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Cost-Benefit Analysis: A How-To Guide for Tobacco Control Initiatives

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Presentation Overview

- Background
- Planning and Implementation of the Assessment
- Findings of the Assessment
- Dissemination of Results
- Lessons Learned from Conducting the Assessment



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Background



Missouri Foundation for Health Tobacco Prevention & Cessation Initiative (TPCI)

Multiple Strategies

Tobacco Tax
Increase



Quitline
Enhancement



Community Grants

- In-person cessation
- Smokefree policies
- Youth education

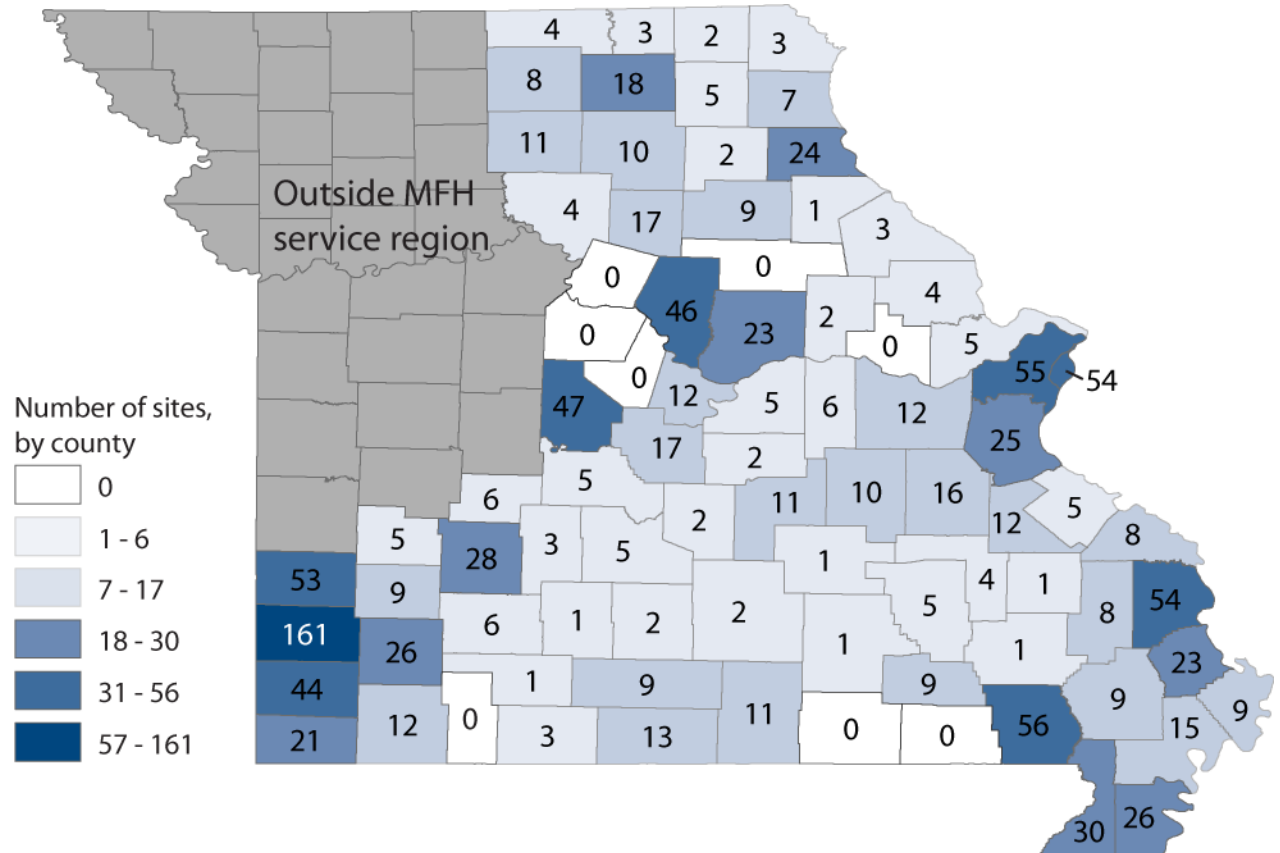
Tobacco
Policy
Change





Missouri Foundation for Health Tobacco Prevention & Cessation Initiative (TPCI)

Multiple Sites





Impetus for this Project

What is MFH's return on investment for the Tobacco Prevention and Cessation Initiative?



