

IHI Open School UBC Workshop Seminar



a place of mind
THE UNIVERSITY OF BRITISH COLUMBIA

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**Courses: PS 101, 102, 103, 104, 105, QI 101, 102, 103, 104, 105, TA 101,
PFC 101, L 101**

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Introduction



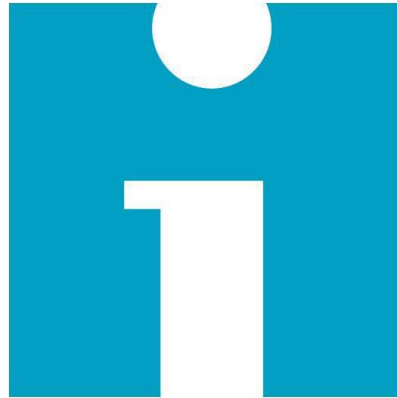
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Presenters

Ko Ta Chen



Judy Ban



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Improvement Capability 101 (QI101)

Introduction to Healthcare Improvement

Objectives

1. Describe common challenges for health care systems around the world.
2. List the six dimensions of health care, and the aims for each, outlined by the Institute of Medicine (IOM) in 2001.
3. Explain the value of improvement science in health care.



Lesson 1: Health and Health Care Today



Challenges of the Healthcare System

- Providers are becoming more specialized
- Ageing populations
- Patients and families are better informed and want personalized care.
- Growing availability of and demand for complicated procedures and expensive treatments



Crossing the Quality Chasm

Six dimensions of high-quality healthcare

- Safe
- Effective
- Timely
- Patient-centered
- Efficient
- Equitable
- **+ Value**



Disparities Across and Within Nations

- The lifetime risk of maternal death is 1 in 11 in Afghanistan — compared to 1 in 17,800 in Ireland.
- In the US, African Americans represent only 12 percent of the population, but account for almost half of all new HIV infections.
- About 80 percent of noncommunicable diseases are in low- and middle-income countries.
- In London, when travelling east from Westminster toward Canning Town, each tube stop represents nearly one year of life expectancy lost.



International Improvement Efforts

In December 2012, the United Nations General Assembly called on governments to “urgently and significantly scale-up efforts to accelerate the transition towards universal access to affordable and quality health care services.”



Post-Assessment Review

In regard to health disparities around the world, which of the following statements is most true?

- a) Inequitable medical care is the primary driver of health disparities.
- b) Where a child is born significantly affects his or her life expectancy.
- c) The root causes of health disparities are complex.
- d) B and C

Which of the following is a trend in modern health care across industrialized nations?

- a) Providers are becoming more specialized.
- b) The disease burden is shifting toward acute conditions.
- c) There is growing demand for complicated procedures.
- d) A and C

Which of the following countries has had a relatively inexpensive universal health insurance system for more than 50 years?

- a) Chile
- b) Germany
- c) Japan
- d) The US



Post-Assessment Review

Which of the following statements is true:

- a) During the past 15 years, the cost of care has been a growing problem for many developed nations.
- b) During the past 15 years, most countries around the world have used similar approaches to improve health care quality and access.
- c) Among industrialized nations, there is a perfect correlation between quality rankings and the number of dollars spent on health care.
- d) All of the above

Which of the following statements is a reason for improving the US health care system?







- a) The US has fallen behind in biomedical innovation.
- b) The US lacks the means to measure health care quality and access.
- c) The US government and citizens alike are struggling to afford the cost of care.
- d) All of the above



Lesson 2: The Institute of Medicine's Aims for Improvement



IOM's Six Aims of Improvement

-  **Safe:** Avoiding injuries to patients from the care that is intended to help them
-  **Timely:** Reducing waits and sometimes harmful delays for patients and providers
-  **Effective:** Providing the appropriate level of services based on scientific knowledge
-  **Efficient:** Avoiding waste, including waste of equipment, supplies, ideas, and energy
-  **Equitable:** Providing care that does not vary in quality because of personal characteristics
-  **Patient-Centered:** Providing care that is respectful of and responsive to individual patients

Aim 1: Safe

- 1 in 10 patients is harmed while receiving care in developed countries
- The Scottish Patient Safety Programme (SPSP)





Aim 2: Timely

- 1 in 10 patients in Canada experienced wait times of eight hours or more for emergency services
- Margret Marquart Catholic Hospital in Kpando, Ghana — Project Fives Alive





Aim 3: Effective

- Care should be based on evidence — the best scientific knowledge about what is likely to help (and harm) a patient.
- Health care should match science, with neither overuse nor underuse of the best available techniques.



Aim 4: Efficient

At least 20 percent of US health spending goes toward six categories of waste:

- Failures of care delivery
- Failures of care coordination
- Overtreatment
- Administrative complexity
- Pricing failures
- Fraud and abuse



Aim 5: Equitable

- Quality of care varies based on the patient's personal characteristics, such as gender, ethnicity, geographic location, and socioeconomic status.



Aim 6: Patient-Centered

- Patients often complain about the lack of customer involvement and service in the healthcare industry
- Physicians listen to patients' concerns for an average of only 20 seconds before interrupting



Post-Assessment Review

1) Why was it important for the Institute of Medicine (IOM) to develop its six aims for health care?

- a) So that accreditation organizations would be better able to evaluate hospitals
- b) So that health care organizations would have a better idea of what they needed to improve
- c) So that lawmakers could focus their attention upon specific areas when working on health care reform
- d) All of the above

Michael S., a 49-year-old factory worker, is brought to the hospital after developing chest pain at work. He is quickly diagnosed with an acute myocardial infarction (heart attack). However, he waits almost two hours to get to the catheterization lab and have his blocked coronary artery opened. Ultimately, he suffers permanent damage to his heart.

2) Which of the IOM aims has this hospital FAILED to meet?

- a) Equitable
- b) Safe
- c) Effective
- d) Efficient
- e) Timely
- f) Patient-centered



Post Assessment Review

3) The hospital where Michael is recovering reviews its patient satisfaction survey results in order to improve its care and patient outcomes. Leaders poring over the data note that 90 to 100 percent of patients rate staff as "excellent" in the following categories: listening, answering questions, being friendly and courteous, and giving good advice based on specific needs and preferences. Which aim is the hospital generally achieving?

- a) Equitable
- b) Safe
- c) Effective
- d) Efficient
- e) Timely
- f) Patient-centered

4) Which of the following improvement efforts is the best example of increasing the effectiveness of care?

