

The logo for Nebraska Hospitals Association (NHA) is displayed in large, bold, white capital letters on a dark blue background. A vertical white line is positioned to the right of the letters.

**NEBRASKA  
HOSPITALS**

# Return on Investment for Quality

NHA Quality Residency: Module A

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Dana Steiner, BSN, MBA, CPHQ

# NHA

# NEBRASKA HOSPITALS

## Objectives:

- Describe ROI for Quality in Healthcare
- Understand how to discuss ROI with C-Suite
- Demonstrate creation of an ROI report

# What is ROI?

- ✓ A return on investment (ROI) analysis is a way to calculate your net financial gains (or losses), taking into account all the resources invested and all the amounts gained through increased revenue, reduced costs, or both.
- ✓ Examining anticipated financial outcome data can help leadership make more informed decisions when prioritizing resources for quality improvement initiatives.
  - ✓ ROI also can be used as an evaluation tool to examine the cost of an initiative after implementation.
- ✓ ROI tool is used as a planning tool to develop cost and return information for use in setting priorities for improvements

# Why is ROI on Quality Important?

- Over 60 million people served by the Medicaid:
  - Adults with disabilities represent only one quarter of the population → consume nearly 70 % of Medicaid's resources.
  - Investing in programs that more effectively manage the care of these high-risk, high-cost beneficiaries can improve health outcomes, reduce unnecessary utilization, and help control Medicaid expenditures.
  - Greater value for every Medicaid dollar spent, while providing the highest quality care for those who need it most.
- Obtain buy-in for a proposed QI initiative or to demonstrate the effectiveness of an initiative already in place
- Cost avoidance and cost savings are two sides of the same coin -- achieving either is positive.
- Requires a shift in thinking → measure and estimate potential cost and expense instead of tracking existing numbers



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# Calculating ROI

- An ROI is calculated as the ratio of two financial estimates:

$$\text{ROI} = \frac{\text{Net financial returns from improvement actions}}{\text{Financial investment in improvement actions}}$$

- Where the numerator and denominator of this ratio are defined as follows:
  - *Net financial returns from improvement actions* -- The financial gains from the implementation of the improvement actions, which are generated by net changes in quality, efficiency, and utilization of services, or in payments for those services.
  - *Financial investment in improvement actions* -- The costs of developing and operating the improvement actions.
- Consider an educated estimate

# Let's Walk Through the Process:

## **Step #1: Determine the Basic ROI Design**

### **4 Design Decisions**

- 1. Define the scope of services affected by the improvement actions:**
  - a) **Unit Affected:** One unit (e.g., the emergency department) and others will have a broader scope (e.g., across all nursing units).
  - b) **Scope of Services:** Define the scope of services to be included in the ROI calculation and ensure that financial estimates are specifically related to that scope of services.
- 2. Define the timeline for implementation of improvement actions:**
  - a) Could be as short as a few months or as long as years.
  - b) Capture when actions change the hospital's operating procedures over time-- to estimate the implementation costs and the financial effects of improvement actions
- 3. Define the comparison group:**
  - a) Numerator for the ROI ratio -- compare the hospital's finances under 2 conditions:
    1. With the improvement actions implemented – after improvement
    2. Without them – before improvement.
- 4. Capture complete information on financial contributors:**
  - a) Identify and quantify as many of the financial contributors as possible for both the numerator and denominator of the ROI formula.
  - b) Best estimates of improvement action costs and of the components of net returns.

\*\*\*post-implementation ROI, you will have actual data from your financial system on those contributors.

# Let's Walk Through the Process:

## Step #2: Calculate ROI

- Create Estimates:
  - *Net returns from the improvement actions* (the ROI ratio numerator) / *Implementation costs* (the ROI ratio denominator)
  - Money you are saving or revenue you are creating / how much money went into implementation
- Returns:
  - 2 types of financial effects:
    - Operating costs
      - reducing its infection rates -- eliminate the costs from extra care required to treat infections.
      - Enhance or protect revenues -- incentives or penalties
- Costs:
  - Equipment
  - Training
  - IT
- **Cost Savings Calculation:** “How much did we save?”
- *The cost savings is the difference between returns and costs:*  
*Cost Savings = Worksheet 2 Total (returns) – Worksheet 1 Total (investment)*

