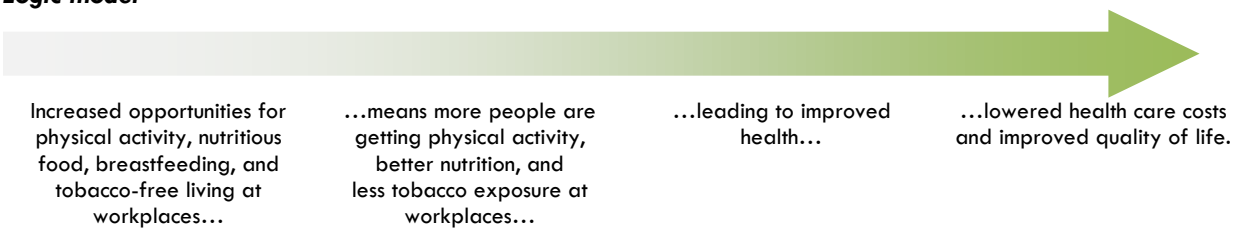
The **Comprehensive Workplace Wellness** strategy not only helps employees become and stay healthy, it helps businesses save money through lower insurance costs, increased productivity, and decreased absenteeism. During the past decade, interest in health promotion at the worksite has spread rapidly. In Minnesota, about 55 percent of employers with 100 or more employees now offer some form of health promotion program.

Comprehensive workplace wellness addresses healthier food (includes vending, cafeteria, catering, breastfeeding support); physical activity (includes active transportation such as walking, biking, transit, access to onsite facilities, connection to area facilities, flexible scheduling); support for new mothers to continue to breastfeed (such as designated lactation rooms); and tobacco-free worksites (includes access to cessation services and comprehensive cessation benefits).

With support from SHIP, since 2009 almost 1,000 worksites have engaged in the worksite wellness strategy, with the potential to engage over 158,000 employees in more physical activity, healthy eating, tobacco cessation, and breastfeeding.

Strategy: Comprehensive Workplace Wellness

Logic model[63]



Results for 2012-2013:

Number of grantees participating in this strategy	Number of participating businesses	Number of employees engaged
10	**136**	**29,886**
Healthy Food Environment (vending, cafeteria, and catering)		
7	**97**	**19,038**
Incorporating physical activity		
9	**102**	**16,730**
Support for breastfeeding mothers		
6	**42**	**7,748**
Helped employees quit smoking		
9	**102**	

Partnering with Health Care.

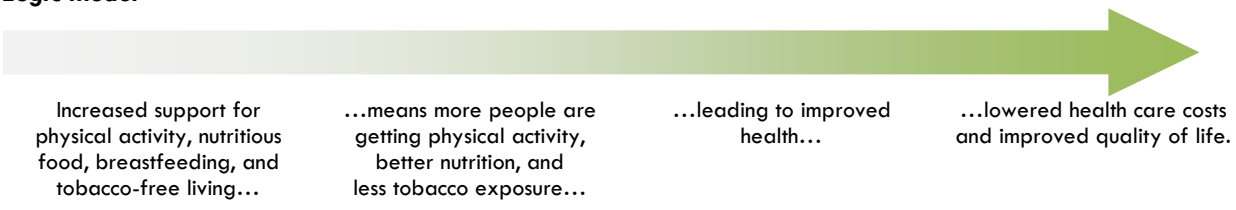
SHIP health care strategies

Clinics and hospitals and other health care settings provide a unique setting where people discuss their health with medical providers, making providers key to the success of health improvement in Minnesota. With the **Prevention in Health Care** strategy, health care providers promote healthy behaviors by encouraging individuals to maintain healthy eating habits, participate in regular physical activity, avoid the use of tobacco products and limit exposure to secondhand smoke, as well as make referrals to community resources.

A key chronic disease prevention strategy for health care providers is support for breastfeeding. Breastfeeding saves on health care costs because of fewer sick care visits, prescriptions, and hospitalizations.[64] Breastfed babies are at a lower risk for many health problems, such as ear and respiratory infections, diarrhea, asthma and obesity, and mothers who breastfeed are less likely to develop diabetes and breast or ovarian cancer.

Strategy: Prevention in Health Care

***Logic model*[65]**



Results for 2012-2013:

Number of grantees participating in this strategy	Number of partnering clinics and hospitals	Number of patients potentially benefiting
8	**61**	**216,596**

Going Forward: SHIP 3.

SHIP grants for 2014-15

The 2013 Legislature supported SHIP with $35 million for fiscal years 2014 and 2015, and SHIP funding was once again available statewide. On November 1, 2013, MDH awarded a third round of SHIP grants to community health boards, which are made up of one or more counties and cities.

The grants fall under three categories: Planning, Implementation, and Innovation. Planning—for most counties that were not funded during the previous two years, eight-month $100,000 planning grants allowed them to hire staff and begin assessing the needs of their community in preparation for implementing their programs. After the planning period is over, they become eligible for implementation funding.

