

Demonstrating Outcomes: Return on Community Investment (ROCI)



**A METHODOLOGY FOR ASSESSING THE
ECONOMIC IMPACT OF HOSPITAL
INVESTMENTS FOR THE COMMUNITY**

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ROCI



- ROCI is a tool for evaluating or assessing the financial and economic impact of a government or nonprofit investment in a community
- It is based on economic cost benefit analysis
 - Widely used in federal government
 - OMB Circular No. 94-A Revised is a guiding document

The ROCI Philosophy: Accountability & Transparency



- ROCI measures the value of investments in your community enterprise to its constituents (patients, community residents, grantors and donors)
- ROCI is about being accountable to the community and constituents you serve
- ROCI is the tool to translate accountability theory into action

ROCI vs. Economic Impact

Economic impact analysis (Rural Health Works)

- Used to determine number of jobs and income spillover effects
- Does not assess costs of the program
- Is only one part of return on investment

ROCI

- Is comprehensive and includes an economic impact analysis
- Assess the costs and benefits of a program investment

ROCI vs. ROI



ROI

- Measures the financial return to your enterprise
- Key tool for management

ROCI

- Measures the economic return or value to the community and constituents
- Key tool for community understanding and support

Return on Community Investment Framework

Benefits	Opportunity Costs
Program Benefits	Program Opportunity Costs
+/- Shadow Pricing	+/- Shadow Pricing
= Adjusted Program Benefits	= Adjusted Program Opportunity Costs
+/- External Benefits	+/- External Opportunity Costs
= Social Benefits	= Social Opportunity Costs

What are the steps in a ROCI?



- Defining the scope of the community return on investment analysis:
- Identifying relevant costs and benefits:
- Quantify relevant costs and benefits:
- sensitivity analysis
- Perform investment analysis
- Present results

Using ROCI to Make Comparisons



- ROCI converts different outcome or evaluation metrics into a common denominator: \$
- Methodological Challenges
 - confidence of analyst in converting outcomes to dollars
 - Some projects have already undertaken this process
 - Other projects due to the nature of the process or the type of project have not undertaken this calculation
- All projects have an explicit or implicit opportunity cost and benefit that can be quantified in monetary terms

A Brief ROCI Example



**SKYCAP:SOUTHEAST KENTUCKY
COMMUNITY ACCESS PROGRAM**

SKYCAP (Southeast Kentucky Community Access Program)

- Program designed to improve access to care for uninsured in Perry, Harlan, Letcher counties
- Collaboration between:
 - University of Kentucky Center for Rural Health
 - Harlan Countians for a Healthy Community, Inc.
 - Hazard Perry County Community Ministries
 - Data Futures, Inc. Harlan, KY

SKYCAP Program and Social Benefits



- Program benefits
 - Hospital and ER cost savings
- Shadow Price
 - Non applicable
- External Benefits
 - Economic impact of federal grant money
- Total Social Benefits
 - Economic impact
 - Unadjusted Health care cost savings