# Let's Walk Through the Process:

**Table 1. Categories of Costs Incurred at Different Stages of Implementing a Practice or Quality Improvement Program**

Cost Category	Stages of the Improvement Actions				
	Planning and Development	Training	Startup	Ongoing Operation, Monitoring, and Maintenance	Shutdown
Personnel	X	X	X	X	X
Supplies	X	X	X	X	X
Equipment			X	X	
Training	X	X	X	X	
Information systems			X	X	X
Outreach and communication			X	X	X
External consultant costs		X	X	X	





# Let's Walk Through the Process:

## Step #3: Interpret the ROI

- ROI greater than or equal to 1:
  - Returns generated by improvement are greater than or equal to the costs for development and implementation.
  - ROI is considered to be **positive**.
  - For example, an ROI of 1.8 indicates that for every \$1 you invest in the quality improvement program, \$1.80 will be gained for the hospital.
- ROI less than 1:
  - Improvement actions yield a net loss from changes in quality and utilization.
  - ROI is considered to be **negative**.
  - For example, an ROI of -1.5 indicates that for every \$1 invested, \$1.50 will be lost by the hospital.
  - An ROI of 0.8 indicates that for every \$1 invested, 80 cents will be recouped by the hospital -- the hospital loses 20 cents for every \$1 it spends on the quality program.

# Presenting Information to Stakeholders:

1. Establish stakeholders and platform for information dissemination.
2. Create simple and concise document to present findings
3. Understand all of the information you are presenting and sources of information.
4. Send information out ahead of meeting for review – OR – offer time for them to ask questions and review then come back together to discuss next steps.
5. Have an implementation plan along with ROI.

\*\*\*Let's Walk Through an Example\*\*\*

# A Simpler View of ROI:

- Cost per Harm x Number of Harms
- Decrease in Harm Numbers = ROI
- Example: Hospital X initiated a falls prevention and safe mobility program and saw an approximately 25% fall rate decrease.

Year	Falls	Cost per fall	Total Harm Cost
2021	19	\$6,694	\$127,186
2022	14	\$6,694	\$93,716
		ROI of the quality project	\$33,470

- This could be used for any harm.

# Exhibit 7. Summary of meta-analysis additional cost estimates

	Studies (n)	Range of Estimates	Estimate (95% CI)
<b>Adverse Drug Events (ADE)</b>	2	\$1,277–\$9,062	\$5,746 (-\$3,950–\$15,441)
<b>Catheter-Associated Urinary Tract Infections (CAUTI)</b>	6	\$4,694–\$29,743	\$13,793 (\$5,019–\$22,568)
<b>Central Line-Associated Bloodstream Infections (CLABSI)</b>	7	\$17,896–\$94,879	\$48,108 (\$27,232–\$68,983)
<b>Falls</b>	3	\$2,680–\$15,491	\$6,694 (-\$1,277–\$14,665)
<b>Obstetric Adverse Events (OBAE)</b>	2	\$13–\$1,190	\$602 (-\$578–\$1,782)
<b>Pressure Ulcers</b>	4	\$8,573–\$21,075	\$14,506 (-\$14,506–\$41,326)
<b>Surgical Site Infections (SSI)</b>	5	\$11,778–\$42,177	\$28,219 (\$18,237–\$38,202)
<b>Ventilator-Associated Pneumonia (VAP)</b>	5	\$19,325–\$80,013	\$47,238 (\$21,890–\$72,587)
<b>Venous Thromboembolism (VTE)</b>	4	\$11,011–\$31,687	\$17,367 (\$11,837–\$22,898)
<b><i>C. difficile</i> Infections (CDI)</b>	9	\$4,157–\$32,394	\$17,260 (\$9,341–\$25,180)

- [ROI Forecasting Calculator for Quality Initiatives - Center for Health Care Strategies \(chcs.org\)](#)
- [www.ahrq.gov/sites/default/files/wysiwyg/professionals/systems/hospital/qitoolkit/f1-returnoninvestment.pdf](#)
- [IHI 2018: How to demonstrate the ROI on quality improvement projects | Fierce Healthcare](#)
- [https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-022-08832-3](#)

# Thank you – Questions?

[dsteiner@nebraskahospitals.org](mailto:dsteiner@nebraskahospitals.org)

308.627.3086

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