- a) Decreasing adverse drug events by having a pharmacist on rounds in the intensive care unit
- b) Shortening wait times at a clinic by allowing patients to self-register on a computer in the waiting room
- c) Improving the percent of clinic patients achieving their goal blood pressure by instituting a series of reminders for providers about evidence-based processes
- d) Instituting quarterly focus groups of patients seen in the emergency department to better identify patient concerns



Post-Assessment Review

5) Which of the following improvement efforts is the best example of increasing the equity of care?

- a) Decreasing adverse drug events by having a pharmacist on rounds in the intensive care unit
- b) Shortening wait times at a clinic by allowing patients to self-register on a computer in the waiting room
- c) Instituting quarterly focus groups of patients seen in the emergency department to better identify patient concerns
- d) Through staff development and weekly feedback, equalizing the likelihood that a patient will receive pain medication regardless of race, ethnicity, or education



Lesson 3: Changing Systems with the Science of Improvement



The Science of Improvement

- Pure science - e.g., Fleming's discovery of antibiotics
- Applied science - e.g., ensuring antibiotics are available to all



Deming's System of Profound Knowledge

1. Appreciation of system
2. Understanding variation
3. Theory of knowledge
4. Psychology (human behaviour)



Post-Assessment Review

- 1) Which of the following is a basic principle of improvement?
 - a) Improvement must come from the bottom up — not the top down.
 - b) Every system is perfectly designed to get the results it gets.
 - c) Data should always drive improvement.
 - d) When examining a complex system, consider all the parts separately.

- 2) Using Deming's System of Profound Knowledge is helpful in quality improvement because:
 - a) It's a systematic set of procedures for implementing improvement.
 - b) It can help break down complex quality issues into smaller, more understandable parts.
 - c) It can help figure out who is to blame after an error.
 - d) It's a helpful way to secure funding from external sources for planned improvements



Post Assessment Review

Transcendental Nursing Home is working on decreasing its rates of catheter-associated urinary tract infections (UTIs) among its residents. While reviewing data, the improvement team notices that the UTI rate on Floor 3 is half that of the rest of the floors. They decide to visit the unit and find out what it is doing differently.

3) Which component of Deming's System of Profound Knowledge is the team about to harness?

- a) Appreciation of a system
- b) Understanding variation
- c) Theory of knowledge
- d) Psychology (human behavior)

4) After speaking with caregivers on Floor 3, the improvement team discovers that there is a particularly dedicated head nurse on the unit whose mother died after a catheter-associated UTI. This nurse orients all new providers and also provides feedback when she sees that catheters are being placed unnecessarily in patients. Which component of Deming's System of Profound Knowledge do this nurse's actions best represent?

- a) Appreciation of a system
- b) Understanding variation
- c) Theory of knowledge
- d) Psychology (human behavior)



Post-Assessment Review

5) Which of these is a question particularly associated with the "theory of knowledge" component in Deming's System of Profound Knowledge?

- a) What motivates people to act as they do?
- b) What is the variation in results trying to tell you about the system?
- c) What are your predictions about the system's performance?
- d) What is the whole system that you're trying to manage?



Improvement Capability 102 (QI 102)

How to Improve the Model for Improvement

Objectives

1. List the three questions you must ask to apply the Model for Improvement.
2. Identify the key elements of an effective aim statement.
3. Identify three kinds of measures: process measures, outcome measures, and balancing measures.
4. Use change concepts and critical thinking tools to come up with good ideas for changes to test.
5. Test changes on a small scale using the Plan-Do-Study-Act (PDSA) cycle.



Lesson 1: An Overview of the Model for Improvement



Improvement Capability 102 (QI 102)

How to Improve the Model for Improvement

Lesson 1: An Overview of the Model for Improvement

Objectives:

After completing this lesson, you will be able to:

1. State the three fundamental questions that are the basis of the Model for Improvement.
2. Identify the processes that make up the Plan-Do-Study-Act (PDSA) cycle.
3. Describe how a health care team has used the Model for Improvement to bring about improvements in a clinical setting.
4. Use the Model for Improvement to begin your own personal improvement project.



Improvement Capability 102 (QI 102)

How Can We Improve?

- Central line-associated bloodstream infections (CLABSI) are nasty problems in hospitals around the world
 - more than 30,000 of these types of infections occur in US acute care facilities each year

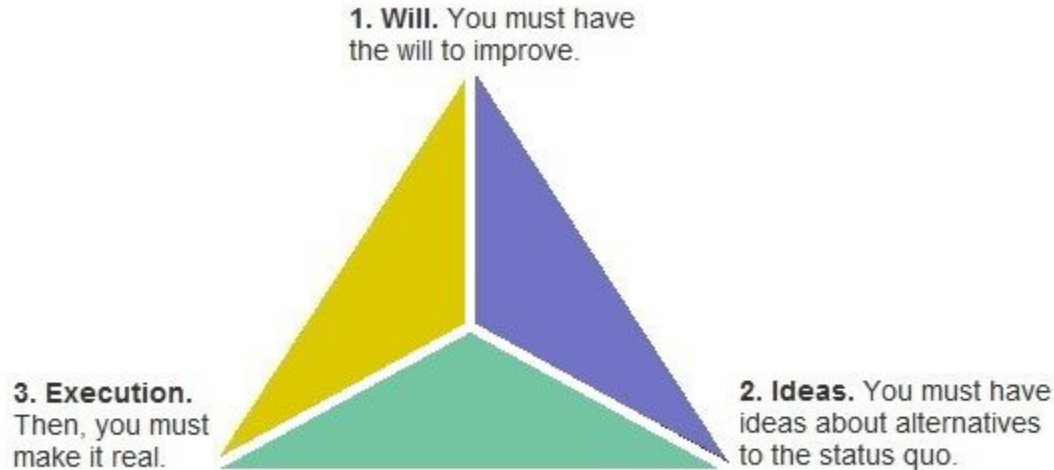
Model for Improvement

**CLABSI in
11/1000 neonates → zero**



Improvement Capability 102 (QI 102)

