

Health DATA In Action

Fall 2000

BENEFITS VS. COSTS: Three Ways to Calculate Them

This question came from the California Health Collaborative in Fresno.

Q: I need to show that my program is worth the money that is being spent on it. How can we calculate our program's cost-effectiveness? Is there a standard formula to use? Is this a calculation we can do as a community organization?

A: There are at least three different ways for community organizations to demonstrate the "economic value" of their work: cost-benefit analysis, cost-effectiveness analysis, and cost-comparison approach. These terms are sometimes used interchangeably, but they are distinct approaches.

A cost-benefit analysis weighs the costs of a program against the benefits that the program provides. The calculation requires one to quantify in monetary terms (dollars) both the costs and the benefits. Since you must compare dollars to dollars, even hard-to-quantify costs or benefits must be put in these terms (e.g., the dollar value of a life). What gets counted as a cost or a benefit and how much it gets valued depends largely on the assumptions made for the calculation. This method has a standard formula that includes a way to value future costs or benefits. Academics, businesses, and policy analysts often apply cost-benefit analysis in their work; and government officials often rely on these figures to make decisions about government programs. *Example: The benefit of cutting prenatal care could be savings to the state of \$58 million in direct prenatal care costs, but the costs to taxpayers could be \$194 million more in postnatal care.*¹

Unlike cost-benefit analysis that compares dollars to dollars, cost-effectiveness analysis is an approach that compares a program or treatment's health outcomes with how much it costs to produce that outcome. Often, a program or treatment may be deemed "cost-effective" if it produces better outcomes than no intervention or if it produces similar outcomes as another program or treatment at a lower cost. Cost-effectiveness also uses a standard formula that can value future costs and health outcomes. This

method is the most widely used one among health care researchers and professionals.

*Example: Each normal birth that occurs instead of a very low birthweight birth saves \$59,700 in the first year of care. Since prenatal care increases the likelihood of normal births and is relatively inexpensive, it is a cost-effective program compared to treating a very low birthweight baby.*²

What can you do if you have limited resources for professional researchers? You can still "paint a picture" of your program's value by pointing to previous cost-effectiveness studies that were done on programs similar to yours. Or you can try a third approach that we will call a "cost comparison." Cost comparison is similar to cost-effectiveness analysis, because it compares cost of the benefits of your program or treatment to the costs of other or no interventions. Cost comparison differs from cost-effectiveness analysis in that there is no set formula to use. This approach may help you provide data about "the bottom line" to audiences such as the public or the media, but it is not as persuasive with academic and other audiences. *Example: Costs for complicated births range from \$20,000 to \$400,000 per baby, compared to approximately \$6,400 for a "normal" uncomplicated delivery.*³

You can find cost-effectiveness studies and data for your cost comparisons by searching MEDLINE® at <http://www3.infotrieve.com/medline/infotrieve/>. Since different audiences will apply different standards of rigor to your calculations, be sure to document your methodology well and be ready to defend the assumptions used in your calculations. Doing so will help build the credibility of your work.

¹Lu MC, Lin YG, Prietto NM, Garite TJ. Elimination of public funding of prenatal care for undocumented immigrants in California: a cost/benefit analysis. *American Journal of Obstetrics and Gynecology*. 2000;182: 233-9.

²This information was obtained from RAND Health, Research Highlights at: <http://www.rand.org/publications/RB/RB4514>

³This information was obtained from March of Dimes, Health Library at: <http://www.modimes.org/HealthLibrary2/factsfigures/expenditure.htm>

Welcome to the first "Health DATA In Action." Many of the interesting questions we received from you through our technical assistance program contain valuable information for others. We want to share them with you through this newsletter format. Let us know your data questions by calling our new phone numbers listed on the front. Keep the questions coming!



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Did YOU Know...

...that you can get **neighborhood level data** on the web? When the Los Angeles County Health Department was considering translating materials into certain languages, an Asian-American advocacy organization asked us for current data on the numbers of Thai and Tagalog speakers in Los Angeles. Health DATA found a data website that could be used to "paint a picture" at the neighborhood level. We thought it was useful not only for them but also for other organizations.

The California Department of Education collects data about school-age children and posts it on a web site called Education Data Partnership, www.ed-data.k12.ca.us. You can access the demographic information for individual schools, as well as for school districts, counties, and the state. For our pur-

poses, we looked at the data on enrollment by ethnicity, the languages spoken by English Limited (EL) students, and the number of children in the EL program, the Free and Reduced Price Lunch Program, and the CalWORKs program.

We suggested that the advocacy group: 1) find out the names of the schools in the neighborhoods with concentrations of Thai and Filipino families; (2) use the data on the number of children in the EL program and the languages spoken by EL students in these schools to describe the need for translated materials in Thai and Tagalog; and (3) use the data on children in the Lunch Program and CalWORKs to illustrate the population's economic need.

Health DATA Staff

Kimberly Tso
Program Director

Raquel Donoso
Assistant Program Director

Tanya Johnson
Intern

Okeoma Mmeje
Intern

phone:
(310) 794-0658
or (310) 794-0950

email:
kimtso@ucla.edu or
rdonosos@ucla.edu

web:
www.healthdata.ucla.edu

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Health DATA

UCLA Center for Health Policy Research
10911 Weyburn Avenue, Suite #300
Los Angeles, California 90024

Phone: 310.794.0909

Fax: 310.794.2686

Web Site: www.healthpolicy.ucla.edu



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