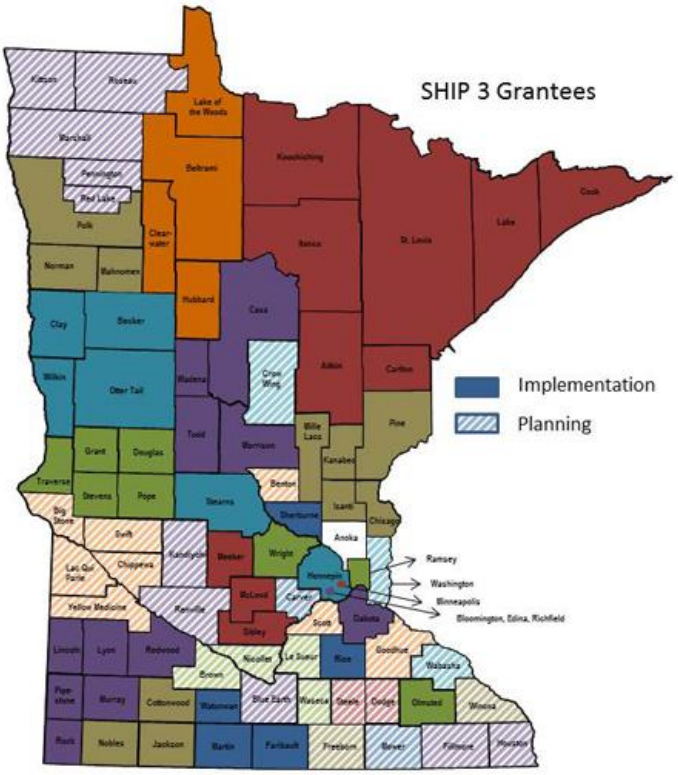
17 Planning Grants Covering 31 Counties		
Benton County Human Services	**Countryside Public Health (Big Stone, Chippewa, Swift, Lac qui Parle, Yellow Medicine counties)**	**Blue Earth County**
Brown-Nicollet Community Health Board in partnership with Le Sueur-Waseca CHB	**Carver County Public Health Department**	**Crow Wing County Community Services**
Steele County Public Health in partnership with Dodge County Public Health	**Fillmore-Houston CHS**	**Freeborn County Public Health**
Goodhue County Health and Human Services	**Kandiyohi-Renville Community Health Board**	**Quin Community Health Services (Kittson, Marshall, Pennington, Red Lake, Roseau counties)**
Mower County Community Health Board	**Scott County Health and Human Services**	**Wabasha County Public Health**
Washington County Department of Public Health and Environment	**Winona County Community Services**	

Implementation—continuing SHIP grantees, plus some counties who were able to maintain capacity for the past two years despite a lack of SHIP funds, received 24-month implementation grants to continue their work.

16 Implementation Grants Covering 40 Counties and Cities	
North Country Community Health Board (Beltrami, Clearwater, Hubbard, and Lake of the Woods counties)	**$493,351**
City of Bloomington Community Health Board, in partnership with the Edina Community Health Board and Richfield Community Health Board	**$885,736**
Cottonwood-Jackson Community Health in partnership with Nobles Community Health Services	**$402,163**
Dakota County Public Health Department	**$1,700,567**
Kanabec-Pine Community Health Board, in partnership with the Isanti-Mille Lacs Community Health Board	**$873,203**
Southwest Health and Human Services (Lincoln, Lyon, Murray, Pipestone, Rock, and Redwood counties)	**$479,973**
Meeker-McLeod-Sibley Community Health Board	**$480,216**
Health4Life: Morrison-Todd-Wadena Community Health Board, in partnership with the Cass Community Health Board	**$614,524**
Olmsted Community Health Board	**$743,717**
Polk-Norman-Mahnomen Community Health Board	**$363,771**
Rice County Community Health Board	**$442,042**
Sherburne County Health and Human Services	**$532,688**
St. Paul-Ramsey County Community Health Board	**$2,110,429**
Stearns County Human Services	**$764,725**
Horizon Community Health Board (Douglas, Grant, Pope, Stevens, Traverse counties)	**$448,366**
Wright County Human Services, Public Health Division	**$671,363**

Innovation—in addition to implementation funding, 16 counties and cities received five highly competitive "innovation" grants to explore new opportunities to improve health on a community-wide scale. Innovative efforts include a range of strategies, such as exploring new ways of working with health care providers, and helping seniors stay healthy and active.

Five Innovation Grants Covering 16 Counties and Cities	
Healthy Northland: Carlton-Cook-Lake-St. Louis Community Health Board, in partnership with Aitkin-Itasca-Koochiching Community Health Board	**$1,513,015**
PartnerSHIP4Health: Clay-Wilkin County Community Health Board, in partnership with Becker and Otter Tail counties	**$974,353**
Human Services of Faribault and Martin counties, in partnership with Watonwan County Human Services	**$545,607**
Hennepin County Community Health Board	**$2,629,396**
Minneapolis Department of Health and Family Support	**$1,879,412**



Eating Healthy Made Easy for Seniors—

Health4Life (Morrison, Todd, Wadena and Cass counties)

Todd and Wadena Public Health partnered with SHIP to implement the Senior Fruit & Vegetable Program with the help of the Eagle Bend and Wadena Senior Nutrition Sites and the Staples and Wadena farmers markets. The program's goal is to increase fruit and vegetable consumption in homebound seniors, since healthier eating is one key to better health. The program is great for local growers, too. They have a steady standing order every two weeks they can count on, at a guaranteed price per pound.

In its first year, 43 seniors participated in the program. A bag of fresh fruits and vegetables was delivered every other week throughout this past summer. In total 1,290 pounds of produce were delivered.

"Very good! Fresher than the grocery store."
—Doug at Humphrey Manor

In 2013, its second year, the program nearly doubled to include 80 seniors and more than doubled the amount distributed, to over 2,700 pounds.

The program is a hit. Pat, a resident of Humphrey Manor, says, "Good program—it gives people a chance at fresh vegetables that they normally wouldn't have."

One key is quality. When asked how fresh the produce is, Doug, also of Humphrey Manor, says "Very good! Fresher than the grocery store."

"Other communities have already contacted us to replicate the program," says Katherine Mackedanz at Todd County Public Health. "This program is a great example of using existing resources to provide a valuable service delivering fresh, local fruits and vegetables to seniors."

New initiatives

Addressing the needs of seniors

In the next 15 years, America's senior population will grow by 53 percent,[66] with people living longer lives than ever before. This is a large population group with specific needs to address if we are to gain control of rising health care costs.

Grantees for 2014-15 are required to implement at least one strategy specific to this population. SHIP seeks to improve the health of Minnesota seniors though strategies such as healthy food in the community, smoke-free housing, and active living.[67] In addition to proven SHIP strategies such as vending policies and smoke-free apartment building policies, strategies such as falls prevention must be addressed.

