Access Leadership

Healthcare That Leaves No One Behind

Return on Community Investment Toolkit

2009

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Return on Community Investment (ROCI) Introduction

Healthcare access programs provide a valuable service to the community, as they coordinate safety net healthcare services for uninsured patient populations. Program directors continually are challenged to explain the benefits of their work and often are asked to defend their programs' existence. Caring for uninsured patient populations rarely generates revenue, let alone revenue sufficient to cover program expenses. Program directors may understand how to describe process outcomes, unique patient outcomes and the clinical outcomes. However, program directors also need to tell a story that includes the financial impact of their work. By assessing a dollar amount to their work, healthcare access programs will generate an understanding among stakeholders that investment in healthcare outreach and access work has financial benefits.

A significant challenge to the financial analysis of healthcare access issues for the uninsured is the limited body of published research available to support an understanding and calculation of potential or realized financial benefit. In order to ease this burden on organizations, Ascension Health has developed tools for return on community investment (ROCI) modeling. These tools are designed to demonstrate either prospective ROCI or retrospective ROCI, quantifying dollar values of healthcare access work.

ROCI Template Design and Methodology

The following illustration will provide an access program with an idea of how the Ascension Health ROCI templates have been developed and how benefits and stakeholders align. It also shows that by combining the many individual benefits of an access program, an analysis can be made regarding the overall program benefit. This example refers to a program that enrolls eligible patients into primary care medical homes. The following stakeholders are recognized as receiving benefit from the medical home enrollment program: the community, employers, hospitals and patients. The unique benefits received by each stakeholder are listed below. The community as a whole will receive additional revenue through an increase in taxable income. Employers will realize less employee sick time that will result in increased employee productivity. Hospitals will realize a decrease in unnecessary emergency department (ED) usage and unnecessary hospitalizations. Finally, the patients will realize a decreased cost for healthcare services and the opportunity to increase earnings. Our ROCI template assigns a monetary value to the unique benefits of a healthcare access program.

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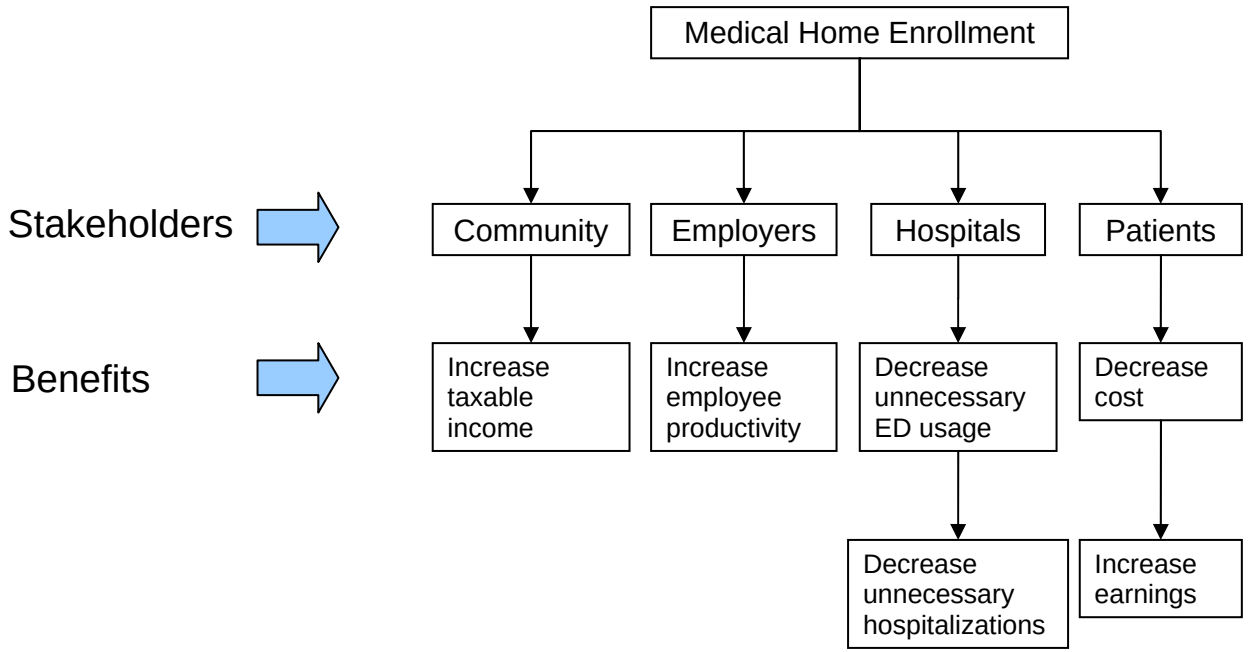

