

# Methods for Conducting Economic Evaluation for Tobacco Prevention and Control

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## Summary of Economic Evaluation Methods

<b>Economic Evaluation Method</b>	<b>Comparison</b>	<b>Measurement of Effects</b>	<b>Economic Summary Measure</b>
Cost Analysis	Used to compare costs of implementing a program/intervention	Dollars	Cost of program
Cost of Illness Analysis	Used to measure the economic burden of a disease	Dollars	Cost of illness
Cost-Effectiveness Analysis	Used to compare interventions that produce a common health outcome	Health outcomes, measured in natural units	Incremental Cost-effectiveness ratio (ICER) Cost per case averted Cost per life-year saved
Cost-Benefit Analysis	Used to compare different programs with different units of outcomes (health and non-health)	Dollars	Net benefit or cost Benefit to cost ratio
Budget Impact Analysis	Used to estimate the financial consequences of adopting a new intervention for local, regional, and national budgets	Dollars	Annual change in resource use Annual change in cases of condition and associated resource use and costs
Return on Investment	A financial analysis from the perspective of the investor	Dollars	Net financial cost over dollars invested

## Cost Analysis

### State Tobacco Prevention Programs

- CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. STATE (State Tobacco Activities Tracking & Evaluation System). Available at: <http://www.cdc.gov/statesystem>
- Huang J, Walton K, Gerzoff RB, King BA, Chaloupka FJ. State Tobacco Control Program Spending—United States, 2011. *MMWR Morb Mortal Wkly Rep.* 2015 Jun 26;64(24):673-8.
- Robert Wood Johnson Foundation. *Broken Promises to Our Children: a State-by-State Look at the 1998 State Tobacco Settlement 18 Years Later.* A report on the states' allocation of the tobacco settlement dollars. Princeton, NJ: Robert Wood Johnson Foundation; 2016. Available at: [http://www.tobaccofreekids.org/microsites/statereport2017/pdf/StateReport\\_FY2017.pdf](http://www.tobaccofreekids.org/microsites/statereport2017/pdf/StateReport_FY2017.pdf)

### Cost Analysis Example in Cancer Prevention

- Ekwueme DU, Subramanian S, Trogdon JG, Miller JW, Royalty JE, Li C, Guy GP, Crouse W, Thompson H, Gardner JG. Cost of services provided by the National Breast and Cervical Cancer Early Detection Program. *Cancer.* 2014 Aug 15;120(S16):2604-11.

## Cost of Illness

- Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC) - Smoking-Attributable Expenditures (SAE) . SAM estimates available at: [http://www.cdc.gov/tobacco/data\\_statistics/oshtable/](http://www.cdc.gov/tobacco/data_statistics/oshtable/)
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## Cost-Effectiveness Analysis

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- Xu X, Alexander A, Simpson SA, Goates S, Nonnemaker JM, Davis KC, McAfee T. A cost-effectiveness analysis of the first federally funded antismoking campaign. *Am J Prev Med* 2015; (48)3:318-325.
- Miller LS, Max W, Sung H-Y, Rice D, Zaretsky M. Evaluation of the economic impact of California's Tobacco Control Program: a dynamic model approach. *Tobacco Control* 2010; 19(Suppl 1):i68-i76.
- Villanti A. Smoking Cessation Interventions for US Adults and Young Adults: Evaluating Effects and Cost-effectiveness: Johns Hopkins University; 2010.
- Farrelly MC, Hussin A, Bauer UE. Effectiveness and cost effectiveness of television, radio and print advertisements in promoting the New York smokers' quitline. *Tobacco Control* 2007;16(Suppl 1):i21-i3.
- Fellows JL, Bush T, McAfee T, Dickerson J. Cost effectiveness of the Oregon quitline "free patch initiative". *Tobacco Control* 2007; 16(Suppl 1):i47-i52.
- Secker-Walker, RH, Worden JK, Holland, RR, Flynn, BS, Detsky AS. A mass media programme to prevent smoking among adolescents: costs and cost-effectiveness. *Tobacco Control* 1997; 6:207-212.

## Budget Impact Analysis

- Sullivan SD, Mauskopf JA, Augustovski, F, et al. Budget Impact Analysis—Principles of Good Practice: Report of the ISPOR 2012 Budget Impact Analysis Good Practice II Task Force, *Value in Health*, 2014, 17/1; <http://www.sciencedirect.com/science/article/pii/S1098301513042356>
- Mauskopf J. Budget-Impact Analysis. In: Anthony J. Culyer (ed.), *Encyclopedia of Health Economics*, Vol 1. San Diego: Elsevier; 2014. pp. 98-107.
- Principles of Good Practice for Budget Impact Analysis II- Good Practices for Outcomes Research Webinar Series <https://www.ispor.org/education/Webinars/Budget-Impact-Analysis-092014.aspx>

## Cost-Benefit Analysis

- Boardman AE, Greenberg DH, Vining AR, Weimer DL. *Cost-benefit analysis: concepts and practice*. Upper Saddle River, NJ: Prentice Hall; 2006.
- Chattopadhyay S, Pieper DR. Does spending more on tobacco control programs make economic sense? An incremental benefit-cost analysis using panel data. *Contemporary Economic Policy* 2012;30(3):430-47.
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## General Public Health Economic Evaluation Resources

- Drummond MF, Sculpher MJ, Claxton K, Stoddart GL, Torrance GW. *Methods for the economic evaluation of health care programmes*. Oxford University Press; 2015.
- Haddix AC, Teutsch SM, Corso PS. *Prevention effectiveness: a guide to decision analysis and economic evaluation*. Oxford University Press; 2003.
- Five Part Webcast on Economic Evaluation. Available at: [https://www.cdc.gov/dhdsp/programs/spha/economic\\_evaluation/index.htm](https://www.cdc.gov/dhdsp/programs/spha/economic_evaluation/index.htm)
- Understanding and Using Economic Evidence, the Guide to Community Preventive Services (Chapter 11). Available at: <https://www.thecommunityguide.org/sites/default/files/publications/Ch11-Economics.pdf>
- OSTLTS Gateway – Public Health Economics and Tools. Available at: <https://www.cdc.gov/stltpublichealth/pheconomics/index.html>