

LARC: Return on Investment Virtual Learning Session

August 2, 2016

2:00-4:00p ET

For Audio: 866-740-1260, ext. 5273187#



Agenda

- 2:00** Welcome and Introductions
- 2:10** Basics of Economic Analysis and Return on Investment
- 2:40** High Level Overview of the Tool
- 3:00** Tool Walkthrough and Inputs Needed
- 3:30** Logistics
- 3:55** Next Steps
- 4:00** Adjourn

Webinar Objectives

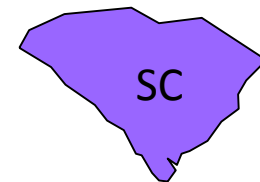
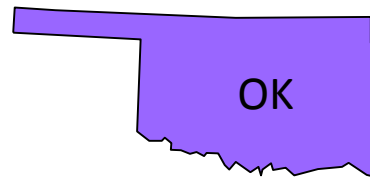
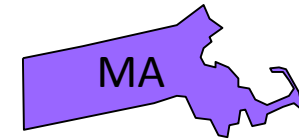
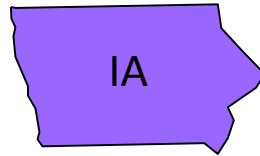
- **Review** the basics of economic analysis and return on investment
- **Explain** the LARC return on investment tool and demonstrate its use
- **Explore** the return on investment tool
- **Discuss** the timeframe for pilots, feedback expected, technical assistance available, and other logistics.

Welcome and Introductions

■ Welcome from ASTHO

- Ellen Pliska, MPH
Family and Child Health Director
- Christine Mackie, MPH
Family and Child Health Senior Director

LARC: Return on Investment Participating States





Basics of Economic Analysis and Return on Investment

Rui Li, PhD
Lead Economist,
DHHS/CDC/ONDIEH/NCCDPHP/DRH/OD
Centers for Disease Control and Prevention



Return on Investment, Costs & Cost-Effectiveness: Terms & Applications in Economic Analysis of Public Health Programs

Rui Li, PhD

Lead Economist

Division of Reproductive Health
National Center for Chronic Disease
Prevention and Health Promotion
Centers for Disease Control and Prevention

Why Does Economics Matter in Public Health?



Real-world Scenarios for the State Public Health Programs

- **Scenario 1**
- **Your state legislatures are about to discuss the budget for the State Medicaid program. You want to show that the state should increase funding for preventing unintended pregnancies (UP).**
- **What information do you need to provide to the state legislatures to strengthen your argument?**

- **Adverse health outcomes associated with UP**
- **Cost consequences of UP in the state without intervention**
 - **Costs/economic burden of UP to the State Medicaid programs**

Type of economic analysis

- **Cost of illness (COI) –preventable economic burden associated with a disorder or risk factor**

Example

EN English (United States) Help

https://www.guttmacher.org/news-release/2015/03/unintended-pregnancies-cost-federal-and-state-governments-21-billion-in-2010 Unintended Pregnancies Co...

MARCH 2, 2015 NEWS RELEASE

Unintended Pregnancies Cost Federal and State Governments \$21 Billion In 2010

Increasing Publicly Funded Family Planning Services Could Substantially Reduce These Costs

U.S. government expenditures on births, abortions and miscarriages resulting from unintended pregnancies nationwide totaled \$21 billion in 2010, according to "Public Costs from Unintended Pregnancies and the Role of Public Insurance Programs in Paying for Pregnancy-Related Care: National and State Estimates for 2010," by Adam Sonfield and Kathryn Kost. In 19 states, public expenditures related to unintended pregnancies exceeded \$400 million in 2010. Texas spent the most (\$2.9 billion), followed by California (\$1.8 billion), New York (\$1.5 billion) and Florida (\$1.3 billion); those four states are also the nation's most populous.