Will, Ideas, and Execution



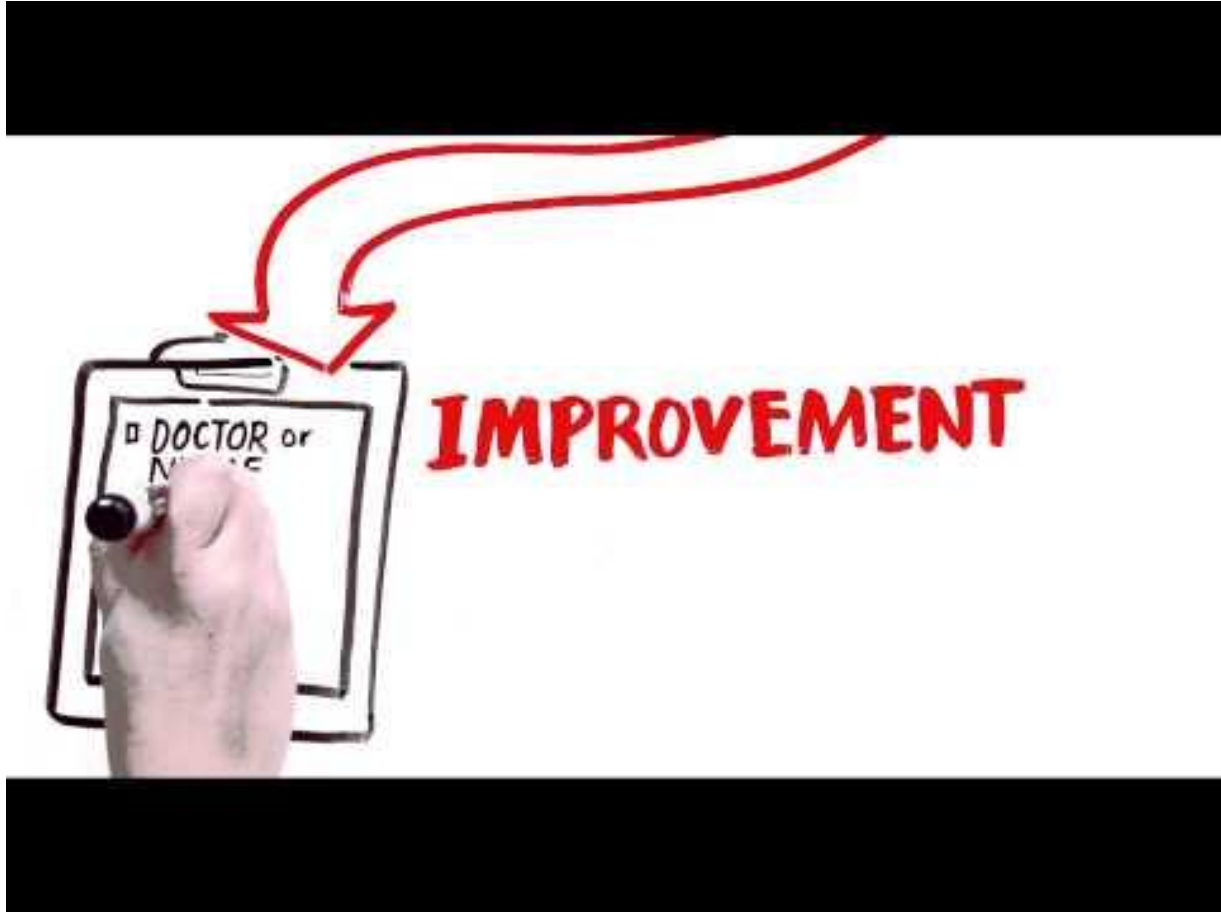
Essential elements for systems improvement

Improvement Capability 102 (QI 102)

PDSA

- Plan, Do, Study, Act
- Three Fundamental Questions:
 - What are we trying to accomplish? (You ask this to establish your **aim**.)
 - How will we know a change is an improvement? (You ask this to establish your **measures**.)
 - What change can we make that will result in improvement? (You ask this to determine the **changes** you will test.)





Improvement Capability 102 (QI 102)

SAMSO'S NICU

- Dr. George Cheriyan, the head neonatologist
- The nurse in charge of the unit
- A data collection clerk
- The infection control coordinator
- The unit's quality improvement coordinator



Improvement Capability 102 (QI 102)

SAMSO'S NICU

1. Set an aim. *decrease the infection rate in the NICU from 11 infections per 1,000 catheter days to fewer than 5 in nine months.*

2. Establish measures.

Infection rate — *outcome measure*.

Staff doing things they were asked to do — *process measures*.

3. Identify changes.

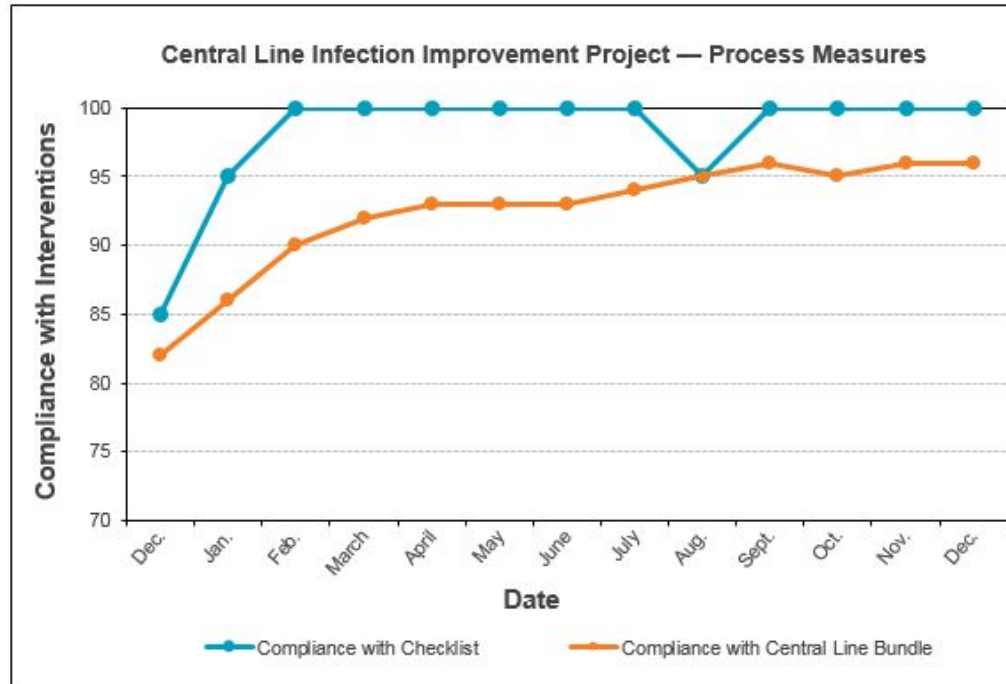
- Implement a set of interventions (eg. checking hand hygiene and lines daily), aka the “Bundle”
- Instituting a checklist for staff to review before central line insertion
- Red tags on the beds of the babies with central lines