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Planning & Implementation



Initial Decisions

- Compare costs & benefits of TPCI to absence of the initiative
- Perspective = MFH (funder)
- Calculate measures for each strategy individually & together
- Data sources
 - Primary data collected for TPCI evaluation
 - Existing estimates from literature



Assessment Timeframe

- Overall: January 2005 - December 2011
- Each strategy:

Strategy	Timeframe for Assessment
Tobacco Tax	Jan 2005 – Dec 2006
Community Grants	Jan 2007 – Dec 2011
Tobacco Policy Change	Dec 2007 – Dec 2011
Quitline Enhancement	Dec 2007 – Nov 2010



Calculation of Costs

- Only included direct program costs
- Main cost = funding distributed by MFH to grantees
- When available:
 - Monetary value of volunteer time
 - In-kind donations
 - Additional funding

Calculation of Effectiveness & Benefits

- Calculated first according to intervention, then combined into respective strategies
- Interventions grantees implemented, by strategy:

Intervention	Strategy(s)
(1) Tobacco tax increase education campaign	Tobacco Tax
(2) Community-wide smokefree policy changes	Community Grants & Tobacco Policy Change
(3) Individual worksite smokefree policy changes	Community Grants
(4) In-person group/individual cessation services	Community Grants
(5) Quitline cessation services	Quitline Enhancement
(6) Tobacco use prevention via youth education	Community Grants



Effectiveness and Benefit Measures

- Calculated two outcomes of the interventions implemented by TPCI grantees
 - # of adults who quit smoking
 - For the tobacco tax, smokefree policy changes (individual worksite and community-wide), and cessation services (in-person and Quitline)
 - # of youth prevented from smoking
 - For the youth education efforts
- Calculated two benefits for smokers who quit and youth prevented from smoking
 - Quality-adjusted life years (QALYs) gained
 - Lifetime medical care savings



Values Used to Calculate Benefits

Benefit	Value
QALYs generated per quitter*	1.58
QALYs generated per youth prevented from smoking**	3.4
Lifetime medical savings per quitter***	\$9,231
Lifetime medical savings per youth prevented from smoking***	\$19,640

*Keeler et al. (2002) and Ong & Glantz (2005)

**Kaplan et al. (2007) and Holtgrave et al. (2009)

***Hodgson et al. (1992); Adjusted for inflation to 2007 dollars, as an example.

Original estimates were adjusted for inflation to each year in the evaluation timeframe and applied separately to the respective number of adults who quit and youth prevented from smoking in each year.



Tobacco Tax Scenarios

- Assessed two scenarios for Tobacco Tax strategy
 - Reality: no benefits because tobacco tax increase failed
 - Hypothetical: outcomes if tax increase had passed



TPCI Economic Evaluation Next Steps

- Update findings throughout remainder of initiative
- Sensitivity analysis



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Findings



Costs

Strategy	Costs
Tobacco Tax	\$654,000
Community Grants	\$14,976,741
Tobacco Policy Change	\$1,057,013
Quitline Enhancement	\$3,000,000
All Strategies Combined	\$19,687,754