Government expenditures on unintended pregnancies totaled \$21 billion in 2010, and surpassed \$400 million in 19 states

Public costs for unintended pregnancies, 2010

- \$25-100 million
- \$100-400 million
- \$400-800 million
- \$800 million to \$3 billion

guttmacher.org

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Media Contacts

Rebecca Wind
Guttmacher Institute

212 248 1953
media@guttmacher.org

Read More

REPORT
Unintended Pregnancy Rates at the State Level: Estimates for 2010 and Trends Since 2002

FACT SHEET
Unintended Pregnancy in the United States

FACT SHEET
State Facts About Unintended Pregnancy

FACT SHEET
Publicly Funded Family Planning Services in the United States

11:03 AM 7/28/2016

Scenario 2

- **You know that increasing LARC use is an evidence-based effective intervention to prevent UP, how will you convince your state legislatures to allocate funding for this effort?**

- **Effectiveness of LARC use in preventing UP**
- **Medical cost savings from preventing UP with increased LARC use**
- **Intervention costs, including LARC devices, related services, and programmatic cost**

Types of economic analysis

- **Cost analysis –cost of implementing a preventive service or program**
- **Economic evaluation –balance of costs & health outcomes**
- **Cost-effectiveness analysis**
- **Budget impact or return on investment (ROI) analysis**

Effectiveness of the program is the foundation for economic evaluation!

Example



Findings:

- 2012, cost of UP was \$4.6 billion
- 53% attributable to imperfect contraception adherence
- If 10% of women aged 20-29 switching from OC to LARC
- Total savings were \$288 million

Example: LARC Medicaid Reimbursement Tool

The screenshot displays two windows of the LARC Medicaid Reimbursement Tool. The left window is the disclaimer screen, and the right window shows the economic impact analysis.

Disclaimer Screen:

Interactive Tool for Evaluation of Impact of Increasing LARC Uptake among Medicaid Enrollees

DISCLAIMER:
The materials embodied in this tool/program are "as-is" and without warranty of any kind, express, implied or otherwise, including without limitation, any warranty of fitness for a particular purpose. Result of any analysis presented in this tool/program should not be interpreted to imply the policy or determination of the Center of Disease Control and Prevention (CDC), and should not be considered an endorsement, either direct or implied, by CDC.

TIPS

1. If you use this for the first time, please select "enable macros" if prompted to do so
2. Adjust the size to better fit your screen.

Buttons: Start, Background, Instruction, Credit, FAQs

Version 2.2

Economic Impact Screen:

Economic Impact

Over 4 years, the proposed intervention will cost Medicaid \$1.1M. Meanwhile, the intervention will reduce Medicaid spending pertaining to unintended pregnancy by \$5.5M. Please see the table and figure for yearly breakdowns.

1-Year ROI: 0.2

1. Intervention/programmatic costs, and pregnancy-related Medicaid savings

	Intervention cost	Programmatic cost	Savings on UI pregnancy
FY 1	\$305,110	\$5,000	(\$52,237)
FY 2	\$350,858	\$5,000	(\$838,386)
FY 3	\$371,722	\$5,000	(\$1.8M)
FY 4	\$82,577	\$0	(\$2.8M)

2. Yearly Total Medicaid Spendings on Pregnancy and Contraception
(left to right: FY1 to FY4)

Break down by cost type

Bar chart showing \$ million spendings for Status Quo (orange) and Intervention (blue) from FY1 to FY4.

Legend: Status Quo, Intervention

Return on Investment (ROI)

- **Standard definition of ROI analysis: calculation of net financial cost to a single stakeholder (e.g., a health plan, a hospital, or a state health department)**
- **The Return on Investment Formula**
 - ROI=(Gain from the investment-Cost of the investment)/Cost of the Investment

Cost-Effectiveness Analysis (CEA)