Health disparities

Minnesota has a longstanding reputation of being one of the healthiest states in America. Yet, this accolade is overshadowed by Minnesota's deep and persistent health inequities.

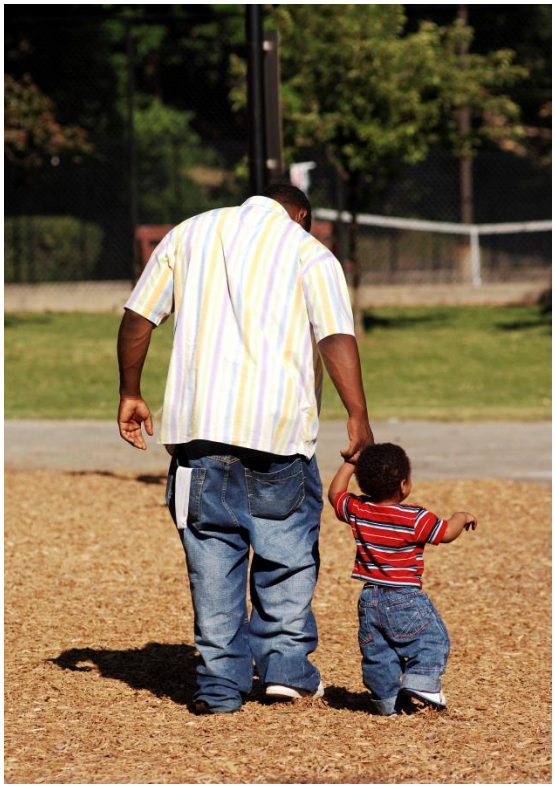
Health inequities affect all Minnesotans. In *The Business Case for Racial Equity*, lead author Ani Turner of the Altarum Institute found, "Inequities in health create a tragic human burden in shortened lives and increased illness and disability. They also create an economic burden. . . . [D]isparities in health cost the U.S. an estimated $60 billion in excess medical costs and $22 billion in lost productivity in 2009."[68]

The prevalence of health inequities in Minnesota mirrors that across the nation. Racial and ethnic minorities have worse health than whites do. Individuals with lower incomes or less education are more likely to be physically impaired, to suffer from disease, and to experience a greater loss of good health than those who are financially better-off or who have more education. Rural residents experience poorer health status, higher obesity rates, more activity limitation, and higher mortality rates.

SHIP is making a concerted effort to reduce health disparities and move toward achieving health equity. SHIP's approach is to focus on improving Minnesota's overall health while at the same time targeting significant efforts to improve the health of populations experiencing health disparities.

The growing economic inequities and the persistence of health disparities in our great state are a matter of life and death for many.

—Advancing Healthy Equity in Minnesota: Report to the Legislature 2014



Evaluation

In 2014 and 2015, MDH will be implementing an evaluation plan that incorporates all four of the essential components of evaluation identified by the Institute of Medicine: 1) assessment, 2) monitoring, 3) data collection and analysis, and 4) summative evaluation.

First, MDH is working with grantees to establish, support, and align local community assessments and data collection so that the long-term impact of SHIP strategies can be tracked at the local level. SHIP provides a tremendous opportunity to enhance Minnesota's commitment to building state and local capacity to monitor patterns and trends in the prevention of obesity and tobacco use and exposure. Perhaps most importantly, building this infrastructure will provide crucial information on the distribution of health inequities in Minnesota.

Second, MDH has designed a standardized monitoring system that uses a variety of tracking tools including monthly calls, quarterly reports, policy tracking, and ongoing assessment and reporting. This information will be actively reviewed and summarized by MDH staff to identify trends, improve upon strategy implementation, and document grantee work in addressing health disparities.

Third, MDH evaluates specific strategies through pilot and case studies. These evaluations will be prioritized based on the strategy's evidence, how many people the strategy impacts, and whether the strategy is population- vs. programmatic- focused.

Finally, MDH has implemented an invoicing system that allows for the tracking of expenditures by strategy. This information, along with monitoring of trend data, will provide an opportunity to better understand the economic impact of SHIP strategies.

***

Conclusion: Improving health outcomes for an entire state is challenging work. Change is hard and slow. However, the consequences of not making improvements will be staggering. We know where we need to go and how to get there, and together, we are well on the way to a healthy, vital future for all.

Appendix: Data Update.

