Was it worth it? Cost-benefit analysis of a multi-component tobacco control initiative

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In 2004, the Missouri Foundation for Health (MFH) initiated a nine-year effort to reduce tobacco-related morbidity and mortality in Missouri through statewide tobacco control and prevention efforts entitled the Tobacco Prevention and Cessation Initiative (TPCI).

- **Multi-site Initiative** Since the first grant award, over 50 agencies and organizations have received funding.
- Multiple strategies- TPCI has funded several strategies including building support for a tobacco tax increase, advocating for smoke-free workplaces, implementing youth prevention program, and increasing access to cessation resources.
- **Initiative Level Evaluation** As the Initiative evaluator, the Center for Tobacco Policy Research at Washington University in St. Louis is collecting process and outcome data over the life of the Initiative, including cost-related data.

Key Points:

- Evaluating the costs and benefits of a multi-site initiative whose grantees are working to achieve a variety of outcomes can be challenging.
- This presentation will present an approach we took to conducting an economic evaluation of an intiative with multiple sites and strategies.

Methods

Cost, benefits, and cost-effectiveness ratios were calculated for the first three strategies funded by TPCI:

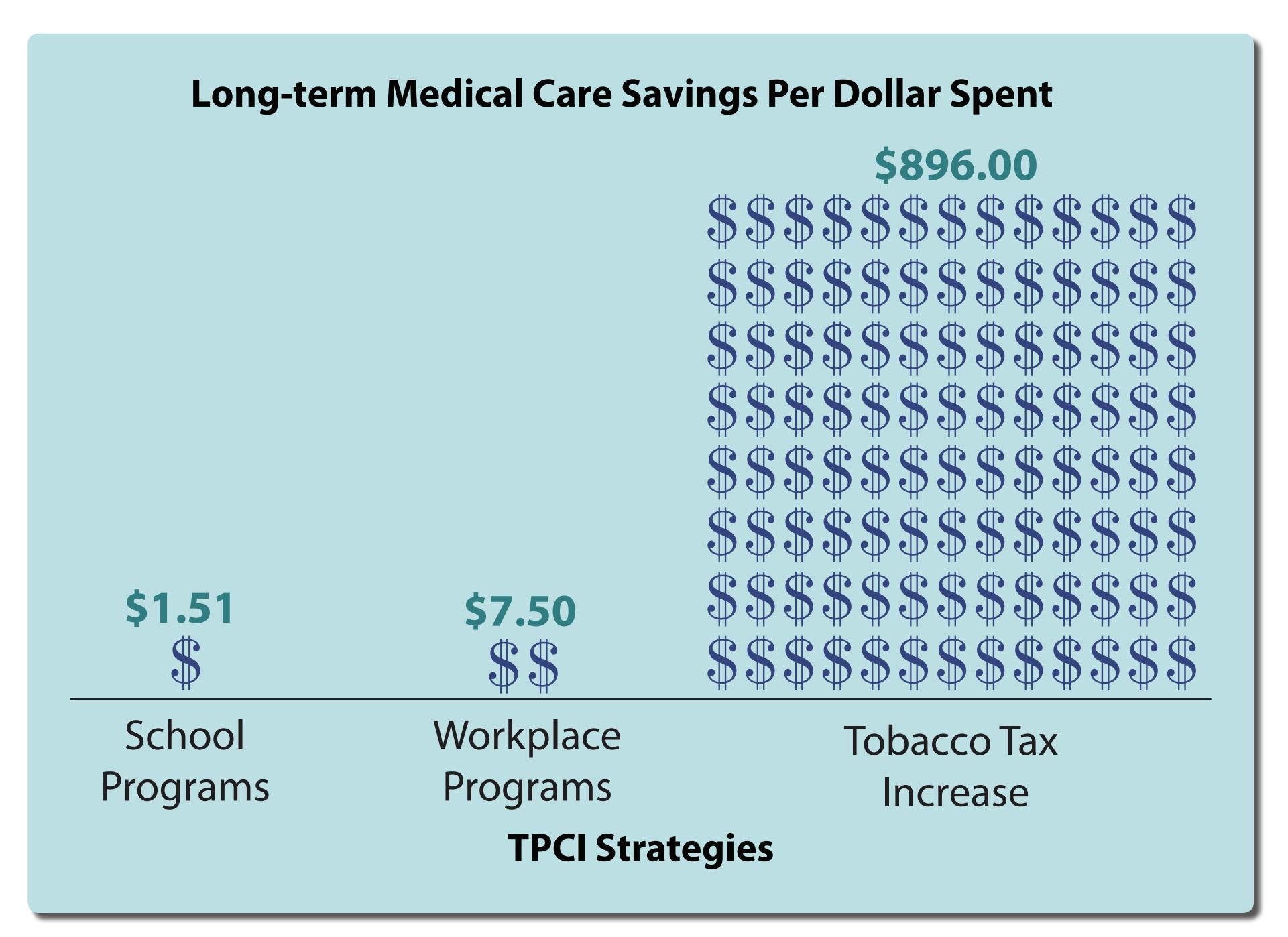
- Strategy 1: An education campaign to build support for a tobacco tax increase that would increase Missouri's tax by 470%.
- **Strategy 2:** A workplace and community strategy whose grantees provided cessation resources (e.g., classes) and advocated for smoke-free workplaces.
- Strategy 3: A youth-focused strategy that included three different programs carried out in Missouri schools that educated students on the burden of tobacco use and promoted youth advocating for policy change.