4. Test changes. Here's where the PDSA cycle came in.



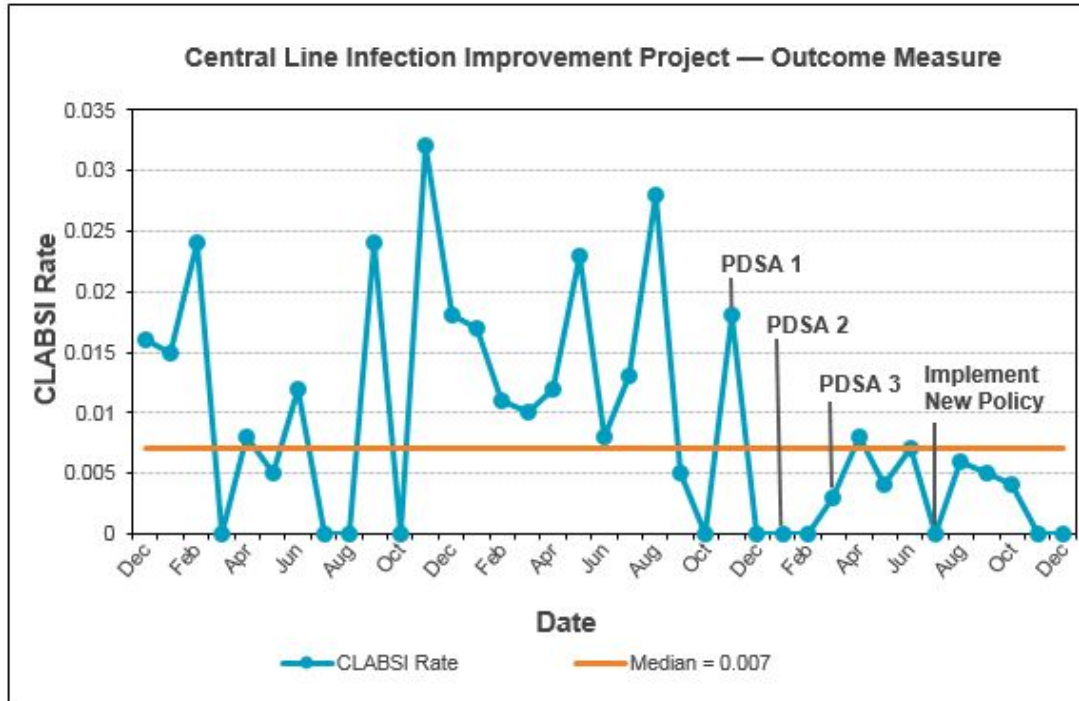
Improvement Capability 102 (QI 102)

Test Changes



Improvement Capability 102 (QI 102)

Test Changes



PDSA 1: Bundle
PDSA 2: Check list
PDSA 3: Red tags



Improvement Capability 102 (QI 102)

SAMSO'S NICU

5. Implement changes. New policy → Staff training

The team successfully changed the way the NICU handled central lines. Eventually, SAMSO spread the same protocol to its pediatric intensive care unit.



Post-Assessment Review

1. The Model for Improvement begins with three questions designed to clarify the following concepts:
 - (A) Plan, do, act
 - (B) Mission, goal, strategy
 - (C) Aims, measures, changes
 - (D) Will, ideas, and execution
2. An orthopedic clinic in a busy metropolitan area would like to improve its patient scheduling process. More specifically, the clinic wants to improve its efficiency and the satisfaction of its patients.

Applying the Model for Improvement to the clinic's improvement goal, which of the following is the most reasonable aim statement?

 - (A) Implement two PDSA cycles within six months of beginning the project.
 - (B) Increase the number of patients reporting they are "very satisfied" with the clinic's scheduling by 50 percent within six months.
 - (C) Modify the scheduling process to allow both front desk staff AND nurses to directly schedule appointments.
 - (D) Create an efficient process for scheduling return appointments at the time of checkout.
3. After assembling a team and working through the three questions of the Model for Improvement, the orthopedic clinic decides to implement an automated reminder phone call 24 hours prior to each clinical appointment. The clinic's improvement team hopes that this small change will improve scheduling.

What is the team's next step?

 - (A) Take a well-deserved break.
 - (B) Develop their project-level measures.
 - (C) Test their change plan using the PDSA cycle.
 - (D) Report their results to clinic leadership and prepare a poster for a national meeting.



-
4. The orthopedic clinic plans the change to improve scheduling, and then it carries out a small test of change with three patients on Tuesday morning. What's the next thing the clinic's improvement team should do?
- a) Change their measures.
 - b) Measure to see if the change led to improvement.
 - c) Report their results to the clinic leadership and prepare a poster for a national meeting.
 - d) Implement the new scheduling process based upon their initial impressions of how everything is working.
5. When trying to improve a process, one reason to use PDSA cycles rather than a more traditional version of the scientific method (such as a randomized, controlled trial) is that:
- a) PDSA cycles are easier to run with a large team of people.
 - b) The results of PDSA cycles are more generalizable than other methods.
 - c) PDSA cycles are simpler to use than other methods.
 - d) PDSA cycles provide a mechanism to adjust improvement ideas as the project progresses.
 - e) Both C and D



Lesson 2: Setting an Aim



Improvement Capability 102 (QI 102)

The Key Elements of an Aim Statement

An **aim statement** is the answer to the first question in the Model for Improvement: **What are we trying to accomplish?**

- How good?
- By when?
- For whom (or what system)?



Improvement Capability 102 (QI 102)

The Key Elements of an Aim Statement

- *We'll do better on tests.*
- *I will lose weight.*
- *I'm going to exercise more often.*

How good?
By when?
For whom (or what system)?

vs.

- *Every member of our study group will increase his or her grade point average by 10 percent or more within eight months.*
- *I will weigh 160 pounds or less by February 1.*
- *I'm going to run at least 10 miles per week by July 4.*



Post-Assessment Review

1. Having a clear aim statement is important in quality improvement work because:
 - a) Aim statements provide a clear and specific goal for the organization to reach.
 - b) All grant agencies require clear aim statements when they are considering funding requests.
 - c) Aim statements remove all obstacles from quality improvement projects.
 - d) The leaders of all organizations expect to see these types of goals.

