

# OUTCOMES

This document provides examples of methods for measuring outcomes identified on Moore's Expanded Outcomes Framework for Assessing Learners and Evaluating Instructional Activities. Sample evaluation tools for measuring outcomes at levels 2 through 7 are provided.

## *Methods for Measuring Outcomes*

### Moore's Expanded Outcomes Framework for Assessing Learners and Evaluating Instructional Activities

<b>Outcomes Framework</b>	<b>Miller's Framework</b>	<b>Description</b>	<b>Sources of Data</b>
<b>LEVEL 1 Participation</b>		Number of learners who participate in the educational activity	Attendance records On line tracking of action within an activity
<b>LEVEL 2 Satisfaction</b>		Degree to which expectations of participants were met regarding the setting and delivery of the educational activity	Questionnaires/surveys completed by attendees after an educational activity
<b>LEVEL 3A Learning: Declarative Knowledge</b>	<b>Knows</b>	The degree to which participants state what the educational activity intended them to know	<i>Objective:</i> Pre and post tests of knowledge <i>Subjective:</i> Self-reported of knowledge gain
<b>LEVEL 3B Learning: Procedural Knowledge</b>	<b>Knows how</b>	The degree to which participants state <i>how</i> to do what the educational activity intended them to know how to do	<i>Objective:</i> Pre and post tests of knowledge <i>Subjective:</i> Self reported gain in knowledge (e.g., reflective journal.)
<b>LEVEL 4 Competence</b>	<b>Shows how</b>	The degree to which participants show in an educational setting how to do what the educational activity intended them to be able to do	<i>Objective:</i> Observation in educational setting (e.g., checklists, online peer assessment and EHR chart stimulated recall.) <i>Subjective:</i> Self reported competence, intention to change
<b>LEVEL 5 Performance</b>	<b>Does</b>	The degree to which participants do what the educational activity intended them to be able to do in their practice	<i>Objective:</i> Observed performance in clinical setting, patient charts, administrative databases <i>Subjective:</i> Self-report of performance
<b>LEVEL 6 Patient Health</b>		The degree to which the health status of patients improves due to changes in practice behavior of participants	<i>Objective:</i> Health status measures recorded in patient charts or administrative databases <i>Subjective:</i> Patient self-report of health status
<b>LEVEL 7 Community Health</b>		The degree to which the health status of a community of patients changes due to changes in the practice behavior of participants	<i>Objective:</i> Epidemiological data and reports <i>Subjective:</i> Community self-report

## Example of Evaluation Level 2 – Satisfaction

Please check the ratings that best describe your reaction to this session:

A. Were the session objectives clear?

No       Somewhat       Yes, definitely

B. Were the instructional techniques and materials helpful to your learning the material?

No       Somewhat       Yes, definitely

On a scale of 1 to 5, with 5 being the highest rating, **please circle the number that best describe your reaction:**

C. I would rate the instruction overall as ...

Low 1 2 3 4 5 high

D. I would rate the activity overall.....

Low 1 2 3 4 5 high

**Example of Evaluation Level 3A –Declarative Knowledge**  
**Knows**

Needle puncture into the shoulder joint (gleno-humeral joint) from a posterior portal through the supraspinatus fossa would require penetration of these muscles:

- A. Trapezius and supraspinatus
- B. Supraspinatus and infraspinatus
- C. Supraspinatus and subscapularis
- D. Subscapularis and serratus anterior
- E. Supraspinatus and teres minor

BEFORE Knowledge or skill Low → High					ABILITY TO.....	AFTER Knowledge or skill Low → High				
1	2	3	4	5		25.....effectively encourage my patients to obtain retinal exams.	1	2	3	4
1	2	3	4	5	26.....manage lipids in diabetics.	1	2	3	4	5
1	2	3	4	5	27.....effectively manage Hemoglobin A1c levels in my patients.	1	2	3	4	5
1	2	3	4	5	28.....interpret and manage microalbuminuria in my diabetic patients.	1	2	3	4	5
1	2	3	4	5	29.....maintain intensive glycaemia control of diabetic patients.	1	2	3	4	5
1	2	3	4	5	30.....select appropriate diabetic education tools and resources.	1	2	3	4	5