Overweight and obesity statistics

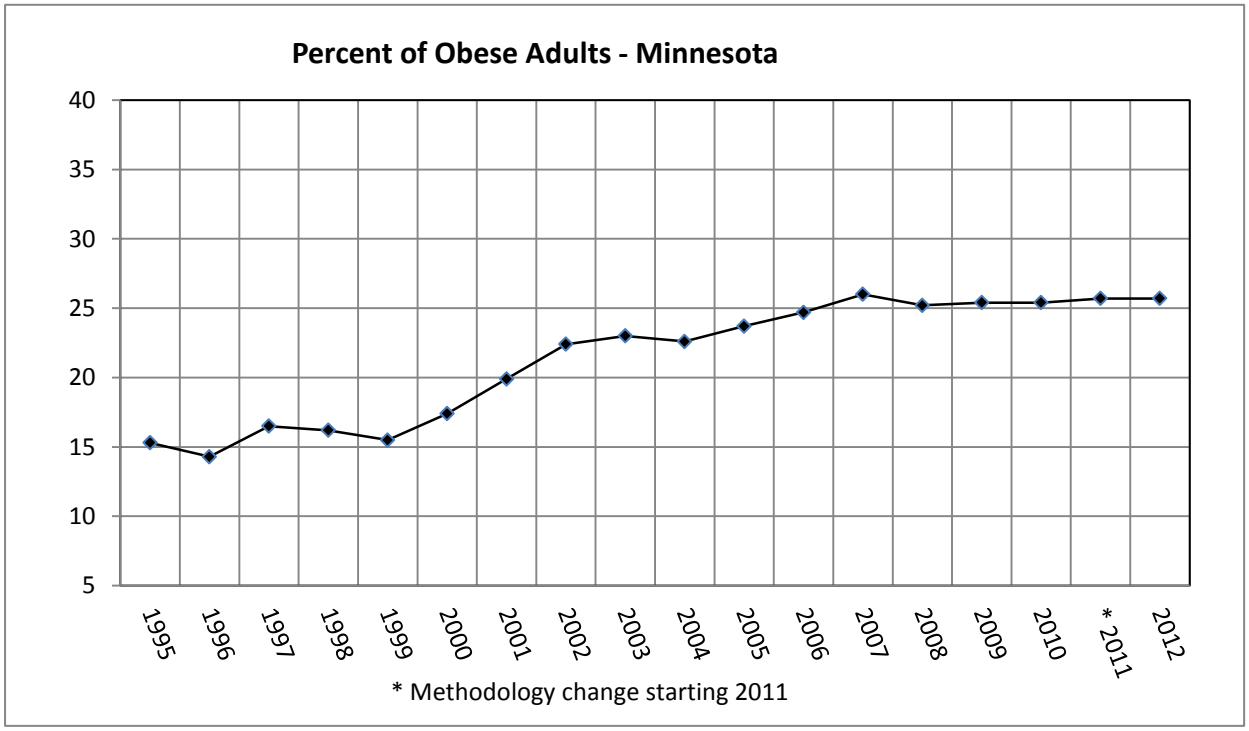
Over the past 20 to 30 years, obesity has been epidemic in the U.S. More than two-thirds of U.S. adults and almost one-third of children and adolescents are overweight or obese, and since 1980 obesity has doubled for adults and tripled for children. But the rate of increase has shown signs of leveling out since 2007.[69]

National:

- More than one-quarter of U.S. adults (28 percent) are obese[70]
- In 2011, over 15 percent of high school students were overweight, and 13 percent were obese[71]

Minnesota:

- Nearly 26 percent of Minnesota adults are obese[72]
- In 2012, 12.7 percent of children 2-5 years of age enrolled in the Supplemental Nutrition Program for Women, Infants and Children (WIC) were obese[73]



A cause for concern

Obesity has serious health consequences for individuals and a major impact on communities. Overweight and obesity threatens the health of our children, youth, adults and seniors, placing them at much greater risk for a wide variety of chronic diseases and health conditions.

Being overweight or obese increases the risk of premature death and many diseases and health conditions, including hypertension, high cholesterol, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, depression, osteoarthritis, sleep apnea, and some cancers.[74]

Overweight and obesity are generally caused by an ongoing imbalance in the body's energy intake and expenditure. Lack of physical activity and unhealthy eating patterns in our daily lives contribute to weight gain over time. Genetics play a role in determining weight; however, dramatic changes in the world over time have altered our daily lifestyle. Changes such as:

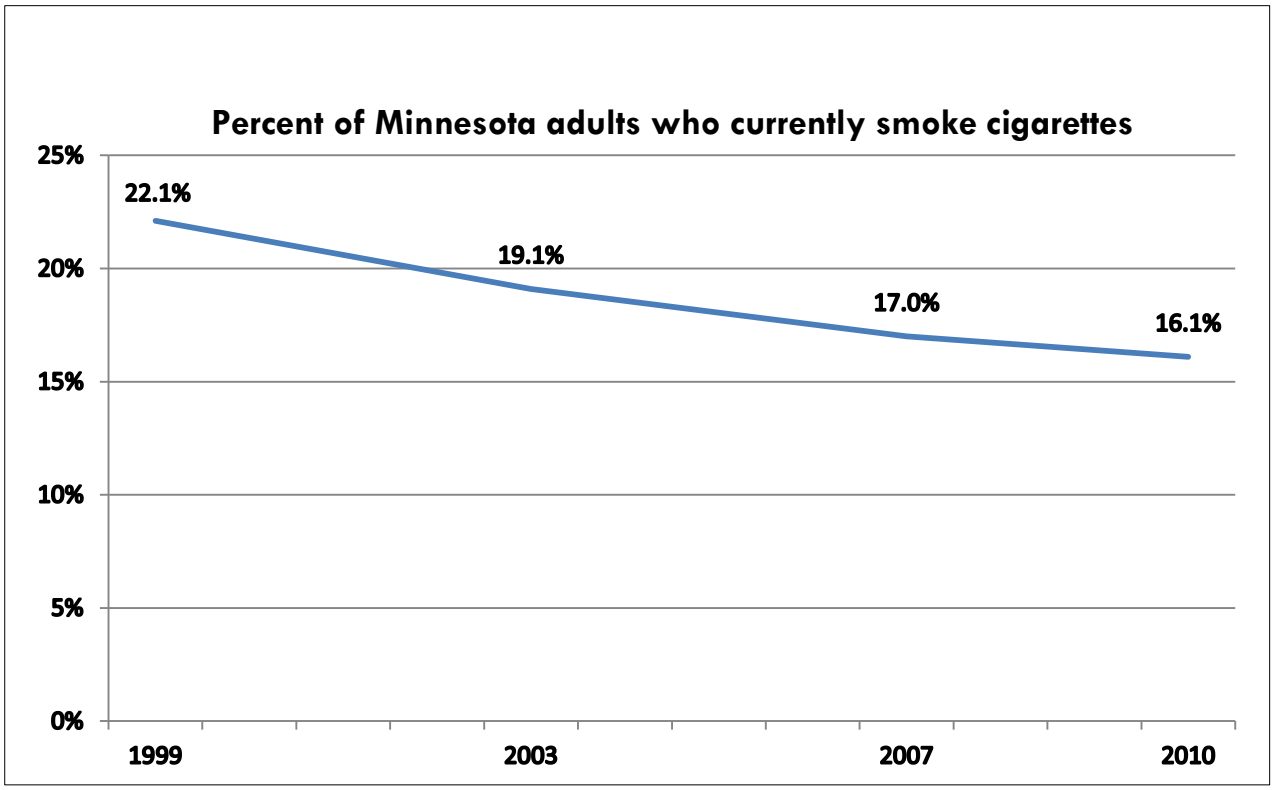
- Technology that reduces physical activity (e.g., cars, computers, TV)
- Increased marketing and consumption of unhealthy food items (e.g., high fat, sugar and calorie content)
- Increased food portions/serving size
- Lack of environmental supports (e.g., no sidewalks, unsafe neighborhoods, limited access to fruits and vegetables)
- Missing social and policy support (e.g., school and child care nutrition and physical education standards, worksite food and catering policies)

