



Awarding IT: Improving Healthcare

Nicholas E. Davies Award of Excellence

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Benefits Realization Program: Measuring Value, Defining ROI, and Total Cost of Ownership

A Case Study: MultiCare Health System, 2009 Davies Organizational Award, Tacoma, WA

MultiCare Health System

MultiCare Health System is an integrated not-for-profit organization in Tacoma, Washington with four hospitals, including a children's hospital, primary and urgent care clinics, and home health and hospice programs serving four counties. MultiCare was recognized by HIMSS for these achievements with the 2009 Davies Organizational Award of Excellence. To read their award winning manuscript, visit http://www.himss.org/davies/docs/2009_RecipientApplications/MultiCareConnectHIMSSDaviesManuscript.pdf.

Benefits Realization Program: Focus, Goals, & Steps

Focus: Quality of Patient Care, Satisfaction Improvement, Revenue Enhancement, and Cost Reduction.

Goals: Supports ongoing operational ownership for meeting the expectations of the business case, creates a framework to routinely reevaluate the costs and returns in a dynamic healthcare environment, and provides a focus for ongoing optimization efforts.

Steps: Establish the Business Case, Select Key Process Indicators, Define Metric Methodology, Design Interventions, and Implement Interventions.

Aligning Quality to Achieve Value

MultiCare's project team adopted the Institute of Medicine's (IOM) six dimensions of quality patient care (Safe, Patient Centered, Effective, Efficient, Timely, Equitable) from which the original project goals were derived (see www.iom.edu, *Crossing the Quality Chasm*).

The Benefits Realization Program is composed of six key performance indicators (KPI) that align with the goals.

1. Improve quality of care

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2. Optimize alert acceptance rate
3. Optimize computerized practitioner order entry (CPOE) rate
4. Improve average length of stay (ALOS)
5. Increase direct patient care team
6. Improve financial performance

Each KPI has multiple key metrics from which the return on investment analysis is completed. Additionally, key metrics may be associated with one or more supporting metrics. In addition, each key metric and its supporting reports are vetted with the appropriate operational owner. The supporting metrics are not used to quantify the value of the project but have a strong influence on whether the key metric targets are achieved.

Steps to selecting KPIs

KPIs are selected to align with the business case and quantify what the project is to achieve. Depending on the project size, select between two and six KPIs.

1. Engage operational leaders in the selection of the project KPIs. The final list of KPIs is basically the project related goals restated in a quantifiable way.
2. Evaluate each possibility against the SMART (Specific, Measurable, Attainable, Realistic, Timely) criteria. If criteria are not met it is likely a weak KPI (do not select).
3. Create a list of additional metrics operations that would be impacted if the KPI targets are met. It is from this list that the Key Metrics will be selected.
4. Evaluate the Key Metric list against the SMART criteria and determine if a financial impact of the Key Metric can be determined. If a financial impact cannot be determined, consider tracking it as a “Qualitative Metric.”
5. Of the remaining Key Metrics, identify additional metrics that are important to consider when evaluating Key Metric progress.
6. Document the following for each KPI and Key Metric:
 - a. Person with measurement accountability for baseline and post-live period
 - b. Person with achievement accountability
 - c. Person approving the metric methodology
 - d. Baseline period
 - e. Baseline value
 - f. ROI period
 - g. Date of 1st post-live measurement
 - h. Projected target(s)
 - i. Industry benchmarks
 - j. Assumptions
 - k. Metric measurement definition, including data source
 - l. Financial impact definition (complete for Key Metrics only)
7. Document the following for each Supporting Metric:
 - a. Person with measurement accountability
 - b. Source system

KPI Example

KPI: Improve Quality of Care and Improve ALOS

Key Metric: Decrease emergency department (ED) left without being seen

Tactics (selected ones):

- Redesign patient intake process
- Night shift (and expanded) AIDET pilot

Results:

- ED arrival to attending assigned decreased from over 80 minutes to 50 minutes

- Overall ED length of stay decreased by 40 minutes
- Press-Ganey Top Box performance increased 19.6 percentage points
- Overall percentile rank went from the 17th to the 97th percentile

Next Step:

- Tie back to realized/actual ROI
- Continue to identify and drive improvements

Defining Return on Investment (ROI)

Determining the ROI for the project can be the most challenging aspect of the Benefits Realization Program. This work is best done with the support of a financial analyst. The ROI categories include cost reduction, revenue opportunity, and cost avoidance. It is important to document the assumptions that are used to determine the ROI and track actual returns against the projected returns.

Achieving the full return on investment (ROI) for the MultiCare Connect system includes the following assumptions:

- By 2011, all documentation will be generated electronically or scanned into MultiCare Connect; paper charts will not be generated.
- 85 percent adoption of CPOE.
- MultiCare Connect is the primary intervention implemented to achieve the return on investment but it may not be the only intervention.
- Projections are based off of current reimbursement rates and healthcare market conditions.
- Projections may be modified periodically in response to significant changes in reimbursement and/or health care market conditions.
- Beyond the quantitative return on investment metrics, the following qualitative benefits are expected:
 - Improved quality & safety
 - Greater patient, provider and staff satisfaction
 - Enhanced communication between the patient and their care team

Total Cost of Ownership (TCO)

TCO includes the purchase and installation costs (capital and operating) and the ongoing support and maintenance costs (capital and operating) over the useful life of the product. High level categories of costs will include: hardware, software, personnel, facilities (physical plant changes), and operating costs. The TCO is an estimate; therefore, periodically the actual spend should be evaluated against the projected spend and the TCO model adjusted accordingly.

MultiCare's TCO analysis is based on 10-year period (2005-2014), which is constantly monitored to measure the implementation of operational interventions and system enhancements.

Ongoing Monitoring

Ongoing monitoring and implementation of operational interventions and system enhancements, should include:

- Operational owners review metrics on a regular basis and report to leadership any course corrections or action plans related to metrics off plan.
- As metric performance is reviewed, identify operational interventions or system enhancements to further impact the metric. Discuss and define these changes and bring

to the appropriate groups in the organization to prioritize and incorporate into existing work plans.

About HIMSS Davies Award of Excellence

The HIMSS Nicholas E. Davies Award of Excellence recognizes excellence in the implementation and use of health information technology, specifically electronic health records (EHRs), for healthcare organizations, private practices, public health systems, and community health organizations. Created by CPRI-HOST in 1994, the first three recipients of the Davies Organizational Award were recognized in 1995. In 2002, CPRI-HOST merged with HIMSS, and now, HIMSS manages the award program. The Award honors Dr. Nicholas E. Davies, an Atlanta-based practicing physician, president-elect of the American College of Physicians, and a member of the Institute of Medicine Committee on Improving the Patient Record, who died in 1991 in a plane crash. Visit www.himss.org/davies for more information, including educational resources.