2. An aim statement should include the following:
 - a) Specific time frame, team membership, and numeric goals
 - b) Numeric goals, specific time frame, and the patient population or system affected
 - c) Patient population or system affected, estimated cost of improvement, and numeric goals
 - d) All of the above

3. Brenda, an emergency room nurse, notes that there seems to be a significant delay between the ordering and the administration of pain medications in her department. She decides to conduct a small improvement project to reduce this delay and obtains the support of the charge nurse (head nurse). Which of the following is the most effective aim statement for this project?
 - a) Within one month, 95 percent of physicians will tell nurses when a pain medication is ordered on emergency room patients.
 - b) Within three months, the emergency department will administer all pain medications within 45 minutes of order time.
 - c) Within two months, improve the timeliness of pain medication delivery by allowing nurses to stock the most commonly used medications in the emergency unit
 - d) Within three months, the emergency department will improve the timeliness of pain medication delivery to 100 percent of patients.



-
4. The charge nurse in the emergency room asks Brenda to assemble a team to improve the delivery of pain medication. As she considers who to place on the team, Brenda should:
- a) Review the aim statement to make sure the team includes representatives of all processes affected by the team's aim.
 - b) Create a team of volunteers.
 - c) Create a team of managers and administrators.
 - d) Make sure only nurses are on the team, as they are the most likely to help her achieve her aim.
5. During Brenda's first group meeting, the members ask to review the aim statement to make sure they agree it addresses the current problem. With Brenda's approval, they all decide to rewrite it. However, when they meet to consider what would be a better aim statement, the group loses direction. In order to help them, Brenda might want to:
- a) Reconsider who should be on the improvement team.
 - b) Move the meeting to a later date, so that she can come better prepared.
 - c) Explain to the group that the aim is set, as both she and the charge nurse have already agreed on the wording.
 - d) Remind the team of the Institute of Medicine's dimensions of health care quality.



Lesson 3: Choosing Measures



Improvement Capability 102 (QI 102)

Why Do We Need Measures?

Aim: To arrive on time for class/work 100% of the time within three months

Plan:

- Get out of bed 1 hour earlier
- Set an alarm 1 hour before class/appointments
- Advance clocks in hour house

Outcome measure: % of time you arrive on time



Improvement Capability 102 (QI 102)

Measuring for Research vs. for QI?

	Research	Quality Improvement
Purpose	Proof of effectiveness	Sustained improvement
Data Collection	Gather enough data to authoritatively study for effect and control for all known confounders	Gather just enough data to inform improvement, and only collect data on 1–2 confounders as needed (i.e., balancing measures)
Method	One large test with a fixed hypothesis; control bias as much as possible	Rapid sequential tests with a hypothesis that changes as learning takes place; no effort to control bias
Results Evaluation	Pre- and post-assessment	Regular assessment with run charts



Improvement Capability 102 (QI 102)

Measuring for Research vs. for QI?

Clinic A:

- note how many clinicians washed their hands before and after each patient encounter
- continue to track 10 patients per week as various interventions are tested
- determine if hand hygiene compliance gets better over time

Clinic B:

- randomly assign patients to two groups, making sure both have similar attributes
- develop a database, and over the next six months, measure how many clinicians in each group washed their hands before and after each patient encounter
- implement the chosen intervention with one of the groups and reassess hand hygiene compliance as compared to the control group



Improvement Capability 102 (QI 102)

Using a Family of Measures

- **Outcome measures** are the measures you ultimately want to move. They tell you how the system is performing, i.e., the ultimate result.
- **Process measures** tell you if the parts or steps in the system are performing as planned to affect the outcome measure.
- **Balancing measures**, which are often not directly related to the aim, assess whether the changes designed to improve one part of the system are introducing problems elsewhere.



Improvement Capability 102 (QI 102)



Aim: Arrive on time for work, class, meetings, and other appointments 100 percent of the time within three months



Aim: Decrease the average HbA1c level of the population of patients with diabetes to less than 7.0 within 12 months

Outcome Measure <i>Where are we ultimately trying to go?</i>	Percentage of time you arrive punctually	HbA1c level for patients with diabetes
Process Measure <i>Are we doing the right things to get there?</i>	Number of days per week you set your alarm to go off early; number of days per week you actually wake up early	Percent of diabetes patients whose HbA1c level was measured twice in the past year
Balancing Measure <i>Are the changes introducing problems?</i>	Level of perceived sleep deprivation on a scale of 1–5	Number of minutes spent with each patient with diabetes

Improvement Capability 102 (QI 102)

Your Turn: Outcome, Process or Balancing Measure?

Aim: *Reduce the incidence of ventilator-associated pneumonia (VAP) by reducing the number of ventilator days in the intensive care unit (ICU) by 20 percent within five months.*

Average number of days on mechanical ventilation

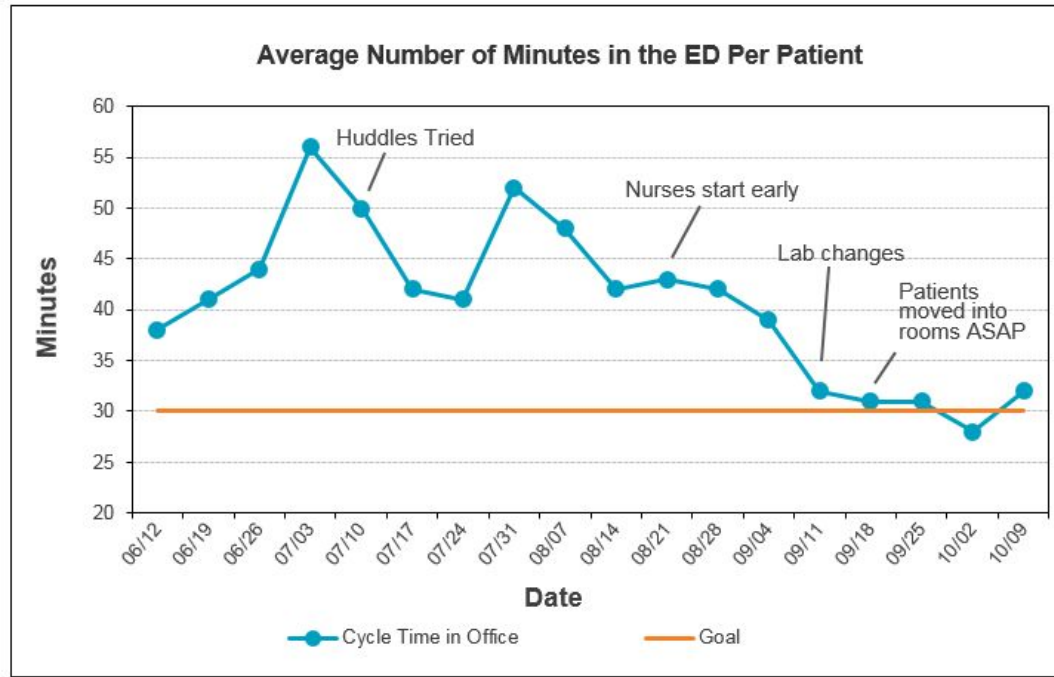
Percentage of patients with ventilator-associated pneumonia