Commercial tobacco use and exposure

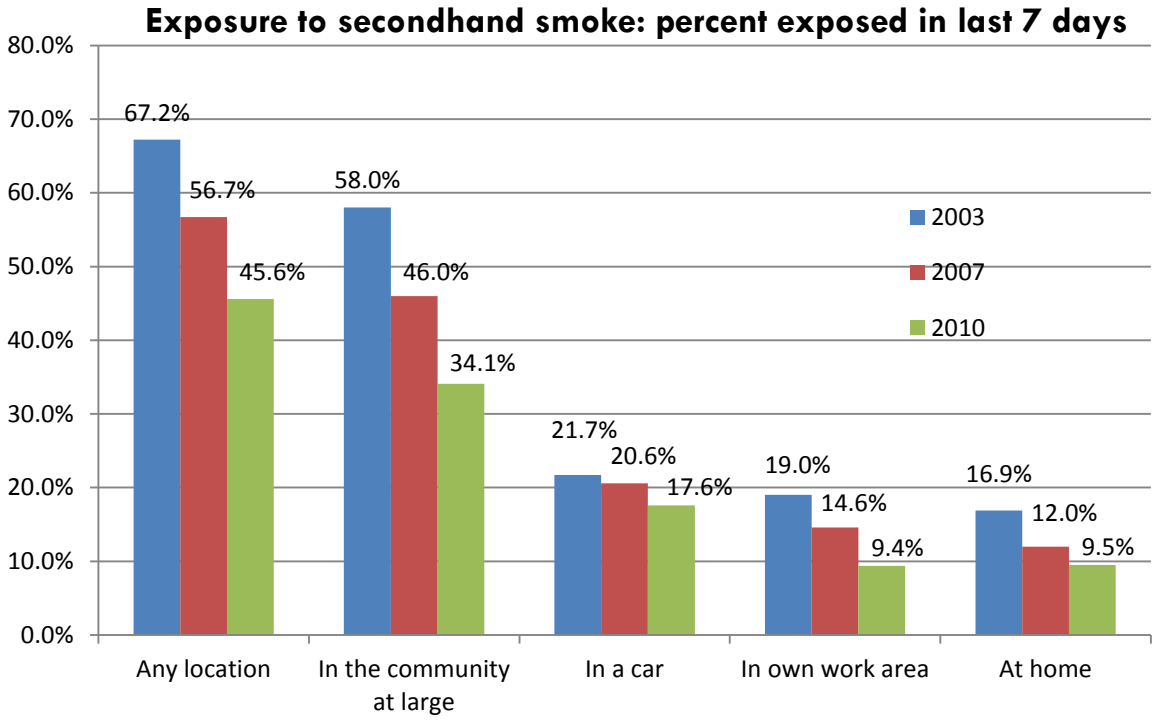
Smoking is the greatest cause of preventable death and disease in Minnesota and the nation. Smoking increases the risk of heart disease, stroke, chronic obstructive pulmonary disease (COPD), asthma, and many types of cancer. Babies born to mothers who smoke are at an increased risk of low birthweight and sudden infant death syndrome (SIDS). Environmental tobacco smoke, also called secondhand smoke, has health consequences for those who are exposed. [75]

Nationally, cigarette smoking is responsible for about one in five deaths annually (i.e., more than 440,000 deaths per year, and an estimated 49,000 of these smoking-related deaths are the result of secondhand smoke exposure).[76] On average, smokers die 10 years earlier than nonsmokers.[77]

Data from the 2010 Minnesota Adult Tobacco Survey (MATS) show that the percentage of adult Minnesotans who smoke has dropped[78] from 17.0 percent in 2007 to 16.1 percent in 2010. Since 1999, cigarette smoking has decreased six percentage points from 22.1 percent to 16.1 percent. This decrease represents a 27.1 percent change over 11 years.[79]



Adult smokers in Minnesota tend to be male, younger, have lower incomes, and have completed fewer years of education. Similar to previous MATS findings, in 2010 young adults ages 18-24 continued to have the highest smoking rate (21.8 percent) of all age categories. Smoking rates decline as education increases, with individuals with college degrees significantly less likely to be smokers than those in other education categories.



Reducing secondhand smoke is important for improving health. Secondhand smoke is a complex mixture more than 4,000 chemicals. Of these, at least 11 are known human carcinogens.[80] Numerous studies confirm that secondhand smoke causes many serious illnesses in nonsmokers, and exacerbates lung disease in nonsmoking adults and respiratory problems in children.[81] Secondhand smoke exposure is associated with childhood health problems, such as low birth-weight, asthma induction and aggravation, increased ear and respiratory infections, and sudden infant death syndrome.[82] Nonsmoking adults exposed to secondhand smoke in the workplace show a 91 percent increased risk of chronic heart disease[83] and an 82 percent increased risk of stroke.[84] Exposure to secondhand smoke causes nearly 50,000 deaths each year among adults in the United States.[85]

References.

[1] BRFSS 2012 by the Centers for Disease Control and Prevention

[2] JAMA. 2014;311(8):806-814. doi:10.1001/jama.2014.732.