Data Details:

- Only direct program costs were assessed; the economic evaluation did not include MFH staff time and funding spent on the Initiative evaluation or capacity-building activities.
- Due to the tobacco tax increase not passing, two different scenarios were assessed:
 - 1) What benefits would be anticipated if the tax had passed; and
 - 2) Reality of the tax not passing.
- Adult smokers quitting and youth prevented from initiating smoking were translated into QALY's gained and lifetime medical care savings.
- Cost-effectiveness ratios were calculated for each strategy and then combined for all three strategies. A discount rate of 3% was used for the calculations.

A Tobacco Tax Increase Would Have Resulted in Significant Savings for Missouri

In 2006, the tobacco tax increase for Missouri failed. An increase in the tobacco tax, would have provided the biggest savings by far out of all three strategies for TPCI. The total long-term medical care savings per dollar spent for the Initiative would have been over 21 times higher if the tobacco tax would have passed.



Despite the Failure of the Tax Increase, the Initiative Still Resulted in Savings

Assessing two different scenarios, the tax increase failing vs. passing, shows what could have been gained if the tax campaign had been successful. However, despite losing out on the benefits of the tax increase, the overall Initiative still showed gains for every dollar spent.

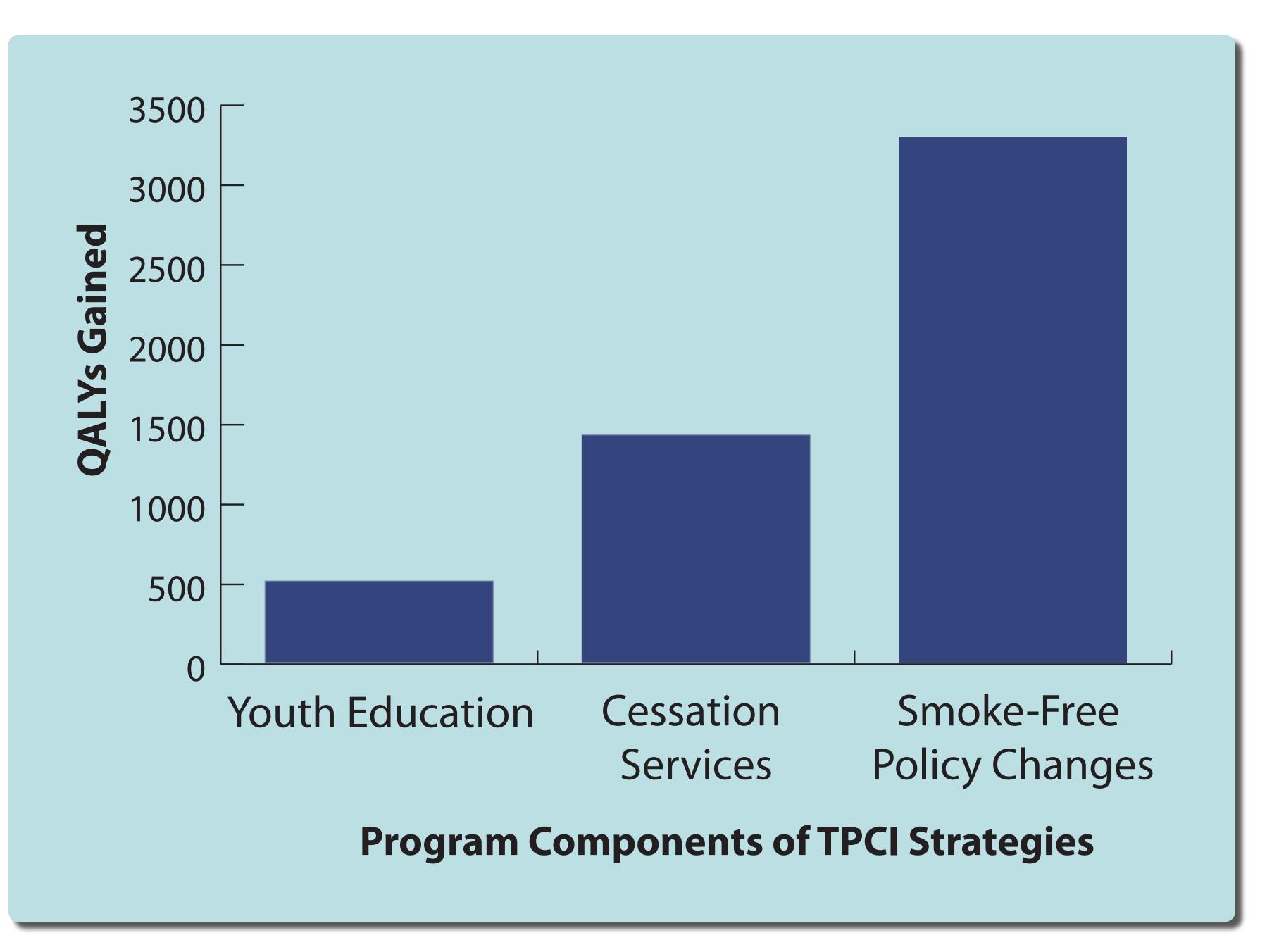
	If Tax Passed	Tax Failed (Reality)
Costs	\$7,066,434	\$7,066,434
QALYs Gained*	105,526	5,228
Long-term Medical Care Savings	\$616,497,054	\$30,510,165
Cost/QALY Gained	\$67	\$1,352
Medical Care Savings/ Dollar Spent	\$87	\$4

^{*} Quality Adjusted Life Years

Results —

Policy Changes Result in the Largest Benefits

Within the school and workplace-based strategies, smoke-free policy changes, particularly on the community level, showed 2-6 times higher cost-benefit/cost-effectiveness ratios in comparison to cessation services and youth education programs.



Recommendations

When conducting economic analyses of multiple strategies:

- Ensure the data needed are collected from the beginning of the initiative or program.
- Keep it simple; focus in on a few key benefits.
- Use the same numbers to calculate costs and benefits to allow for comparison across strategies.
- Keep a detailed record of your sources and calculation decisions throughout the analysis to ensure you can clearly describe the entire process in a report or when requested.

When funding multiple strategies:

- Utilize the current evidence to determine how much funding should be allocated to specific strategies within a comprehensive effort to result in the best return on investment.
- Consider including economic analyses as a standard component of your evaluations.
- Include policy change as a primary component of your efforts.

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