## Example of Evaluation Level 3B – Procedural Knowledge

### Knows How

A 75 year old man is hospitalized for a skin infection. Blood cultures demonstrate bacteremia. He receives intravenous antibiotic therapy for 4 days until afebrile and feeling better, and is discharged with oral antibiotics that he takes for one more week. Two weeks later he returns feeling poorly. He has back pain, night sweats, and low grade fevers of 100 to 101 degrees. Spine x-rays show multiple areas of bone destruction. Which of the following species were MOST LIKELY present in his first admission blood cultures?

- A. *Salmonella typhi*
- B. *Pseudomonas aeruginosa*
- C. *Enterococcus* species
- D. *Peptostreptococcus*
- E. *Staphylococcus aureus*

**Example of Evaluation Level 4 – Competence**  
**Shows How**  
**(Commitment to Change)**

\_\_\_\_\_  
Name of Attendee

As part of its ongoing system of program evaluation, the Continuing Medical Education program seeks information about physician's change and learning. Please complete the post conference session questionnaire. You are not required to participate. If you do, you should expect to receive a brief follow up questionnaire from the CME office in approximately 45 days. All your responses will be confidential. They will be reported only as cumulative statistics.

1. As a result of your participation in this session, will you make a change in your practice?

Yes

Uncertain (go to questions #2)

No (go to question #3)

If yes, please specify one change you will make:

\_\_\_\_\_  
\_\_\_\_\_

With 1 being the lowest level of commitment and 5 being the highest, please circle the number that most accurately indicates your commitment to successfully implement the change you specified.

Lowest

1

2

3

4

Highest

5

2. If you indicated uncertainty about making a change, please describe what causes your uncertainty.

\_\_\_\_\_  
\_\_\_\_\_

3. If you answered no to question # 1, please explain why you will make no change as a result of participating in this session.

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Email address

## Example of Evaluation Level 4 – Competence

### Shows How

#### Megacode Assessment Form (Basic)

Learner:				
Date:				
Evaluator:				
Lessons Completed: 1-4                      PASS _____      REEVALUATE _____				
Scoring: 0= Not Done    1 = Done incorrectly, incompletely, or out of order    2 = Done correctly in order ○ Student must perform each of the 5 <b>BOLD</b> items correctly ○ <b>Scenario must include “Heart rate remains &lt;100 beats per minute (BPM) and no chest movement” to allow demonstration of corrective action (Lesson 3)</b> ○ <b>Scenario must include “Heart rate &lt;60 bpm despite positive-pressure ventilation” to demonstrate chest compressions.</b> ○ <b>Learner must demonstrate ventilation and chest compressions</b> ○ <b>Scenario with meconium-stained fluid is optional</b>				
Lesson	Item	0	1	2
1	Checks Bag, Mask, and Oxygen Supply			
	Asks 4 Assessment Questions (Term? Meconium? Breathing? Tone?)			
2	(Optional) If meconium is present, determines if endotracheal suction is indicated			
	Positions head, suctions mouth then nose			
	Dries, removes wet towels, and repositions Requests description of breathing, heart rate, and color			
3	Indicates need for positive-pressure ventilation (Apnea, heart rate<100 bpm, central cyanosis despite O <sub>2</sub> )			
	Provides positive-pressure ventilation correctly (40-60 breaths/min)			
	Checks for improvement in heart rate ( <i>Instructor note: Heart rate does NOT improve.</i> )			
	Takes corrective action when heart rate not rising and chest not moving (Reapply mask, lift jaw forward, reposition head, check secretions, open mouth, increase pressure if necessary.)			
	Reevaluates heart rate ( <i>Instructor note: Heart rate must remain &lt;60 bpm.</i> )			
4	Identifies need to start chest compressions (Heart rage <60 bpm despite 30 seconds of effective positive-pressure ventilation)			
	Demonstrates correct compressions technique (Assess correct finger or thumb placement, compress one third of the anterior-posterior diameter of the chest.)			
	Demonstrate correct rate and coordination with ventilation (Ask student and assistant to switch positions.)			
Closure	Continues/discontinues positive-pressure ventilation appropriately or weans free-flow oxygen			
Student’s Score Subtotals				
Performed all bold items correctly?		Y	N	Reevaluate
Student’s Total Score (add subtotals) Maximum score: 30 pts with meconium 28 pts without meconium				
Minimum passing score: 24 pts with meconium 22 points without meconium		Pass Reevaluate		