[3] Declining childhood obesity rates—where are we seeing the most progress? Robert Wood Johnson Foundation www.rwjf.org, September 2012 http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/rwjf401163

[4] *2012 School Health Policies and Practices Study (SHPPS 2012)*

[5] USDA Food and Nutrition Service, 2011-2012 data http://www.fns.usda.gov/farmtoschool/census/#/

[6] Finkelstein et. al. Obesity and Severe Obesity Forecasts Through 2030. Am Jour Prev Med 2012 (6):563-570.

[7] Hoyert and Xu 2012; Heidenreich et al. 2011; Dauchet et al. 2006; Murphy and Topel 2006; Dauchet, Amouyel, and Dallongeville 2005. Taken from Union of Concerned Scientists, "The $11 Trillion Reward." Pg2. Two Brattle Square, Cambridge, MA 02138-3780 (617) 547-5552. 8/2013

[8] The "present value" is the monetary value of a stream of future benefits relative to the present. Future benefits are discounted, as current benefits are generally perceived to be more desirable.
Reference: Union of Concerned Scientists, "The $11 Trillion Reward." Pg2. Two Brattle Square, Cambridge, MA 02138-3780 (617) 547-5552. 8/2013

[9] Union of Concerned Scientists, "The $11 Trillion Reward." Pg2. Two Brattle Square, Cambridge, MA 02138-3780 (617) 547-5552. 8/2013

[10] Estimated reduction in obese population compared to projected rate

Population data source	**MDH Portal**	**State Demographer**
Year	2011	2012
State population	5,344,861	5,368,972
age 18+	4,067,335	4,085,683
Population % obese no change	1,045,305	1,050,021
Population % obese projected	1,063,201	1,097,006
Estimated difference in obese population	***17,896***	***46,985***

[11] Centers from Disease Control and Prevention, taken 11/2/6/2013 from Whole Health Source 2/11/2012 http://wholehealthsource.blogspot.com/2012/02/cigarette-smoking-another-factor-in.html

[12] 2010 Minnesota Adult Tobacco Survey (MATS)

[13] Fellows JL, Waiwaiole LA. Smoking-attributable Mortality and Economic Costs in Minnesota, 2007, Final Report. Portland, OR: Kaiser Foundation, Hospitals, Center for Health Research, 2010. Taken from Health care costs and smoking in Minnesota, A report prepared by Blue Cross and Blue Shield of Minnesota November 2010

[14] Cigarette Smoking and Secondhand Smoke Exposure Among Adult Minnesotans continues to decline, MATS: The Minnesota Adult Tobacco Survey 1999-2010 http://www.health.state.mn.us/divs/chs/tobacco/matsfactsheet.pdf

[15] A Compendium of Proven Community-Based Prevention Programs, Trust for America's Health (TFAH) and New York Academy of Medicine (NYAM), October 2013 http://healthyamericans.org/report/110/

[16] Mokdad et al, JAMA 2004 March 10; 291 (10):1238-45 U.S. 2000

[17] Determinants of Health Model (MN Department of Health, Office of Performance Improvement (2012). MDH Model is based on frameworks developed by Tarlov AR. Ann N Y Acad Sci 1999; 896: 281-93; and Kindig D, Asada Y, Booske B. JAMA 2008; 299(17): 2081-2083.)

[18] Source http://www.usgovernmentspending.com

[19] *Bending the Obesity Cost Curve in Minnesota*: Trust for America's Health and Robert Wood Johnson Foundation. http://www.healthyamericans.org/assets/files/obesity2012/TFAHSept2012_MN_ObesityBrief02.pdf (accessed November 21, 2012)

[20] Blue Cross and Blue Shield of Minnesota. "Obesity and Future Health Care Costs: A Portrait of Two Minnesotas," January 2008

[21] Blue Cross and Blue Shield of Minnesota. Health Care Costs and Smoking in Minnesota," November 2010

[22] Blue Cross and Blue Shield of Minnesota. Health Care Costs and Smoking in Minnesota," November 2010

[23] Maciosek MV, Coffield AB, Flottemesch TJ, Edwards NM, Solberg LI. Greater use of preventive services in U.S. health care could save lives at little or no cost. Health Aff (Millwood). 2010 Sep;29(9):1656-60.