ROCI Analysis

Before going through the steps of ROCI analysis, it is important to understand the structure of the tool. Each ROCI template has been built in a Microsoft Excel format and has the following tabs:

ROCI Template Tab Title	Description
ROCI Work Description	Gives the user a high-level review of the reasons ROCI analysis and storytelling are important
Inputs	1) Allows input of program process outcome measures 2) Compares program expenses to program financial benefits 3) Breaks program financial benefits into stakeholder categories
Benefits	1) A pie chart representing the financial benefits by stakeholder group 2) A table that contains stakeholders, the unique benefits to those stakeholders and the financial value attributed to each benefit
Calculations	Combines program process outcome information directly from the Inputs tab with research directly from the Source Data tab to calculate financial value of each unique benefit
Source Data	This tab contains the reference information that drives the calculations
Definitions	Terms that need to be clearly understood and defined have been included here
Assumptions	Lists those items the model has assumed to be true
CPI Adjustments	For those reference items that are dollar amounts and are not through calendar year 2007, this tab is used to make the dollar amounts current

ROCI Analysis Steps

1. **Identify the program or program component to be analyzed with the ROCI tools.** Define the healthcare access program. Once a program decides that it is prepared to perform ROCI analysis, the service that will be analyzed with the modeling needs to be identified. There may be multiple models needed. The list of models that have been developed is as follows:

a. Medical Home Enrollment
b. Medicaid Enrollment
c. Pharmaceutical Access
d. Pharmaceutical Assistance Program
e. Volunteer Physician Network
f. Multi-share Reimbursement Agreement
g. Oral Health

Examples of ROCI tool use can be found in Appendix I.

2. **Collect all necessary data elements and as many optional data elements as possible for the selected tool.** (please refer to Appendix II)
    a. Operating costs – In order to properly perform ROCI analysis, operating costs must be determined. Operating costs may include but are not limited to: salaries and wages, fringe benefits, equipment and supplies, utilities and facility costs, travel, marketing and communications, direct service costs, contractual obligations and any other costs directly associated with running a program. If the program has multiple interventions, there will be a need to clearly understand and differentiate operating expense categories. For example, if eligible uninsured patients are enrolled into medical homes and provided with pharmaceutical access, the operating expenses related to medical home enrollment must be separated from the operating expenses related to pharmaceutical access to ensure accurate analysis of each independent intervention.
    b. Process outcomes – What are the measurable process outcomes of the access program? Process outcomes are dependent on the type of program and its capability to collect measures data. There may be challenges to collecting the data necessary to perform ROCI analysis. In some instances, the data is simply not available and in others cooperation amongst numerous agencies to locate all the necessary data may be needed. It is preferable to have as much outcome information as possible for optimal use of the tool; however, in most cases, as long as a program can determine operating costs and the number of participants, a basic return on investment analysis can be generated.

3. **Review the definitions and assumptions for each toolkit to assess compatibility with program objectives.** As noted earlier, each toolkit has a tab entitled *Definitions* and a tab entitled *Assumptions*. A definition describes a term the use of which may be unclear or that may need to be refined. In the case of the ROCI templates, access program terms, benefits and

stakeholders require definition. An assumption is a term that can be assumed to be true. The ROCI templates have been developed based on a group of assumptions. Screen shots of model definitions and assumptions can be found in Appendix III.

4. **Enter the data into the toolkit and run the initial analysis using the default data sources that are included.** As noted earlier, each ROCI model has a tab entitled *Inputs*. This tab gives instructions on the most appropriate way to answer each of the operating expense and process outcome questions that drive the model calculations. Once the necessary process outcomes data has answered certain questions, the benefit calculation and monetizing of the value of the work will occur, followed by a comparison of expenses to benefits to provide a "return on community investment." For the current list of necessary and optional process outcomes, please refer to Appendix II. Please see Appendix IV for an example of the calculations used in the medical home enrollment ROCI tool.

5. **Review the default data sources used in the selected toolkit and determine whether or not to substitute more locally relevant data sources.** As noted earlier, each toolkit has a tab entitled *Data Sources*. This tab includes the default data sources that were used to create the ROCI model. These data sources typically are nationally representative and are considered placeholders for more appropriate regional, state, county or city-specific data sources, if applicable. As an example, the following table shows the default data sources used in the medical home enrollment ROCI toolkit. In bold are examples of data sources that can be most reasonably localized.