Readmission of ventilated patients to the ICU who then require mechanical ventilation



Improvement Capability 102 (QI 102)

Displaying Data over Time



Post-Assessment Review

1. As a nurse manager of a medicine unit in an academic hospital, you're aware that your unit has a high rate of patient readmissions. In fact, 36 percent of the patients discharged from your unit are readmitted to the hospital within 30 days. After reviewing the literature, you become aware that this rate is quite high compared to national standards. Working with other members of your unit, you develop a plan to call patients on the phone within 48 hours of discharge, with the aim of cutting readmission rates to 18 percent.
What would you identify as the outcome measure for the project?
 - a) Average length of stay
 - b) The cost of labor associated with the calls
 - c) Rate of job satisfaction of those on the unit making the calls
 - d) Percentage of patients that are readmitted to the hospital
2. Which of the following is an example of a process measure that you may collect as part of this improvement effort?
 - a) The rate of patients being readmitted within 30 days
 - b) The reasons for readmission to the hospital
 - c) The percentage of patients receiving a call within 48 hours of discharge
 - d) The cost of the labor associated with the calls
3. Why might you consider collecting balancing measures?
 - a) To show that you met your aim
 - b) To make sure you are able to publish your study
 - c) To demonstrate to your hospital board that you were justified in using resources for this project
 - d) To make sure you did not unintentionally damage other aspects of the unit's work



-
4. What else should you add to the graph to best explain the improvement work your unit has done?
 - a) The cost of the improvement effort
 - b) Annotations to show when specific changes were tested
 - c) Explanation of what a PDSA cycle is
 - d) P-values showing statistical significance

 5. Gathering and reviewing data during an improvement project—that is, measuring—helps you answer which of the three questions of the Model for Improvement?
 - a) How will we know that a change is an improvement?
 - b) What are we trying to accomplish?
 - c) What changes can we make that will result in improvement?



Lesson 4: Developing Changes



Improvement Capability 102 (QI 102)

How Will You Achieve Your Aim?

1. Critical thinking about the current system
 - Flowchart
 - Process map
2. Benchmarking
 - Compare your system to the current “best practice”
3. Using technology
 - Automation, new equipment, or new information systems
 - Technology is not always reliable
4. Creative thinking
 - Temporarily considering unrealistic goals that can prompt you to break out of your old way of thinking
5. **Change concepts:** see next page

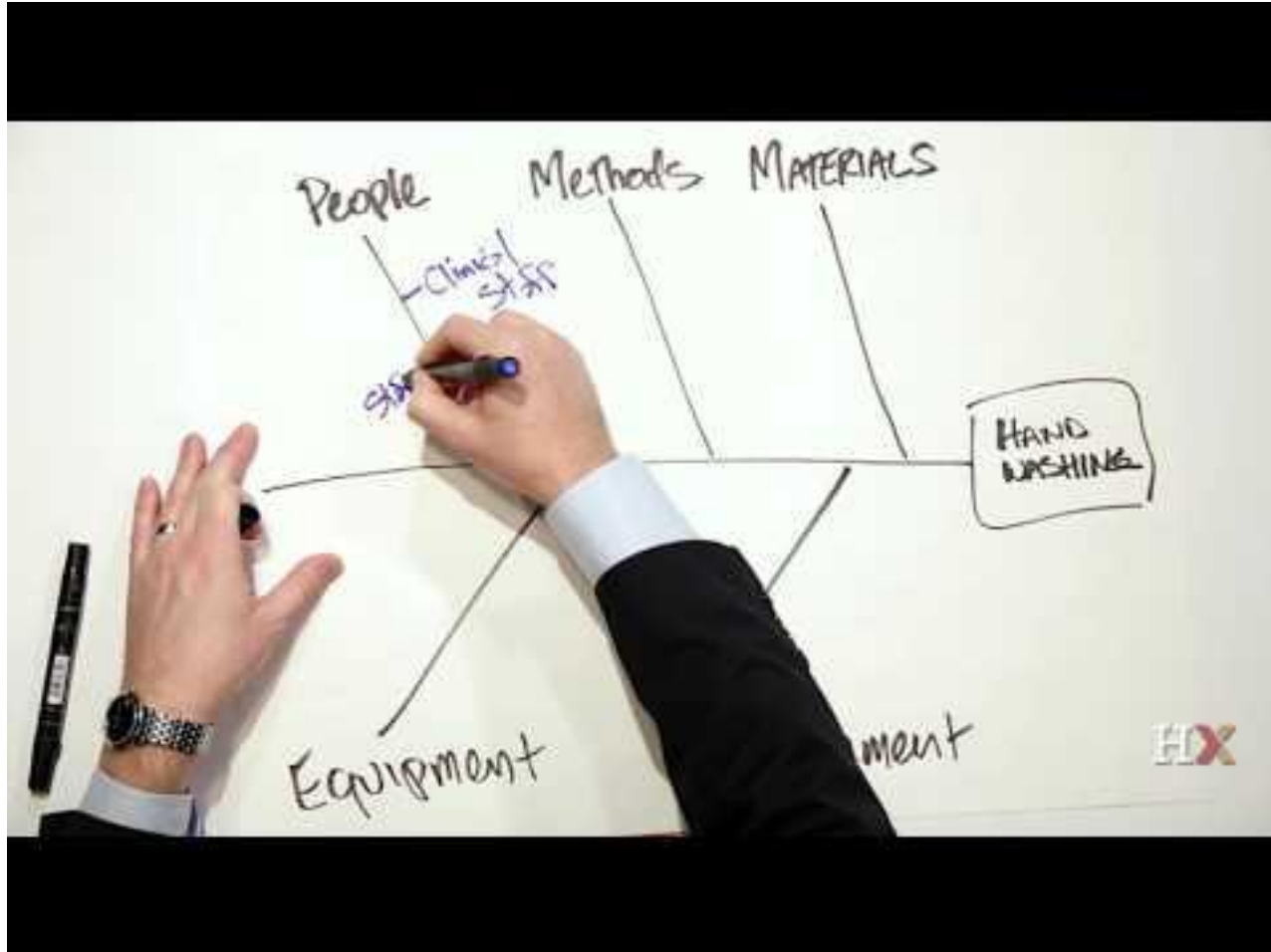


Improvement Capability 102 (QI 102)