Outcomes

Community-wide smokefree
workplace policy changes



5,369

adults
who quit

Quitline cessation
services



1,582

adults
who quit

In-person cessation
services



1,422

adults
who quit

Individual smokefree
workplace policy changes



392

adults
who quit

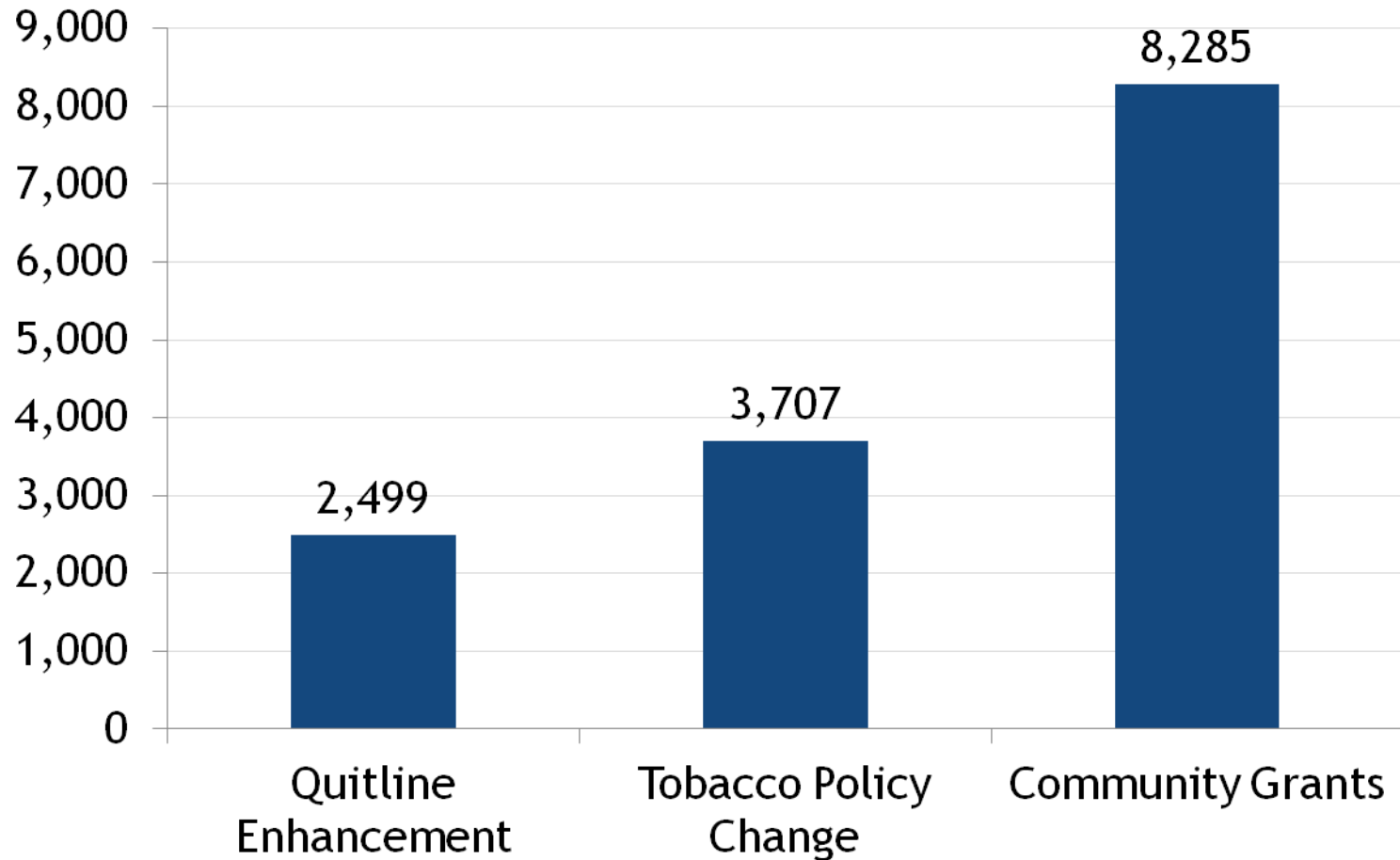
Youth
education



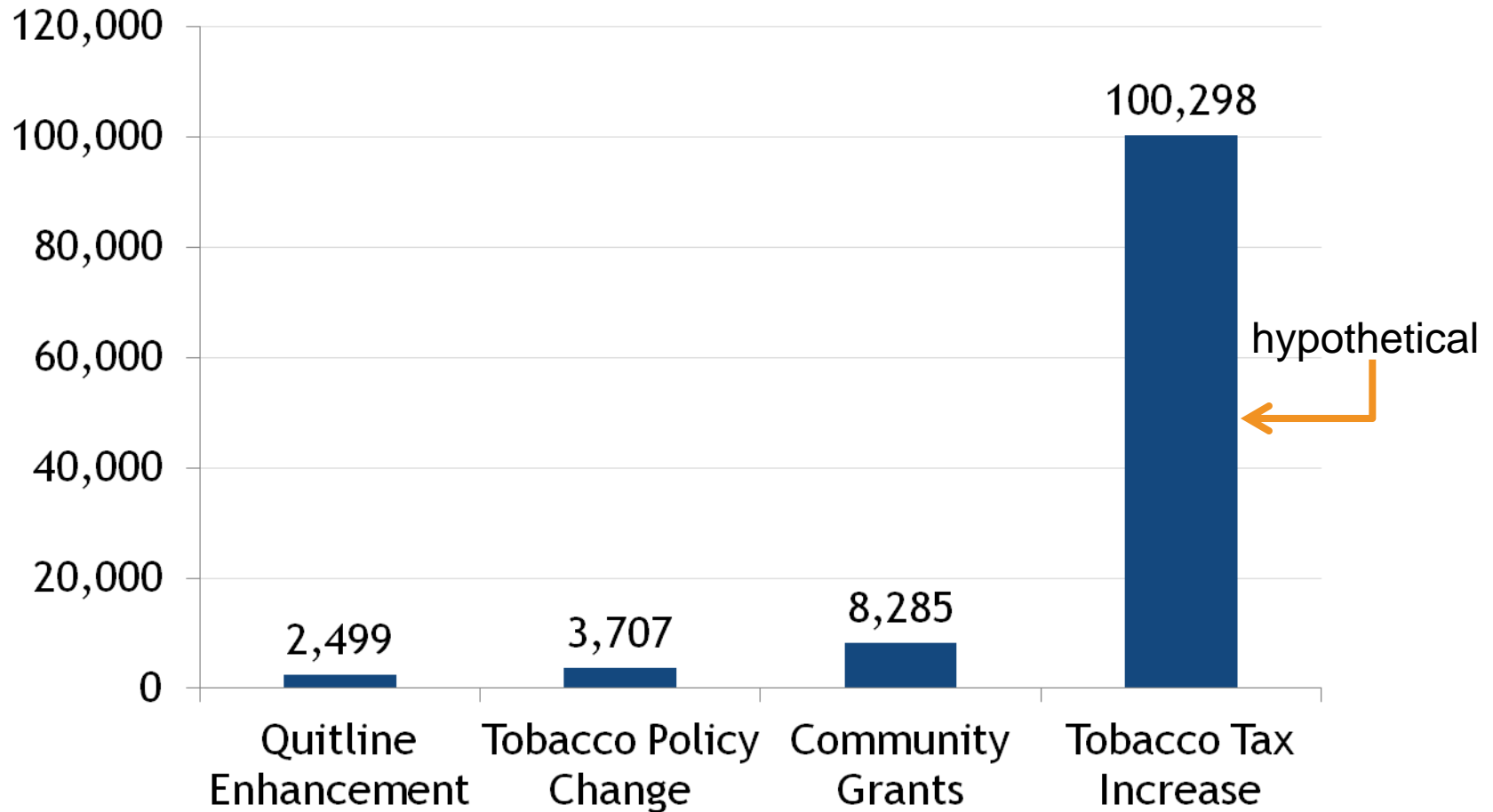
189

youth
prevented

Quality-Adjusted Life Years Gained by strategy



Quality-Adjusted Life Years Gained by strategy



TPCI Return on Investment

Medical care savings for every \$1 spent on TPCI, by strategy:



\$896.00
2006 Tobacco Tax Increase (hypothetical)



Conclusions

Benefits of TPCI outweighed the costs

(A tobacco tax increase would have greatly increased the benefits.)

Conclusions

Policy Changes Provide Most Benefit

Multiple Strategies

Tobacco Tax Increase



Quitline Enhancement



- Community Grants
- In-person cessation
 - Smokefree policies
 - Youth education

Tobacco Policy Change





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Dissemination



Shared results with...

- Missouri legislators
- MFH Board of Directors
- MFH program staff
- TPCI grantees
- Broader tobacco control community



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Lessons Learned



If you want to do this yourself...

- Plan ahead
- Keep it simple
- Conduct a thorough literature review
- Keep extremely detailed notes
- Consult an expert



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Further details of the methods, assumptions, and limitations of this study are available in the full report on our website.