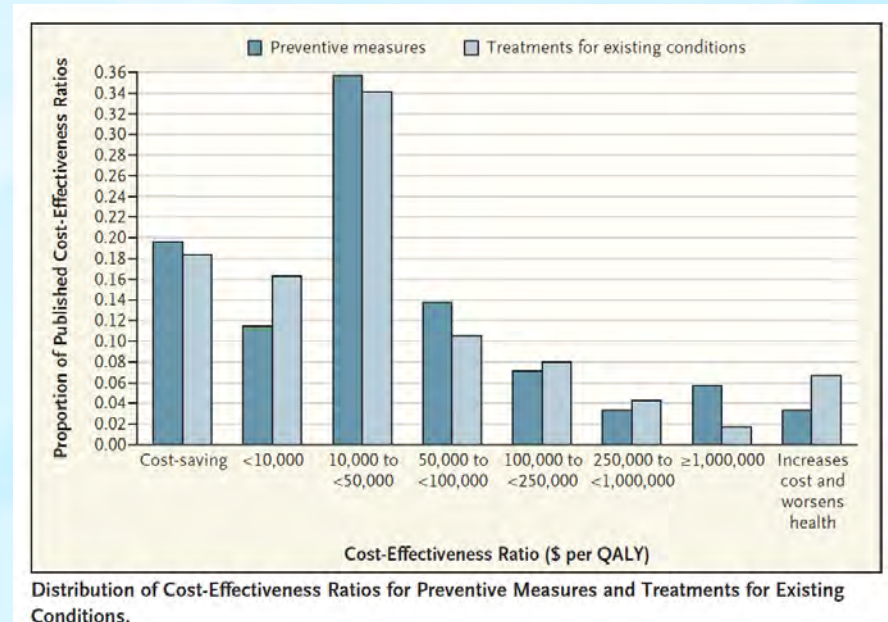
- Method for comparing net cost per health outcome
- **For each pair of options (e.g., with lifestyle program vs. without lifestyle program for people with prediabetes)**
 - Assess total outcomes and costs
 - Exclude dominated options that cost more and less effective
 - Calculate incremental cost-effectiveness ratio (ICER) for two strategies that are non-dominated
 - E.g.: cost for diabetes case prevented, cost per life year gained, cost per QALY gained

- ICER=

$$\frac{\text{Cost A} - \text{Cost B}}{\text{Outcome A} - \text{Outcome B}}$$

Cost-Effectiveness and Cost-Savings

- If one strategy results in lower total direct costs than another strategy, it is *cost-saving*
- Among the clinical preventive services recommended by US Preventive Services Task Force, about 1/5 are cost-saving
- Return on Value (ROV)



Cost-Benefit Analysis

- All costs and benefits are in the same metric (dollars)
 - All health outcomes must be assigned dollar values, controversial
- **Outcome measures: net benefit and benefit-cost ratio**
 - Economists prefer net benefit; benefit-cost ratio is less reliable
 - net benefit of intervention = benefits – costs
 - benefit-cost ratio = benefits / costs

Key Concept 1: Study Perspective

—Value Is In the Eye of the Stakeholder

- Stakeholder types
 - Health care payers
 - Public –Medicare, Medicaid
 - Private –insurers, employers, consumers
 - Health care providers
 - Public health programs
 - Patients and families
- Analytic perspectives
 - Societal –all costs to all payers
 - **Health system—all medical costs no matter who pays**
 - **Payer –just costs incurred by one payer**

Key Concept 2: Time Frame Vs. Analytical Horizon

- **Time Frame**

- Period during which the interventions are implemented
e.g., if an anti-smoking mass education campaign lasts 6 months, those 6 months are the time frame

- **Analytical Horizon**

- Period over which the costs and benefits related to the intervention are considered
- Usually longer than time frame
- Could even cover clients' lifetime
- Depending on stake holder types
- For many chronic disease prevention programs, more benefits accumulated for longer period

Key Concept 3: Different Types of Economic Costs

- **Direct cost**
 - Medical
 - Non-medical
 - Education services
 - Justice system
- **Indirect cost –Lost productivity for affected persons**
 - Mortality
 - Morbidity and disability
 - Parental time cost –direct cost in US
- **Intangible costs**
 - Pain and suffering
 - Loss of well-being

Key Concept 4: Cost Analysis—Program Cost

- Define program or intervention to evaluate
- Decide which costs to include
- Decide on time frame for cost analysis
- Collect cost data
 - Program budgets
 - Need to be able to disaggregate by activity
 - Activities and budgets may not coincide
 - Micro-costing approach
 - Quantities of inputs (staff time, equipment, consumables, overhead)
 - Values of inputs

Framing an Economic Evaluation of a Public Health Program

- What is the disorder(s) of concern?
 - Calculate the economic costs associated with the condition (COI)
- Is there an intervention that is well accepted?
 - If not, can still estimate potentially preventable burden –COI
 - If yes, assess the costs of intervention and numbers of people who are likely to be identified or helped
 - Cost and cost-comparison analyses
- Is there evidence of prevention effectiveness?
 - Quantify the health outcomes or impact of intervention
 - Cases of disease, disability, or unintended births avoided
- Calculate CEA, CBA, and/or ROI, valuing outcomes