## Example of Evaluation Level 5 - Performance

**Does**



*Team STEPPS*

### Team Performance Observation Tool

Date: \_\_\_\_\_  
 Unit: \_\_\_\_\_  
 Team: \_\_\_\_\_  
 Shift: \_\_\_\_\_

**Rating Scale**  
 (circle 1)  
*Please comment if 1 or 2*

1 = Very Poor  
 2 = Poor  
 3 = Acceptable  
 4 = Good  
 5 = Excellent

1. Team Structure	Rating
a. Assembles a team	
b. Establishes a leader	
c. Identifies team goals and vision	
d. Assigns roles and responsibilities	
f. Actively shares information among team members	
Comments:	
<b>Overall Rating – Team Structure</b>	
2. Leadership	Rating
a. utilizes resources efficiently to maximize team performance	
b. balances workload within the team	
c. Delegates tasks or assignments, as appropriate	
d. Conducts briefs, huddles, and debriefs	
e. Empowers team members to speak freely and ask questions	
Comments:	
<b>Overall Rating - Leadership</b>	
3. Situation Monitoring	Rating
a. Includes patient/family in communication	
b. Cross monitors fellow team members	
c. Applies the STEP process when monitoring the situation	
d. Fosters communication to ensure team members have a shared mental model	
Comments:	
<b>Overall Rating – Situation Monitoring</b>	
4. Mutual Support	Rating
a. Provides task-related support	
b. Provides timely and constructive feedback to team members	
c. Effectively advocates for the patient	
d. Uses the Two-Challenge rule, CUS, and DESC script to resolve conflict	
e. Collaborates with team members	
5. Communication	Rating
a. Coaching feedback routinely provided to learn members, when appropriate	
b. Provides brief, clear, specific and timely information to team members	
c. Seeks information from all available sources	
d. Verifies information that is communicated	
e. Uses SBAR, call-outs, check-backs and handoff techniques to communicate effectively with team members	
Comments:	
<b>Overall Rating - Communication</b>	
TEAM PERFORMANCE RATING	