Stakeholder Benefit	**Calculation Support Data**
Increase taxable income	**Tax Foundation – state and local tax burden**
Increase employee productivity	**U.S. Department of Labor – average weekly earnings,** U.S. Department of Health and Human Services (DHHS), Industrial and Labor Relations Review, Econometrica
Decrease unnecessary ED visits	**Cost of an ED visit**, Centers for Disease Control and Prevention (CDC), Medical Care
Decrease unnecessary hospitalizations	**Cost of a hospitalization**, Centers for Medicare and Medicaid Services (CMS), Health Affairs
Decrease patient costs	**Cost of an ED visit, Cost of Community Health Center visit**, Centers for Disease Control and Prevention (CDC), New England Journal of Medicine (NEJM), Families USA
Increase patient earnings	**U.S. Department of Labor – average weekly earnings**, Kaiser Family Foundation, DHHS

6. **Collect local data for any value to be substituted including full information about the source of the substitute data.** This step will be driven by the need to make the ROCI analysis as "locally relevant" as possible. The phrase "locally relevant" will be defined by key stakeholders. Discuss the default data sources with your board of directors to gain insight into those references with which they have the most concern. If those values with which they are concerned can be substituted with accessible locally relevant data, the substitutions should be made in the appropriate location under the *Data Sources* tab. For the substituted data sources, be sure to document the metric itself, the source and reference information and the statement that includes the metric.

7. **Enter any substitute values into the toolkit and run the analysis again.** Once the appropriate substitute values have been identified, located and documented, place them in the tab entitled *Data Sources*. After the more appropriate data value is placed in the *Data Sources* tab, each corresponding tab will be updated automatically.

8. **Identify the intended audience for this analysis.** Each ROCI toolkit assigns a monetary value to the benefits received by the identified stakeholders. It is important to be able to tell the financial story to each stakeholder represented in the model. However, there may be stakeholders not specifically identified by the model – mental health providers, board members and others. These stakeholders also must be considered in identifying the audience for the analysis. Using the medical home enrollment ROCI model as an example, below is a table that represents the stakeholders in the intervention.

Stakeholders	**Members of Stakeholder Group**
Community	State/local government, faith community, foundations
Employers	The businesses that employ the patients who benefit
Hospitals	Hospitals and/or health systems
Patients	Those community members directly affected by enrollment into a healthcare access program
Physicians	Providers of care to the uninsured

In addition to understanding the current stakeholders, you and the members of your board need to identify all potential prospective funders. The financial and social benefits can be observed, celebrated and shared with a new community of prospective funding partners.

9. **Identify and tailor the message to the intended audience**. ROCI analysis tools can be used prospectively or retrospectively. Retrospective modeling is done after the program has been operating for a specified period of time, typically one year. This allows a program and its stakeholders to understand the financial benefits of the current work and to communicate regarding past performance. Prospective analysis is an opportunity for communities to use the ROCI process as they develop a program. The prospective use of ROCI modeling allows comparisons of multiple access initiatives, their potential benefits and expected costs. These estimates give programs an opportunity to establish a baseline from which the initiative will be compared, but also allow us to perform comparisons across multiple access initiatives.

10. **Prepare presentation.** An effective program story should be crafted by combining two types of information: quantitative and qualitative. The quantitative portion of the story should provide metrics to support the monetary program value. The metrics will come directly from the ROCI analysis in the form of financial benefits to stakeholders such as hospitals – examples include the reduction in avoidable ED visits and the reduction in avoidable inpatient hospitalizations. Quantitative values are much easier to collect and validate. The qualitative portion of the program story may be supported by actual experience, but keep in mind that part of the qualitative storytelling will depend upon anecdotal information – examples include increased income for part-time and full-time workers and increased employee productivity for employers. This anecdotal storytelling is necessary to ensure that a program is able to combine quantitative and qualitative metrics and supporting information that will allow a comprehensive picture of program value for stakeholders and potential funders. Consideration needs to be made of the inclusion/exclusion of certain assumptions that key stakeholders may consider invalid. We will focus our example on the model created for the enrollment of patients into medical homes: a patient employer that does not agree with the model assumptions around the potential to reduce employee sick time through medical home enrollment. In this case, consider omitting the assumption and associated benefit calculations from the presentation.