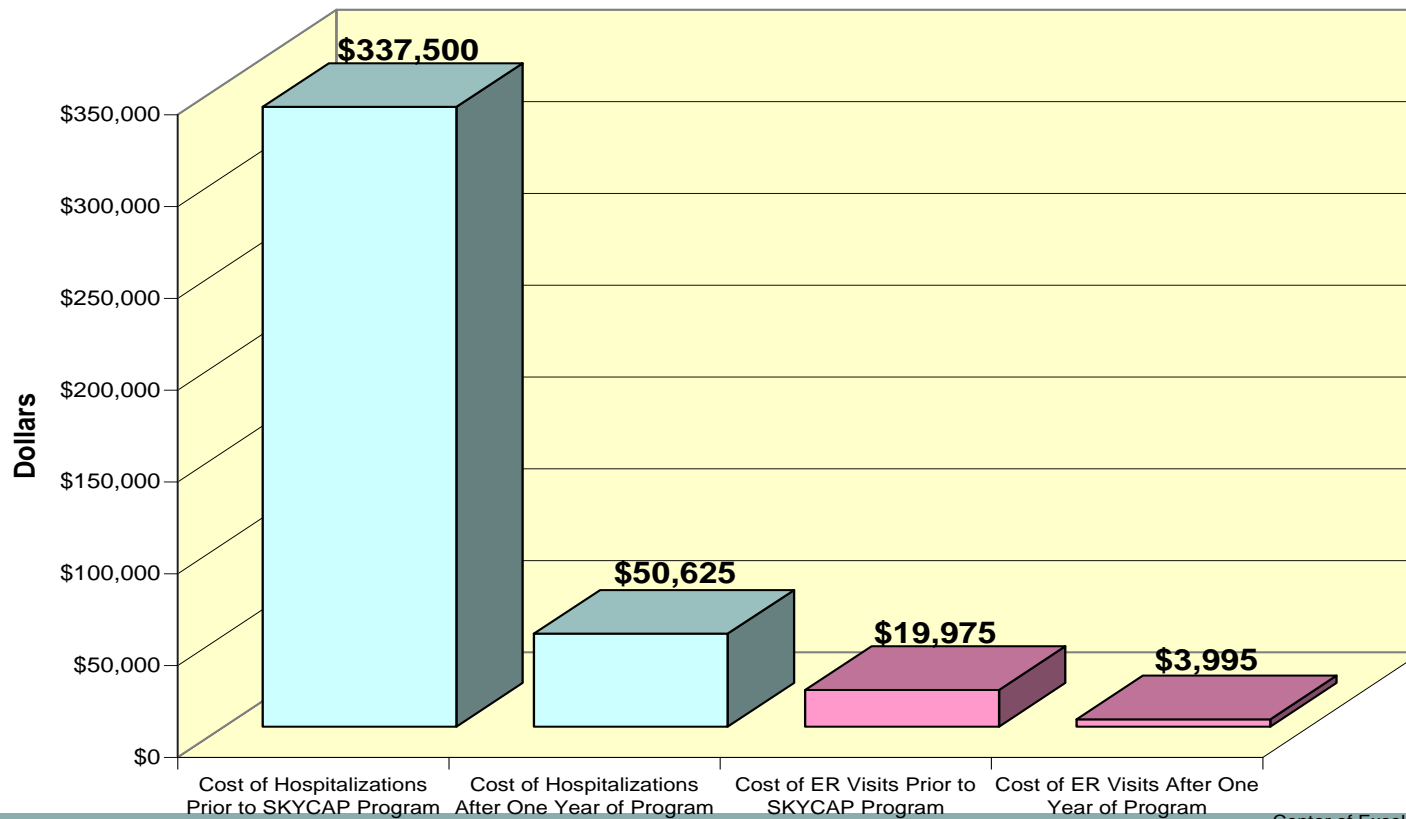
SKYCAP Program Benefits



- Cost savings estimated using previously described methodology
- Compare patients before and during program participation
 - This gives us our with and without comparison and private benefit estimation

SKYCAP Cost Savings (Yr 1 Perry County)

**Comparison of Hospitalizations and ER Visits Before and After
Participation in the SKYCAP Program for Perry County
December 2, 2000 - December 2, 2001**



Center of Excellence in Rural Health
SKYCAP Program

SKYCAP Social Benefits



- **Direct Benefit**
 - Reduction in Emergency room and In-Patient costs to local health care providers
- **In-Direct Benefit**
 - SKYCAP spending on employees and supplies reverberates through local economies creating jobs

SKYCAP Program and Social Costs

- Program Opportunity Costs
 - Administration and Labor
 - Drugs and other supplies
 - Rent, utilities, etc....
- Social Opportunity Costs
 - Labor
 - ✦ Unemployed workers who were hired have a social cost less than their private opportunity cost
 - Federal grant Money
 - ✦ It is provided by money from outside the communities and has a zero social opportunity cost to community

Economic Impact Analysis



- Federal grant money (1st two years)
 - 1.34 million dollars
- Economic Impact
 - Spillover effect to create new local jobs and income
- Results
 - 1.3 million turns into 1.7 million dollars
 - \$400,000 economic impact of SKYCAP

Sensitivity Analysis



- Determines if ROCI is sensitive to certain key parameters or assumptions
- Determine if certain projects derive most of the value computed
- Are certain results questionable or based on weak assumptions
 - Remove those to see if results vary dramatically

SKYCAP ROCI



- **$$\text{ROR} = \frac{(\text{Total benefits} - \text{Total Costs})}{\text{Total Costs}} * 100$$**
- **SKYCAP ROCI = 6.5**
- **Sensitivity analysis did not reveal any major changes in results**

RHPI ROCI Analysis



**TO EVALUATE AND ASSESS THE RETURN ON
COMMUNITY INVESTMENT FOR PROJECTS
FUNDED IN RHPI**

What are the steps in a ROCI?



