



Agency for Healthcare Research and Quality

Advancing Excellence in Health Care

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Hands-on-Training: Potential uses of the Asthma Care ROI calculator

Ginger Smith Carls, M.A., Rosanna M. Coffey, Ph.D., Ronald J. Ozminkowski, Ph.D., Karen Ho, M.S., Mika Nagamine, Ph.D., Katheryn Ryan

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State Healthcare Quality Improvement Workshop:
Tools You Can Use to Make a Difference



Examples

- Planning
- Evaluation



Planning Example: Use calculator to estimate impact of program on Medicaid budget

- **Objective:** forecast budget impact of proposed asthma care program
- **Data available**
 - **Obtained from Medicaid claims**
 - Asthma prevalence rates (from Medicaid claims)
 - Utilization of medical care services (from Medicaid claims)
 - **Obtained from pilot study**
 - Change in utilization rates, but impact on medications and ancillary services not available
 - **Other info**
 - 10 year planning horizon
 - Program costs \$100 a year for each person that participates
- **Missing information**
 - **Cost of Medical care services**
 - **Impact of program on medical costs and ancillary services**



Planning Example

Changes to each page of the calculator

■ Population

- Medicaid
- State (Arizona this example)
- No need to adjust age, gender and race since using own prevalence rates

■ Participants

- Adults and Children
- Severity – persistent asthma
- Change number eligible based on own data (10,000)
- Participation rate (60%)

■ Baseline

- Change cost perspective to program /plan (exclude patient payments)
- ED visits for asthma: 0.5 per year per patient
- Hospital stays for asthma: 0.1 per year per patient
- Outpatient (office visits) for asthma: .9

■ Program Impact from pilot study (used a control group)

Microsoft Excel - Asthma_ROI_model_20071128.xls

Overview Contents Population Participants Baseline Data Program Impact Program Cost Results Appendix Save and Exit Exit

File Edit View Insert Format Tools Data Window Help Adobe PDF Type a question for help

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Formula Bar

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Program Impact

For a general discussion of this page, click on the black question mark. ?

This page shows the impact estimates from a meta-analysis of the research literature on asthma quality improvement and disease management. You have one decision to make and one option on this page.

- 1) Select the type of study you want to use for results.
- 2) Freeze the impact values if you want to compare different scenarios when the impact stays the same.

Select a study design: Randomized controlled studies

Check to keep impact at current values: ☒ Freeze impact values

Healthcare Measures:

Program impact on emergency department visits?	-40%
Program impact on hospital stays?	-45%
Program impact on outpatient visits?	10%
Program impact on the cost of ancillary services?	-66%
Program impact on the cost of asthma medications?	17%

Productivity Measures:

Program impact on missed work days per adult?	-86%
Program impact on missed school days per child?	-57%

* Negative percents are a decrease and positive percents are an increase in health care use or cost or missed days.

	Net Present Value (NPV)	\$4,263,845
	Return On Investment (ROI)	\$1.83
Update>>	Break-Even Program Impact	-2%
Update>>	Break-Even Program Cost	\$183.31



Evaluation Example: Use calculator to guide or compare

- **Objective:** Plan evaluation of asthma intervention and monitor impact before and after evaluation finished
- **Plan comprehensive evaluation:**
 - Are all components captured? (Inpatient, emergency, outpatient, medication, ancillary tests)
 - What is time horizon of expected program costs and returns?
 - Are future benefits and costs evaluated on a discounted (equalized) time horizon?
 - Are productivity gains assigned financial returns?
- **Monitor impact of intervention**
 - Early results without a control group – compare to studies without a control group
 - Controlled results in – compare to controlled studies
 - Find studies that evaluated same type of intervention