11. **Include the ROCI analysis in the organization's sustainability plan and grant applications.** ROCI analysis is only one part of successful storytelling and, ultimately, sustainability planning. It is said that it takes money to make money. With safety net resources being few and precious, it is important to be able to effectively communicate a request for investment, and to do so to the correct audiences. Successfully funded programs are able to communicate two messages: 1) the financial impact of program services in comparison with the anticipated financial return (also called the Return on Community Investment or ROCI) and 2) the health outcomes and process measures resulting from program effort. An agency can only "tell its story" when it can present valid outcomes and ROCI data to a potential funder. Without ROCI and outcomes, your program is just another "good idea."

APPENDICES

Appendix I

The following Health Ministries and healthcare access programs currently are using ROCI templates in their work. For additional information, please contact Joshua Brinkley at jbrinkley@ascensionhealth.org or 314.733.8275.

St. John Health, Detroit, Mich. – ROCI tool used to calculate impact of hospital-based medical home enrollment program

Rensselaer Cares, Troy, N.Y. – ROCI tool used to support grant application for funding for pharmaceutical access program

St. Mary's of Michigan, Saginaw, Mich. – ROCI tool used to quantify benefits of pharmaceutical access program

Saint Agnes HealthCare, Baltimore, Md. – ROCI tool used to support grant application for funding for emergency department diversion program

Carondelet Health Network, Tucson, Ariz. – ROCI tool modified to quantify the benefits of comprehensive care for the homeless

Healthcare Access San Antonio, San Antonio, Texas – ROCI tool used to assist in the development of the cost/benefit analysis of a community health record

Integrated Care Collaboration (ICC), Austin, Texas – ROCI tool used to quantify benefits to member organizations

Appendix II

List of the current ROCI templates, as well as the necessary and optional process outcome information required for each. Necessary process outcome availability allows a program to perform ROCI analysis, and the optional process outcome availability serves to further refine the ROCI analysis.

ROCI Template	Necessary	Optional
Medical Home Enrollment	Total operating expenses	Reduction in hospital emergency department expenses
	Enrollees	Reduction in hospital inpatient admission expenses

ROCI Template	Necessary	Optional
Medicaid Enrollment	Total operating expenses	None
	Enrollees	None

ROCI Template	Necessary	Optional
Volunteer Physician and Hospital Services	Value level of services (payor class)	Number of volunteer physicians
	Total operating expenses	Inpatient medical hospitalizations
	Uninsured patients serviced	Inpatient surgical hospitalizations
		Emergency department visits
		Outpatient surgical procedures
		Primary care physician visits
		Specialty care physician visits
		Laboratory tests
		Radiologic studies
		Dollar value of donated care

ROCI Template	Necessary	Optional
Pharmaceutical Access	Total operating expenses	Retail value of acquired brand-name drugs
	Number of brand-name prescriptions	Retail value of generic acquired drugs
	Number of generic prescriptions	

ROCI Template	Necessary	Optional
Pharmaceutical Assistance Program (PAP)	Total operating expenses	Retail value of PAP acquired drugs
	Completed PAP applications	

ROCI Template	Necessary	Optional
Multi-Share Reimbursement Agreement	Value level of services (payor class)	Inpatient medical hospitalizations
	Total operating expenses	Inpatient surgical hospitalizations
	Uninsured patients in coverage plan	Emergency department visits
		Outpatient surgical procedures
		Value of donated hospital services
		Hospital claims paid
		Primary care physician visits
		Specialty care physician visits
		Value of physician-donated care
		Physician claims paid
		Laboratory tests
		Radiologic studies
		Value of donated diagnostic services
		Diagnostic service claims paid

