Return on Investment for Tobacco Cessation

Costs to Minnesota's economy from smoking are estimated in excess of $5 billion each year.

Tobacco use is the single most preventable cause of death and disease in the U.S., causing 5,100 deaths in Minnesota in 2010 alone.[1] Smoking affects nearly every system in the body, causes serious health problems and increases medical costs. Today roughly 10 percent of smokers live with a smoking-related illness.[2]

Tobacco use has direct and indirect costs for health care providers, employers and insurers, for the state and for the public. Spending on health care due to a smoking-related illness is estimated to cost Minnesota $2.87 billion each year - $554 for every man, woman and child in the state.[3] Smokers have estimated health care costs that average 34 percent higher than nonsmokers.[4] Indirect costs, such as lost workplace productivity and absenteeism, are estimated to cost Minnesota employers $1.2 billion each year.[5] In total, costs to Minnesota's economy from smoking are estimated in excess of $5 billion each year.[6]

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Tobacco treatment is one of the most cost-effective preventive services, providing substantial return on investment in the short and long term. [7] Investments in smoking cessation lead to improved health outcomes, resulting in lower health care costs and more affordable health insurance premiums.[8] Tobacco cessation treatment will become increasingly important as providers, employers, insurers and the state look to improve the public's health and reduce the total cost of health care. The following brief highlights current evidence quantifying the return on investment and cost-effectiveness of tobacco cessation treatment and its implications for Minnesota.

ROI for Providers

Tobacco use screening and brief intervention is one of the three most cost-effective clinical preventive services.[a,9, 10] The U.S. Public Health Service Clinical Practice Guideline, *Treating Tobacco Use and Dependence – 2008 Update* demonstrated that effective treatments for tobacco users exist, are cost-effective and should become part of standard health care.[11] The cost per quit of smoking cessation interventions ranges from a few hundred to a few thousand dollars.[12] In contrast, the average cost for treating a single case of lung cancer is approximately $40,000.[13] Tobacco screening is estimated to result in lifetime savings of $9,800 per person.[14]

Smoking cessation can produce annual medical savings. Quitting smoking can positively affect a wide variety of health conditions associated with smoking. A few examples include:[15]

Short-Term Consequences of Smoking on Selected Conditions	Annual Medical Savings per Smoker Who Quits
Coronary Heart Disease and Stroke	$153
Adult Pneumonia	$3
Low-Birthweight Babies	$9
Childhood Asthma	$14
Other Childhood Respiratory Conditions	$8
Childhood Otitis Media (Ear Infections)	$5
Annual Total	$192

[a] *The other two highest-ranked services were childhood immunizations and discussing aspirin use with high-risk adults.*

Quitting smoking can lower total health care costs within two years. Research shows that cessation treatment in the outpatient setting lower health care costs within 18 months of quitting.[16] Within three years, a former smoker's health care costs will be at least 10 percent less than if they continued smoking.[17] Addressing smoking cessation in primary care raises little concern for additional health care use in the short term and holds promise to reduce health care costs within a relatively brief period of time.[18]

Cessation program expenditures can be fully offset in three years. Over a three-year period, expenditures for smoking cessation programs in the range of $144 to $804 per smoker can be fully offset by health care cost savings.[19]

Special populations can realize even greater cost savings with cessation. Greater savings will likely occur within special populations, such as pregnant women ($3 in health care costs for every $1 invested in smoking cessation treatment for pregnant women[20]) and persons with cardiac conditions ($47 during the first year and about $853 over the following seven years[21]).

Routinely helping patients quit smoking is a core responsibility of health care systems. An estimated 70 percent of the 45 million adult smokers in the U.S. see a health care provider each year, representing over 31 million opportunities for brief intervention and treatment. Data show that advice from health care providers increases the use of evidence-based cessation treatments and improves outcomes.[22] [23]

ROI for Insurers and Employers

Smoking cessation programs cost little compared to other commonly covered services. A comprehensive and effective smoking cessation intervention (counseling and medications) costs between $0.18 and $0.79 per member per month (PMPM), with many interventions costing less than $0.50 PMPM. [24] [25] In contrast, the cost of treating a single case of heart failure is estimated at $5.23 PMPM.[26]

Investments in smoking cessation save health plans and employers money in the short and long term. Research has shown that health plans investing $35-$410 to help a person quit over the course of a year generate positive return on investment (ROI) within 3 years. Simulation models using health plan data to estimate ROI for smoking cessation indicate that spending $0.18-$0.79 PMPM generates positive net ROI of over $1.70-$2.20 after five years. This model also demonstrates positive ROI for employers beginning in the first year that the investment was made and continuing over the five-year period. [27]

Smoking cessation increases productivity. The American Productivity Audit, a national survey of over 29,000 workers, found that tobacco use was a leading cause of worker lost production time—greater than alcohol abuse or family emergencies. Quitting smoking improves a worker's productivity.[28]

ROI for the State

For every dollar spent on providing tobacco cessation treatment, the state potentially sees an average positive return on investment of $1.32.[29] In Minnesota, approximately 11 percent of Medicaid costs are attributable to smoking-related medical expenditures.[30] Strategies to increase smoking cessation among Medicaid enrollees can reduce smoking-related disease and death among a population disproportionately affected by tobacco use, and can reduce smoking-related health care costs incurred by the state.

Including comprehensive tobacco cessation services in Medicaid insurance coverage can result in substantial savings for Medicaid programs. Every dollar invested in the Massachusetts Medicaid Tobacco Cessation Program led to an average savings of $3.12 in cardiovascular-related hospitalization expenditures. These savings were realized within one year of the benefits being used.[31]

Smoking cessation reduces Medicaid claims. When Massachusetts implemented and aggressively promoted a smoking cessation benefit with minimal co-payments to all Medicaid enrollees, smoking prevalence among enrollees dropped 26 percent in the first two and a half years.[32] Analysis of Medicaid claims data also found a 46% decrease in the likelihood of hospitalization for heart attacks, and a 49 percent decrease for other coronary heart disease diagnoses during this same time period.[33]

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