Category	Change Concept	Questions to Ask	Example
1. Eliminate Waste	Eliminate things that are not used	Can you think of an activity or resource that doesn't add value?	Can you shorten the meetings? Are weekly meetings necessary?
2. Improve Workflow	Find and remove bottlenecks	Is the some aspect of your process where the work doesn't happen as smoothly as it should?	Do you have an agenda for each meeting? Is it clear what you will accomplish?
3. Optimize Inventory	Match inventory to predicted demand	Do you have too much or too little of the items you use or provide? Is your work held up because items are poorly organized or not available?	Do you have access to a laptop to show everyone the new flyers?
4. Enhance the Producer/ Customer Relationship	Focus on the outcome to a customer	What are the needs of the people you serve? Do they understand the value of your services? Do they have ideas for ways you can improve?	At the end of every meeting, do you ask people if there are ways to improve your project?
5. Change the Work Environment	Take care of basics	Changing the work environment itself can make all other process changes more effective. Does the culture resist or embrace new ideas?	Perhaps you need to hold the meeting in a quiet space. Are people too easily distracted?
6. Manage Time	Reduce setup or startup time	Can you cut down on the time it takes to do anything in the organization — whether it's waiting times or the time to develop a new idea or product?	Can you send out the agenda before the meeting so volunteers can come prepared?
7. Manage Variation	Standardization (create a formal process)	What aspects of your systems vary and make your outcomes unpredictable?	Is it possible to find a time that works for everyone and create a routine in volunteer's schedules each week?
8. Design Systems to Prevent Errors	Use reminders	Can you make it harder for people in your system to make mistakes? For instance, can you make the information necessary to perform a task available	Can you send out a reminder so that volunteers don't forget about the meeting?
9. Focus on the Design of Products and Services	Offer product/service anywhere	Is the service or product you provide a good one? Can it be better?	What if you allowed people to attend meetings virtually, by calling in?



*FYI



Post-Assessment Review

1. You're a medical assistant at a community health clinic. Sometimes, patients with unresolved problems need to come in for follow-up appointments. However, you notice that it's a real challenge to schedule these follow-ups within a week of the initial appointments. Which of the following techniques might be most useful as you search for a good idea for change?
 - a) Review the process for scheduling these appointments with colleagues to identify opportunities for improvement.
 - b) Quit and start working in a new clinic that functions more effectively.
 - c) Research possible upgrades to the appointment scheduling software.
 - d) Tell a member of the office staff that it would be great if follow-ups were scheduled more quickly.
2. What's the main benefit of using change concepts to come up with improvement ideas?
 - a) Using change concepts makes PDSA cycles unnecessary.
 - b) Using change concepts makes it much more likely that the implementation will go smoothly.
 - c) Using change concepts will lead you to focus on quantifiable technological improvements.
 - d) Using change concepts can help you develop specific improvement ideas that might not have occurred to you initially.
3. You notice that it's very easy to confuse medications at the community health center where you're working. They are lined up on the shelf and the labels are very similar. You decide that it's worth a try to highlight parts of drug names on certain labels to reduce confusion. Which change concept are you using?
 - a) Manage Time
 - b) Optimize Inventory
 - c) Design Systems to Prevent Errors
 - d) Improve Work Flow



-
4. Which of the following changes falls under the heading of "eliminating waste"?
- a) Physicians type all consult responses directly into a computer rather than writing them in a patient's chart, thus saving paper.
 - b) Dispensers full of hand sanitizer are placed throughout a floor, thus improving compliance with hand hygiene protocols.
 - c) A clinic starts tracking the number of foot exams that diabetic patients receive each year, thus ensuring they receive evidence-based care
 - d) A hospital invites patients to participate in the redesign of one of its centers, thus making them feel like valued members of a care team
5. As you recall, the IHI staff member's change idea involves leaving work by 5:30 PM each workday. Which of the following is an example of using technology to help her do so?
- a) Comparing the time she leaves to that of the person who seems to go home earliest each day.
 - b) Cancelling two meetings every day.
 - c) Scheduling a reminder into her work calendar that pops up daily at 5:15 PM with the message, "Leave!"
 - d) Taking work home each night on a laptop computer.



Lesson 5: Testing Changes



Improvement Capability 102 (QI 102)

A Case: Improvement at the Dimock Center

- The Dimock Center is a federally qualified health center in Boston, Massachusetts.
- Dimock offers Suboxone to opiate-addicted patients
- Prior authorization (PA) form is required from their prescribing physician



Improvement Capability 102 (QI 102)

A Case: Improvement at the Dimock Center

Aim:

Decrease the wait time for prescription pick-up for Suboxone patients by having zero prior authorization requests for two weeks by March 31.

Outcome measure:

Rate of PA-related prescription denials by week (numerator = number of denials on day of Suboxone pick-up; denominator = number of Suboxone pick ups on each day)

Process measures:

- Number of errors about missing or late paperwork per week
- Average time needed to complete one PA
- Percentage of daily medical assistant tasks completed each day using the new checklist

Balancing measures:

- Rate of successful completion of all paperwork
- Medical assistant job satisfaction



Post-Assessment Review

1. You are working on shortening the time it takes patients with chest pain to get to the cardiac catheterization lab in your hospital. Your aim is to have 90 percent of patients brought to the lab within 45 minutes of arrival to the hospital. You decide to try a care protocol that another hospital in the area implemented with great success.
The care protocol was successful at the other hospital. Why would it be important to test this proven change at your hospital?
 - a) Because the last success may have been a fluke.
 - b) So that you can publish your results.
 - c) Because this change may not be as effective in your hospital.
 - d) In order to demonstrate the ability of this protocol to improve care in other hospitals for those that created it.
2. After several tests, you decide to try implementing a modified version of the protocol at your institution. Which of the following might you do within the "S" portion of your next PDSA cycle?
 - a) Develop the final plan for the protocol implementation.
 - b) Document unexpected observations.
 - c) Analyze information collected.
 - d) Strategize how to move this to another hospital in the system.
3. After implementing the new protocol, you observe that patients are getting to the lab more quickly than before, but not as quickly as you had predicted. You examine the data and realize that there are really multiple issues delaying patients' arrival to the catheterization lab. Specifically, the emergency department needs to notify the lab staff in advance, but this communication rarely happens. Further, the schedule that the emergency department uses to contact the lab staff is riddled with errors.
Based on the recommendations in this lesson, what should you do next?
 - a) Focus on fixing the schedule.
 - b) Discipline the emergency department staff who have failed to contact the catheterization lab in the past.
 - c) Focus on improving the communication between the emergency staff and the catheterization staff.
 - d) Work on improving both the schedule and communication at the same time.