[24] Making the Business Case for Smoking Cessation Programs: 2012 Update. A report by Leif Associates.
[25] Rumberger, J., Hollenbeak, C., Kline, D. "Potential Costs and Benefits of Smoking Cessation for Minnesota." Penn State University (2010).
[26] Armour BS, Finkelstein EA, Fiebelkorn IC. State-level Medicaid expenditures attributable to smoking. Prev Chronic Dis 2009;6(3). http://www.cdc.gov/pcd/issues/2009/jul/08_0153.htm
[27] Justin G. Trogdon, Eric A. Finkelstein, Charles W. Feagan and Joel W. Cohen. State- and Payer-Specific Estimates of Annual Medical Expenditures Attributable to Obesity. Obesity (2011) doi:10.1038/oby.2011.169
[28] Anderson D.R., Whitmer R.W., Goetzel R.Z., Ozminkowski R.J., Dunn R.L., Wasserman J. and Serxner S. "The relationship between modifiable health risks and group-level health care expenditures," American Journal of Health Promotion 15, no.1(2000):45-52.
[29] Thorpe, Kenneth. "Factors accounting for the rise in health-care spending in the United States: the role of rising disease prevalence and treatment intensity," Public Health 120, no. 1(2006):1002-7.
[30] Pronk N.P., Goodman M.J., O'Connor P.J. and Martinson B.C. "Relationship between modifiable health risks and short-term health care charges," Journal of American Medical Association 282, no. 23(1999): 2235-9. http://jama.jamanetwork.com/article.aspx?articleid=192207
[31] Pronk N.P., Goodman M.J., O'Connor P.J. and Martinson B.C. "Relationship between modifiable health risks and short-term health care charges," Journal of American Medical Association 282, no. 23(1999): 2235-9.http://jama.jamanetwork.com/article.aspx?articleid=192207
[32] Martinson B.C., Crain A.L., Pronk N.P., O'Connor P.J., Maciosek M.V., "Changes in physical activity and short-term changes in health care charges: a prospective cohort study of older adults", Preventive Medicine 37 (2003) 319-326.
[33] Taken from http://www.cdc.gov/policy/resources/Investingin_ReducesEmployerCosts.pdf
[34]Smoke-free policies could save landlords up to $18 million a year in cleaning costs. August 18, 2011 UCLA News Room. Taken from http://newsroom.ucla.edu/portal/ucla/smoke-free-policies-could-save-213648.aspx
[35] http://healthyamericans.org/assets/files/obesity2012/TFAHSept2012_MN_ObesityBrief02.pdf
[36] The Community Guide Branch, Epidemiology Analysis Program Office (EAPO), Office of Surveillance, Epidemiology, and Laboratory Services (OSELS), Centers for Disease Control and Prevention, 1600 Clifton Rd NE, Mailstop E-69, Atlanta, GA 30333, U.S.A.
[37] Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs—2007. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; October 2007.
[38] 15 Cohen, D.A., Shribner R. A., and Farly T. A. "A structural model of health behavior: a pragmatic approach to explain and influence health behaviors at the population level," Preventive Medicine 30, no. 2 (2000): 146-154.
[39] McCormack LA, Laska MN, Larson NI, Story M. Review of the nutritional implications of farmers' markets and community gardens: A call for evaluation and research efforts. Journal of the American Dietetic Association. 2010;110(3):399-408.
[40] Young C, Karpyn A, Uy N, Wich K, Glyn J. Farmers' markets in low income communities: Impact of community environment, food programs and public policy. Community Development. 2011;42(2):208-20.
[41] Dena R. Herman, Gail G. Harrison, Abdelmonem A. Afifi, and Eloise Jenks. Effect of a Targeted Subsidy on Intake of Fruits and Vegetables Among Low-Income Women in the Special Supplemental Nutrition Program for Women, Infants, and Children. American Journal of Public Health: January 2008, Vol. 98, No. 1, pp. 98-105.
[42] Crowe, Francesca L. et. al. 2011. Fruit and vegetable intake and mortality from ischaemic heart disease: results from the European Prospective Investigation into Cancer and Nutrition (EPIC)-Heart study. European Heart Journal. 32:1235-1243
[43] Center of Energy & Environment: Secondhand Smoke and the Movement of Indoor Air http://www.mncee.org/Innovation-Exchange/Projects/Current/Environmental-Tobacco-Smoke/
[44] See smoke-free policies http://www.countyhealthrankings.org/policies/smoke-free-policies
[45] King, Brian A, Richard M Peck, and Stephen D Babb. "Cost-Savings Associated with Prohibiting Smoking in U.S. Subsidized Housing." American Journal of Preventative Medicine, June 2013: 631-634.
[46] Pizacani, Barbara A, Julie E Maher, Kristen Rohde, Linda Drach, and Michael J Stark. "Implementation of a Smoke-free Policy in Subsidized Multiunit Housing: Effects on Smoking Cessation and Secondhand Smoke Exposure." Nicotine & Tobacco Research, February 2012: 1027-1034.
[47] See EBT in farmers markets http://www.countyhealthrankings.org/policies/electronic-benefit-transfer-ebt-payment-farmers-markets;
[48] Finkelstein, E., Fiebelkorn, I., & Wang G. (2004). State-level estimates of annual medical expenditures attributable to obesity. Obesity Research, 12:18-24.
[49] See for physical activity programs in community settings http://www.countyhealthrankings.org/policies/fitness-programs-community-settings; for point of decision prompts http://www.countyhealthrankings.org/policies/point-decision-prompts-physical-activity;
[50] Robert Wood Johnson Foundation. What Are Competitive Foods? How Do They Impact Student Health? 2012. http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/rwjf72649

[51] Robert Wood Johnson Foundation. How Can Healthier School Snacks and Beverages Improve Student Health and Help School Budgets? 2013. http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2013/rwjf72649

[52] See for pricing strategies http://www.countyhealthrankings.org/policies/competitive-pricing-schools; for Farm to School http://www.countyhealthrankings.org/policies/farm-school-programs; for school gardens http://www.countyhealthrankings.org/policies/school-fruit-vegetable-gardens; for vending http://www.countyhealthrankings.org/policies/healthy-vending-machine-options; limiting access to unhealthy food in schools http://www.countyhealthrankings.org/policies/limit-access-competitive-foods-and-beverages-schools;

[53] Centers for Disease Control. http://makinghealtheasier.org/burntolearn

[54] See for physical education http://www.countyhealthrankings.org/policies/enhanceexpand-school-based-physical-education; for active classrooms http://www.countyhealthrankings.org/policies/physically-active-classrooms; for Safe Routes to School http://www.countyhealthrankings.org/policies/safe-routes-schools-srts; for after school programs http://www.countyhealthrankings.org/policies/extracurricular-activities-physical-activity;

[55] University of Minnesota. Boynton Health Service. September 2013. *Evaluation of Minnesota College Campus Tobacco Use Policies and Student Tobacco Use Rates*. Minneapolis.

[56] See smoke-free policies http://www.countyhealthrankings.org/policies/smoke-free-policies

[57] Lee, Joseph G L, Adam O Goldstein, Kathryn D Kramer, Julea Steiner, Mark M Ezzell, and Vandana Shah. "Statewide diffusion of 100% tobacco-free college and university policies." Tobacco Control, May 2010: 311-317.

[58] Seo, Dong-Chul, Jonathan T Macy, Mohammad R Torabi, and Susan E Middlestadt. "The effect of a smoke-free campus policy on college students' smoking behaviors." Preventive Medicine, August 2011: 347-352.