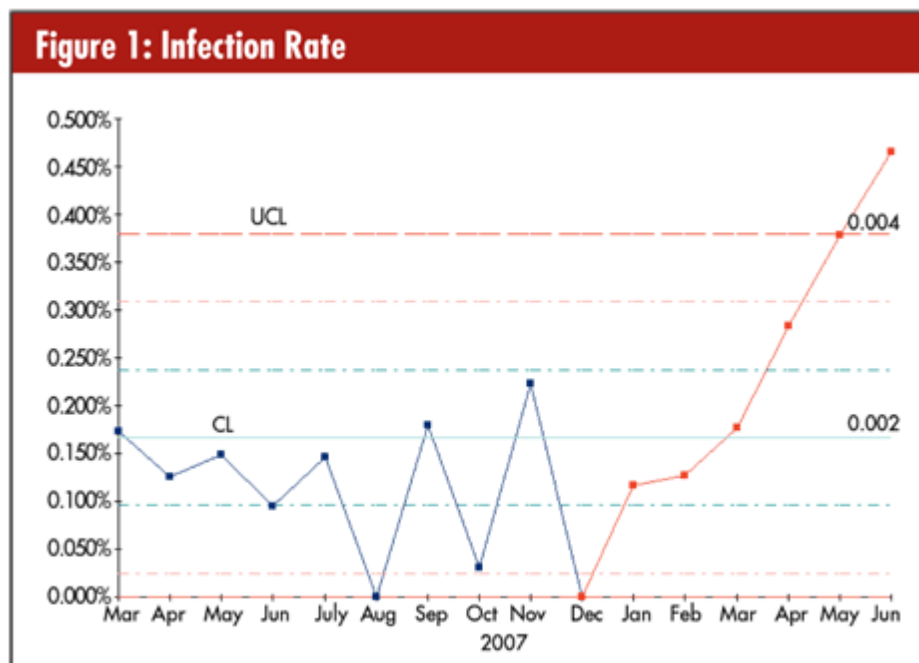


## Example of Evaluation Level 6 - Patient Health

*(Run Charts)*

Run charts are running records of processes over time. They are a simple analytical tool that may be used to understand variation in health care processes, such as hand washing, or changes in health, such as diabetes control for individual patients or for groups of patients.

Below is a sample run chart. The X-axis (horizontal) measures time or a sequence of when data are collected, and the Y-axis (vertical) measures the item of interest, such as variations in infection rates.



## Example of Evaluation Level 6 – Patient Health

### SF-12v2 Health Survey

Below is a sample of questions on the QualityMetric's SF-12v2<sup>®</sup> Health Survey, used to measure functional health and well-being from the patient's point of view. For more information go to:

<https://www.amihealthy.com>. (Need to register to login.)

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### **-SAMPLE-**

This survey asks for your views about your health. This information will help you keep track of how you feel and how well you are able to do your usual activities. *Thank you for completing this survey!*

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1) In general, would you say your health is:

Excellent	Very Good	Good	Fair	Poor
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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2) The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

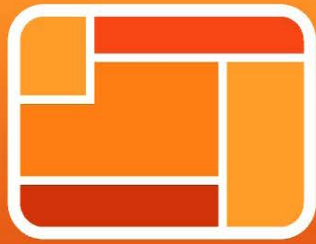
	Yes Limited a lot	Yes limited a little	No, not limited at all
a. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Climbing several flights of stairs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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3) During the past 4 weeks, how much of the time have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a. Accomplished less than you would like to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Were limited in the kind of work or other activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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# County Health Rankings & Roadmaps

A Healthier Nation, County by County

2016 Rankings **Virginia**

## Introduction

Where we live matters to our health. The health of a community depends on many different factors, including the environment, education and jobs, access to and quality of healthcare, and individual behaviors. We can improve a community's health by implementing effective policies and programs. For example, people who live in communities with smoke-free laws are less likely to smoke or to be exposed to second-hand smoke, which reduces lung cancer risk. In addition, people who live in communities with safe and accessible park and recreation space are more likely to exercise, which reduces heart disease risk.

However, health varies greatly across communities, with some places being much healthier than others. And, until now, there has been no standard method to illustrate what we know about what makes people sick or healthy or a central resource to identify what we can do to create healthier places to live, learn, work and play.

We know that much of what influences our health happens outside of the doctor's office – in our schools, workplaces and neighborhoods. The *County Health Rankings & Roadmaps* program provides information on the overall health of your community and provides the tools necessary to create community-based, evidence-informed solutions. Ranking the health of nearly every county across the nation, the *County Health Rankings* illustrate **what we know** when it comes to what is making communities sick or healthy. The *County Health Roadmaps* show **what we can do** to create healthier places to live, learn, work and play. The Robert Wood Johnson Foundation collaborates with the University of Wisconsin Population Health Institute to bring this groundbreaking program to counties and states across the nation.

The *County Health Rankings & Roadmaps* program includes the *County Health Rankings* project, launched in 2010, and the newer *Roadmaps* project that mobilizes local communities, national partners and leaders across all sectors to improve health. The program is based on this model of population health improvement:

In this model, health outcomes are measures that describe the current health status of a county. These health outcomes are influenced by a set of health factors. Counties can improve health outcomes by addressing all health factors with effective, evidence-informed policies and programs.

Everyone has a stake in community health. We all need to work together to find solutions. The *County Health Rankings & Roadmaps* serve as both a call to action and a needed tool in this effort.

For county rankings, health outcomes and health factors click on: <http://www.countyhealthrankings.org/app/virginia/2016/overview>