



Defining Value

MEASURING VALUE IN HEALTHCARE
AND SIMULATION

The Value Shift

- **ROI**, or return on investment, is commonly used in healthcare today to measure project results.
- Healthcare is one of the largest expenditures in any economy, especially in the United States.
- Traditional measurement efforts to evaluate the success of projects focused on activities, such as patients served, number of procedures performed, length of stay, and money spent.
- Today, the definition of value has shifted, instead **focusing on the monetary benefits compared to the costs.**

Importance of ROI

- Measuring ROI has been developed and refined over the last three decades and is often required for project approval.
- ROI can be used to assess outcomes that were traditionally difficult to measure, such as safety and consistent quality outcomes.
- ROI can be used to measure outcomes for healthcare projects involving patient satisfaction, quality of care, case management, staffing, innovation, marketing, and other areas.

Defining Value



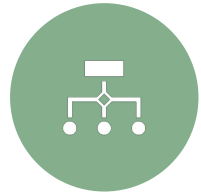
Access and
availability



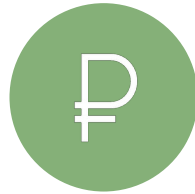
Perceptions



Knowledge and
capability



Actions,
processes, and
implementation



Impact, Tangible
and intangible



Financial benefit

Steps to Developing Monetary Value



Defining the types of data



Conducting an initial analysis with objectives



Forecasting value, including return on investment (ROI)



Using the ROI process model



Implementing and sustaining the process

CRNA Simulation Training

- Facility with high attrition rates for CRNAs recognized a need for decreasing turnover rates.
- Inadequate orientation and lack of emergency preparedness were identified as related factors.
- Simulation training was recognized as a possible solution.
- Total cost to implement was calculated: \$24, 087.20

CRNA Simulation Training

- 8 newly-hired CRNAs completed the simulation training.
- Immediate post-surveys, 6-month surveys, and attrition rates were measured.
- At the one-year mark, attrition had decreased to 10%.

The Value Analysis Model: Types and Levels of Data

0: Input

1: Reaction

2: Learning

3: Application and Implementation

4: Impact

5: ROI



Level 0: Inputs

- Represents project inputs
- Includes the number of people and hours, the focus, and the cost of the project

Level 0 Example Inputs

- 4 rooms booked for 8 hours - \$20,250.00
- CRNA Facilitator Costs - \$3707.20 (\$115.85 per hour x 8 hours x 4 facilitators)
- Catering - \$130.00
- **Total cost - \$24,087.20**

Level 1: Reactions

- Marks the beginning of the project outcomes
- Measures the perceived value of the project by focusing on issues such as relevance, importance, usefulness, fairness, appropriateness, and necessity

CRNA Simulation Training

- Data from the CRNAs was immediately obtained using post-surveys.
- The surveys measured participant satisfaction.

Level 1 Example Survey Questions

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
I was completely absorbed and time passed quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to use what was presented when I am in my patient care setting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The material covered was relevant to my work.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level 2: Learning

- Measures learning and ability to use the project content and materials
- Focuses on skills, knowledge, capacity, competencies, and confidence

CRNA Simulation Training

- Data from the CRNAs was immediately obtained using post-surveys.
- The surveys measured participant learning.

Level 2 Example Survey Questions

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
I am able to identify the signs and symptoms of a patient experiencing local anesthetic toxicity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident initiating treatment and managing the care of a patient experiencing local anesthetic toxicity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level 3: Application and Implementation

- Measures the extent to which the project is properly applied, or implemented
- Effective implementation is required to achieve Level 4, Impact.

CRNA Simulation Training

- Data from the CRNAs was obtained at the 6-month mark
- The surveys measured application of information learned during the simulation.

Level 3 Example Survey Questions

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
In the past 6 months, I have used the material presented in the patient care setting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident in using the material presented to manage emergencies in the OR.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level 4: Impact

- Reflects the consequences of the use of project content (organizational impact)
- Measures impacts such as patient productivity, patient revenue, patient outcomes, quality, wait times, cost per case, efficiency, patient satisfaction, and employee engagement

CRNA Simulation Training

- Total cost of orienting a new CRNA was considered: \$157,000 (Brown Mahoney, Lea, Schumann, & Jillson, 2020)
- Attrition rates were used to calculate the cost of replacing CRNAs annually: \$1,256,000.
- Attrition rates decreased at the one-year mark from 16% to 10%.
- The new calculated cost of attrition was calculated: \$785,000 .
- **The value of the program was \$471,000.**

Level 5: ROI

- Calculates the monetary benefits from the project and compares them with the cost of the project
- ROI is calculated as a percentage of benefits/costs.
- Requires a monetary calculation at levels 0 (costs) and 4 (impact)

CRNA Simulation Training

- Value of the simulation program (\$471,000) was compared with the cost of the simulation program (\$24,087.20).
- **ROI was calculated: \$446,912.80**

The Value Analysis Model: Types and Levels of Data

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4: Impact

5: ROI



Contact Information

Ann Willemsen-Dunlap, CRNA, PhD

- Director, Educational Development - Jump Simulation and Education Center
- Associate Clinical Professor, UICOM-P
- ann.m.willemsen-dunlap@jumpsimulation.org

Leslie Artinger, SRNA, BSN

- lwebb@siue.edu

Jessica Antisdal, SRNA, BSN, CCRN

- jantisd@siue.edu

- *For those interested in participating in a ROI course through JUMP, contact Lisa Carlisle at Lisa.G.Carlisle@jumpsimulation.org.*



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