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Appendix III

RETURN ON COMMUNITY INVESTMENT (ROCI) TEMPLATE MEDICAL HOME ENROLLMENT SERVICE DEFINITIONS
Return on Community Investment (ROCI) - According to Communities Joined in Action, ROCI is a "method to deliver a well-defined risk adjusted value in exchange for a given resource investment." Simply put, ROCI ensures that we ask the right questions at the right time to judge whether an enterprise is worth the effort.
Medical Home Enrollment Service - An access program that assigns uninsured patients and their families to primary care medical homes.
Operating Expenses - Expenses that are incurred by the access program as a result of providing medical home enrollment services to the community. These expenses include, but are not limited to, salaries and administrative expenses.
Customers - Those groups that could potentially benefit financially from medical home enrollment services.
Hospitals - hospitals and/or health systems
Physicians - hospital owned practices, independent practices and specialists
Patients - community members who are directly affected by enrollment into an healthcare access program
Employers - the businesses that employ the patients who benefit
Community - state/local government, faith community, foundations
Benefits - The measures of financial impact to the above-defined customers.
Decrease in unnecessary ED usage - hospitals benefit by reducing the expense associated with caring for uninsured patients in the ED as patients would now be treated in a more appropriate location - a primary care physician office setting.
Decrease in unnecessary hospitalizations - by preventing hospitalizations that occur as a result of less than adequate care management, hospitals are able to potentially reduce the expense of uncompensated care.
Decrease cost - placing patients in a setting where care can be provided more appropriately at lower cost.
Increase wages - fewer sick days result in increased income for hourly workers.
Increase taxable income - if we increase wages for the patients, we are in turn increasing the tax base for the government.
Increase employee productivity - workers will miss fewer work days.

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RETURN ON COMMUNITY INVESTMENT (ROCI) TEMPLATE ASSUMPTIONS MEDICAL HOME ENROLLMENT SERVICE
Avoidable ED visits are defined as acute care sensitive conditions that could more effectively be treated in a primary care physician setting.
Avoidable hospitalizations are the result of conditions that could be more effectively treated through case/care/disease management.
Self-pay patients = uninsured patients.
The rate of inpatient admissions is the same for the uninsured patient population and the insured population. However, the rate of avoidable hospitalizations for the uninsured patient population is higher than the rate for the insured population.
A healthcare access program would reduce the avoidable self-pay (uninsured) hospitalization rate to the same rate of avoidable hospitalizations for the insured.
Each individual avoidable ED visit will result in one primary care physician office setting visit.
The average reported costs of an ED visit and a physician office visit are for visits that are classified as non-urgent, semi-urgent and/or urgent.
Average = median measure - the number which is in the exact middle of the data set.
The impact of health status on a person's average yearly earnings is based on a baseline income of $31,003.96.
Healthcare access programs will reduce the number of uninsured persons who report fair/poor health status to the same level of fair/poor health status as reported by the insured population.
Additional state and local taxes will be paid by the active patients as they increase their wages.

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Appendix IV

One of the calculations in the medical home enrollment model quantifies the benefits to hospitals of reduced unnecessary emergency department usage. This benefit calculation requires an input of the number of unique patients who have been enrolled in primary care medical homes and the cost of providing the service. Using the actual (if known) or average number of emergency department visits and national, state or federal data for the median cost of an emergency department visit, the model is able to quantify the financial savings to hospitals or payors after implementation of a medical home enrollment program.

For example, using the following data sources:

Data Source	Description	Value
Centers for Disease Control and Prevention (CDC)	National Average ED use is 38.2 visits per 100 persons per year (2004 statistic)	**38.2 percent**
Agency for Healthcare Research and Quality (AHRQ)	Median cost nationally for uninsured non-elderly persons (0-64) seeking emergency department services was $500 in 2006	**$500**
Medical Care	Patients with a medical home are 37 percent less likely to have non-urgent ED visits	**37.0 percent**

And the following sample inputs:

Description	Value
Patients assigned to a medical home	2,000
Program cost	$100,000

We can make the following calculations:

1. Pre-medical home enrollment program cost of emergency department usage is $382,000:
    - Number of emergency department visits is 764 (38.2 percent of 2,000 patients)
    - Pre-medical home enrollment program cost of emergency department visits is $382,000 (764 visits at $500 per visit)

2. Post-medical home enrollment program anticipated hospital savings: $141,340
    - Pre-medical home enrollment program cost times 37 percent reduction ($382,000 times .37)

3. Return on investment: 141 percent
    - Program cost is $100,000
    - Post-medical home enrollment hospital savings are $141,340
    - Savings minus program cost is $41,340 ($141,340-$100,000)
    - Return on investment is 141 percent ($141,340/$100,000)
    - For every $1.00 spent on enrolling patients into medical homes, $1.41 was returned to hospitals in financial benefit.

The calculation above is a simple calculation that represents only a portion of the total benefit of a medical home enrollment program. It should, however, assist one in understanding ROCI development and allow insight into the automation and simplification of return on investment calculation. With just a few inputs, programs are able to demonstrate their value to multiple stakeholders. If programs are able to obtain actual data, such as the average emergency department visit cost in their area, the model can be easily updated to include this information, making the model even more robust.