[59] For more information: http://www.health.state.mn.us/lana

[60] See http://www.countyhealthrankings.org/policies/nutrition-and-physical-activity-interventions-preschool-and-child-care

[61] See http://www.countyhealthrankings.org/policies/nutrition-and-physical-activity-interventions-preschool-and-child-care

[62] See http://www.countyhealthrankings.org/policies/breastfeeding-promotion-programs

[63] See for breastfeeding http://www.countyhealthrankings.org/policies/breastfeeding-promotion-programs; for obesity http://www.countyhealthrankings.org/policies/worksite-obesity-prevention-interventions; for vending http://www.countyhealthrankings.org/policies/healthy-vending-machine-options; for smoke-free policies http://www.countyhealthrankings.org/policies/smoke-free-policies

[64] The National Women's Health Information Center. Breastfeeding: Why Breastfeeding is Important. Department of Health and Human Services Office on Women's Health. http://www.womenshealth.gov/breastfeeding/why-breastfeeding-isimportant/ (accessed January 21, 2012).

[65] See for breastfeeding http://www.countyhealthrankings.org/policies/breastfeeding-promotion-programs

[66]America's Health Rankings, United Health Foundation, 2013 http://www.americashealthrankings.org/

[67] See http://www.countyhealthrankings.org/policies/activity-programs-older-adults

[68] National Urban League Policy Institute, "State of Urban Health: Eliminating Health Disparities to Save Lives and Cut Costs," December 2012. Taken from The Business Case for Racial Equity, Ani Turner, Altarum Institute, October 2013.

[69] NHANES by the National Center for Health Statistics. Retrieved Nov 26 2013 from http://www.cdc.gov/nchs/nhanes.htm

[70] BRFSS 2012 by the Centers for Disease Control and Prevention. Retrieved 25 Nov 2013 from http://www.cdc.gov/brfss

[71] YRBSS 2011 by the Centers for Disease Control and Prevention. Retrieved 25 Nov 2013 from http://www.cdc.gov/ yrbss

[72] BRFSS 2012 by the Centers for Disease Control and Prevention. Retrieved 25 Nov 2013 from http://www.cdc.gov/brfss

[73] MDH Obesity and Overweight Status in Minnesota WIC Children May 2013.

[74] Overweight and obesity by the Centers for Disease Control and Prevention (22 May 2007). Retrieved 1 Nov 2007 from http://www.cdc.gov/nccdphp/dnpa/obesity/

[75] Centers for Disease Control and Prevention. Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States, 2000–2004. Morbidity and Mortality Weekly Report 2008;57(45):1226–8 [accessed 2013 June 5]. Taken from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm

U.S. Department of Health and Human Services. How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010 [accessed 2013 June 5].

Taken from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm

[76] Centers for Disease Control and Prevention. Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States, 2000–2004. Morbidity and Mortality Weekly Report 2008;57(45):1226–8 [accessed 2013 June 5]. Taken from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm

U.S. Department of Health and Human Services. How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010 [accessed 2013 June 5].

[77] 5.Jha P, Ramasundarahettige C, Landsman V, Rostron B, Thun M, Anderson RN, McAfee T, Peto R 21st Century Hazards of Smoking and Benefits of Cessation in the United States. New England Journal of Medicine 2013;368:341–50 [accessed 2013 June 5].
Taken from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm
[78] Cigarette Smoking and Secondhand Smoke Exposure Among Adult Minnesotans continues to decline. MATS: The Minnesota Adult Tobacco Survey 1999-2010 http://www.health.state.mn.us/divs/chs/tobacco/matsfactsheet.pdf
[79] Minnesota Department of Health (MDH) and Clearway Minnesota, Minnesota Adult Tobacco Survey, http://www.mnadulttobaccosurvey.org .
[80] National Cancer Institute. Risks Associated with Smoking Cigarettes with Low Machine-Measured Yields of Tar and Nicotine. Smoking and Tobacco Control Monograph No. 13. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute, NIH Pub. No. 02-5074, October 2001. Available at: http://dccps.nci.nih.gov/tcrb/monographs/13/m13_5.pdf. Taken from Secondhand Smoke in Minnesota, 1999-2003 http://www.health.state.mn.us/divs/hpcd/tpc/docs/secondhand2003.pdf
[81] Centers for Disease Control and Prevention. Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Economic Costs-U.S., 1995-1999. Morbidity and Mortality Weekly Report. 2002;51(14):300-303.
National Cancer Institute. Cancer Facts: Environmental Tobacco Smoke. National Cancer Institute web site. Available at: http://cis.nci.nih.gov/fact/10_18.htm. Accessed November 3, 2004. Taken from Secondhand Smoke in Minnesota, 1999-2003 http://www.health.state.mn.us/divs/hpcd/tpc/docs/secondhand2003.pdf
[82] California Environmental Protection Agency. Health Effects of Exposure to Environmental Tobacco Smoke. Sacramento, CA: Cal EPA; 1997.
[83] Kawachi I, Colditz G, Speizer F et al. A prospective study of passive smoking and coronary heart disease. Circulation. 1997;95(10):2374-2379. Taken from Secondhand Smoke in Minnesota, 1999-2003 http://www.health.state.mn.us/divs/hpcd/tpc/docs/secondhand2003.pdf
[84] Bonita R, Duncan J, Truelson T, Jackson RT, Beaglehole R. Passive smoking as well as active smoking increases the risk of acute stroke. Tobacco Control. 1999;8(2):156-160. Taken from Secondhand Smoke in Minnesota, 1999-2003 http://www.health.state.mn.us/divs/hpcd/tpc/docs/secondhand2003.pdf
You RX, Thrift AG, McNeil JJ, Davis SM, Donnan GA. Ischemic stroke risk and passive exposure to spouses' cigarette smoking. American Journal of Public Health. 1999;89(4):572-575.
[85] Centers for Disease Control and Prevention. Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses—United States, 2000–2004. Morbidity and Mortality Weekly Report 2008;57(45):1226–8 [accessed 2013 June 25].
Taken from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/tobacco_related_mortality/#shs

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