



## KANSAS HEALTH INSTITUTE

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### **Cost-benefit of Tobacco Use Cessation**

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**Senate Committee on Public Health and Welfare**

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*Healthier Kansans Through Informed Decisions*

The Kansas Health Institute is an independent, non-profit health policy and research organization based in Topeka, KS. Established in 1995 with a multi-year grant from the Kansas Health Foundation, the Kansas Health Institute conducts research and policy analysis on issues that affect the health of Kansans.

I am Anthony Wellever, Vice President and Director of Special Projects at the Kansas Health Institute, a non-partisan, nonprofit health policy research organization located in Topeka.

On October 12 of last year, we observed the 40th anniversary of the first appearance on cigarette packages of the Surgeon General's warning against smoking. The science linking cigarette smoking to lung cancer and other respiratory and cardiac diseases was sufficient by 1964 for the Surgeon General to place this unprecedented warning on the product itself.

And here we are 40 years later: 22 percent of adults and 21 percent of high school students in Kansas are tobacco users; approximately 460,000 Kansans still use tobacco products. Smoking is the leading cause of preventable death and disease in Kansas. Tobacco use costs the health care system in Kansas \$724 million per year in direct medical costs. Of this amount, \$153 million is paid by the Medicaid program. Estimates of the indirect costs of smoking in Kansas run as high as \$741 million in lost productivity due to absenteeism and damage to personal property. Direct and indirect costs of smoking in Kansas total \$1,465,000,000 *annually*, an amount equal to approximately \$543 for every man, woman, and child in Kansas regardless if they smoke or not.

This cost burden falls more heavily on users of tobacco products, as it should, but much of the burden is carried by non-smokers. I already mentioned the expense to the Medicaid program, but the cost of higher health insurance premiums for the state employees' health plan due to the avoidable cost of tobacco-related disease of state employees and their dependents who use tobacco products is also a cost born largely by the State of Kansas. Because insurance is based on the principle of pooled risk, one could argue that the cost of all health insurance would decrease if these costs were withdrawn from the system. In a sense, the 80 percent of us who do not use tobacco are being taxed without our knowledge and without our consent by the 20 percent who do.

I was invited here today by Senator Barnett to provide testimony on a specific aspect of the tobacco debate—the probable return on investment of state expenditures on tobacco cessation programs. The projected savings I am about to show you were calculated by the Campaign for Tobacco-Free Kids, a public health advocacy organization focused on reducing tobacco use. I have not seen the model employed, but I believe it is based on one prepared by the U.S. Centers for Disease Control and Prevention, which in turn is based on empirical findings from states, such as California, that have mounted large scale and sustained tobacco cessation efforts.

My presentation focuses on an explanation of the three charts at the back of this written testimony. The first chart is the most important, in part, because it is the easiest to understand. The other two charts are variations on a theme. The savings on all three charts represent only those coming from reductions in *medical* expenditures related to tobacco use.

I used the Campaign for Tobacco-Free Kids' projections to make some assumptions about savings over time and represent them graphically. I assumed a five-year expenditure of 90.3 million dollars (\$18.1m/yr.), the amount CDC suggests a state the size of Kansas should invest in tobacco cessation.

The Campaign for Tobacco-Free Kids projected lifetime adult health care savings of \$814.3 million and lifetime youth health care savings of \$427.2 million, for a total health care savings of \$1.24 billion. (Chart 1)

I made the following assumptions about the distribution of the savings over time. I assumed that approximately 70 percent of the adult lifetime savings would occur in the first 15 years after quitting smoking. Because of numerous factors—including the deaths of people who had previously smoked—I estimated that the cost savings per year would taper off over the next 20 years.

I assumed that the health costs of youths not taking up smoking would not become apparent until 15 years after the beginning of a smoking cessation program, allowing time for teenagers to become addicted to tobacco and for the long-term consequences of tobacco use on health to begin to show. Approximately 40 percent of the savings, I assumed, would be achieved between years 15 and 30. And in the next 15 years, as the youth cohort continues to age, cost savings per year will increase.

Finally, I added the youth curve to the adult curve to get total health care savings. In this estimate, there is no break-even point, because savings in every year exceed expenditures. However, this estimate is not how the world really works.

(Chart 2) In the real world, a smoking cessation program will not be up and running the moment it is funded. There will be an implementation time lag. The program has to be designed, tested, and implemented at the local level. And then it will take time for the message to be acted upon and for smokers to actually quit smoking.

Therefore, I assumed that there would be a two and a half year lag between the beginning of the program and the first cost savings. When you make this assumption, program expenditures *do* exceed program benefits for the first five years and some months. After that, cost savings exceed program expenditures.

(Chart 3) The Campaign for Tobacco-Free Kids estimates a one percentage point per year decline in smoking for a five-year program. That would mean that after five years, approximately 98,700 Kansans would have quit smoking or would never have started to smoke. What if this projection is too rosy? What if some people resume smoking or youths begin to smoke as adults? I performed the following sensitivity analysis.

I assumed that adult and youth health care savings would be 20 percent less than those projected by the Campaign for Tobacco-Free Kids. Even so, benefits—reduced health care expenditures—exceed program expenditures almost immediately. Even if a time lag were factored in—which I did not do—the break even point would not be greater than seven years.

In short, Mr. Chairman, it is highly likely that an investment in tobacco use cessation of this magnitude will yield benefits to the state far in excess of expenditures. Careful listeners will note that I said “of this magnitude” by which I mean the \$18.1 million dollar per year expenditure for five years recommended by the CDC. I do not know whether CDC has found that the proportions of saving to investments I just showed you will hold at lower levels of investment.