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- Quantify relevant costs and benefits
- Sensitivity analysis
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Project Scope



- Hospitals who participated in the RHPI grant process
- 83 hospital projects were evaluated across project scope region from 2008-2013
- Assess the value of these grants from the perspective of community, hospitals and Federal Government

Relevant Cost and Benefits



- **Benefits**
 - Improvements in hospitals operations, care management and financial outcomes
 - Spillover benefits to community
- **Opportunity Costs**
 - Costs to hospital
 - Costs to federal government
 - Costs to community

Quantify and Adjust Costs and Benefits



- Major adjustments occurred in translating RHPI initiative metrics into financial outcomes
 - Used a tier system and the RAP scores
- Issue was to try and assess how much financial improvement could be reasonably tied to RHPI versus other forces and changes in hospital and community

ROCI Benefit Calculations



1. Start with improved revenue, reduced cost or both
2. These financial improvements must be adjusted based on our ability to “take credit” for these changes
3. Adjustments occur:
 1. Type of project
 2. Number of stated metric targets met
 3. Adjustments are a percent (0-100%) of the original value stated in #1
4. Adjusted financial outcome is computed

Project Factors: Tier 1



- Tier 1: Evaluation includes a direct measure of monetary value
 - Cost savings (preventing something from happening or causing a different process to be used)
 - Revenue Enhancement (process that increases incoming resources compared to alternatives)

Project Factors: Tier 2 and 3



- Tier 2: Project resulted in a process or organizational change for which research exists to quantify monetary value
 - Search of peer reviewed journals to determine appropriate values (similar to court expert witness process for example)
- Tier 3: Project for which a process or organizational change has occurred but no existing research quantifies monetary value
 - Cost savings or revenue enhancement
 - May be able to use a factor such a interview with hospital CFO or CEO

Confidence Factors and Weighting I



- Three projects: A, B, C
 - Project A is a financial operational assessment
 - Project B is a clinical operational assessment
 - Project C is a strategic planning initiative
- Project A is Tier 1; Project B is Tier 2; Project C is Tier 3
 - Project A has demonstrated cost savings of \$500,000
 - Project B has research based cost savings of \$250,000
 - Project C has estimated cost savings of \$75,000 based on interviews and information provided

Weighted ROCI Calculation



	Project A	Project B	Project C
Tier	1	2	3
Estimated initial Value	\$500,000	\$250,000	\$75,000
RAP Score	4	2	5
Weight	.65	.35	.40
Adjusted Financial value	\$325,000	\$87,500	\$30,000

1. Initial financial value = \$825,000
2. Adjusted Financial Value = \$442,500 (can be attributed to RHPI or another program or investment)

Metric Examples



- **Financial Measures**
 - Net Income
 - Days Cash
 - Total operating revenue
 - Net patient revenue
 - Days in accounts receivable
- **Care Management**
 - % of patients in correct level of care
 - Readmission Rate

What Do We Need Going Forward?



- Direct evidence available of a financial impact
 - Cost savings or Revenue enhancement
- Evidence may be available via:
 - Information and assessment from the hospital itself
 - Research studies of a similar project
 - New government incentives

ROCI Opportunity Cost Analysis



1. Start with the total costs (explicit and implicit) of a new investment
 1. Explicit are cost of initial investment and ongoing operational costs
 2. Implicit costs may include staff time, other community resources
2. Adjust the cost
 1. Social opportunities for these resources
3. Compute “adjusted community cost of investment”

RHPI ROCI Results (2008-13)



Year	Benefit	Cost	ROCI	Adj. ROCI
2008-09	\$7,269,790	2,206,871	3.3	1.5
2011-12	\$14,303,638	\$1,278,889	11.2	5.9
2013	\$4,738,745	\$700,755	6.8	2.5

How would ROCI be helpful to an individual Hospital?



- Provide analytical tool to assess new investment propositions to community leaders (state or local)
- A more comprehensive tool than an economic impact study



- Thank You!
- Questions?