-
4. Starting with small tests of change:
- a) Allows you to start testing on live patients right away
 - b) Improves the likelihood of buy-in from opinion leaders
 - c) Means you don't need to do any planning before each test
 - d) Should be done only with the consent of opinion leaders
5. Which of the following statements is true?
- a) All changes lead to improvement; therefore, all improvement requires change.
 - b) While not all changes lead to improvement, all improvement requires change.
 - c) The changes that are known to lead to improvement should be implemented before testing.



Improvement Capability 102 (QI 102)



Improvement Capability 102 (QI 102)

A Case: Improvement at the Dimock Center

Step 1: Plan

Answering the following questions during the "plan" phase will help ensure your test is successful:

- What information is important to collect?
- Why is it important?
- Who will collect the data?
- Who will analyze the data prior to "Study"?
- Where will data be collected?
- When will data collection take place?
- How will the data (measures or observations) be collected?



Improvement Capability 102 (QI 102)

A Case: Improvement at the Dimock Center

Step 2: Do

Observers should take note of:

- What happens as the tester tries to accomplish the task(s)?
 - What seems hard or awkward?
 - What steps get skipped or altered?
-
- The best observers are physically present, mentally attentive, and non-judgmental
 - Avoid analysis paralysis. - Begin testing changes as quickly as possible.
 - Start small. For the first test, test one time with one patient and one provider. (We call this a 1:1:1 test.)



Improvement Capability 103 (QI 103)

Testing and Measuring Changes with PDSA Cycles

Objectives

1. Describe how to establish and track measures of improvement during the “plan” and “do” phase of PDSA.
2. Explain how to learn from data during the “study” phase of PDSA.
3. Explain how to increase the size and scope of subsequent test cycles based on what you’re learning during the “act” phase of PDSA.



Lesson 1: How to Define Measures and Collect Data



Improvement Capability 103 (QI 103)

Defining Measures

- What do you want to learn about and improve?
- **Measures**
 - Project-level measures: monitor your overall goal
 - PDSA-level measures: monitor the result of a specific change in your PDSA steps
- What is the **operational definition** for each measure?
 - The **operational definition** is how you're defining each measure, in unambiguous terms
 - Specific terms
 - numerator/denominator (eg. influenza cases per 1000 patients vaccinated)
- **Goal**
- **Baseline**



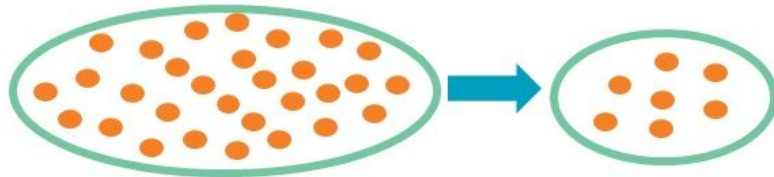
Improvement Capability 103 (QI 103)

Establishing a Data Collection Plan

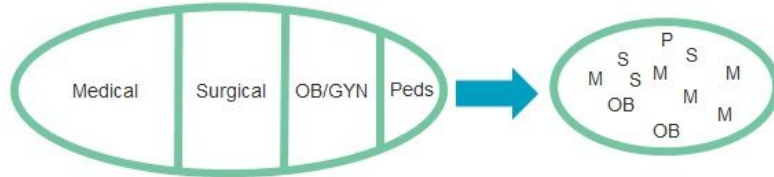


Improvement Capability 103 (QI 103)

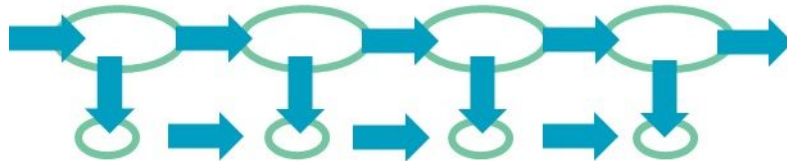
Sampling



Simple random sampling



Proportional stratified random sampling



Judgment sampling

Post-Assessment Review

1. You volunteer at a student-run clinic associated with your academic health center. As a member of the student board, you are constantly looking for ways to improve the clinic. One common complaint is that it takes too long to check patients in once they arrive, and you decide to tackle this problem.

Which of the following might be an outcome measure for this effort?

- a) Average number of minutes between patient arrival at the clinic and completion of check-in
 - b) Number of patients seen by the clinic
 - c) Average number of students helping to check a patient in
 - d) None of the above
2. Which of the following is the best way to collect baseline data for this improvement project?
- a) Look at a few patients every day for a week.
 - b) Look at 10 percent of patients for a year.
 - c) Look at 100 percent of patients for a month.
 - d) There is no reason to collect baseline data.
3. Which of the following is an example of an effective measurement technique for improvement?
- a) Always strive for perfection.
 - b) Use quantitative and qualitative data.
 - c) Always set aside designated time for data collection.
 - d) All of the above



-
4. Why should you consider collecting a family of measures when undertaking an improvement?
- a) It makes the project more publishable.
 - b) A single measure may not be enough to determine the impact of a change on the system.
 - c) All improvement projects are so complex that they require multiple measures.
 - d) All of the above
5. You're working on an improvement project at a community mental health center. Your project aim: "Within two months, 100 percent of our patients will wait less than 30 minutes to be seen by a physician." You decide to gather data on patient wait times over a week-long period in order to establish a baseline. What might be an important consideration as you plan your data collection strategy?
- a) Whether you'll provide food for the patients who wait more than 30 minutes.
 - b) What exactly you mean by "wait less than 30 minutes to be seen" — does this include the time the patient spends checking in, for instance?
 - c) How to establish consensus among the clinic's caregivers about the value of the project before gathering data.
 - d) How to inform the supervisors of individual physicians quickly when those physicians' patients wait more than 30 minutes.



Lesson 2: How to Use Data for Improvement



Improvement Capability 103 (QI 103)

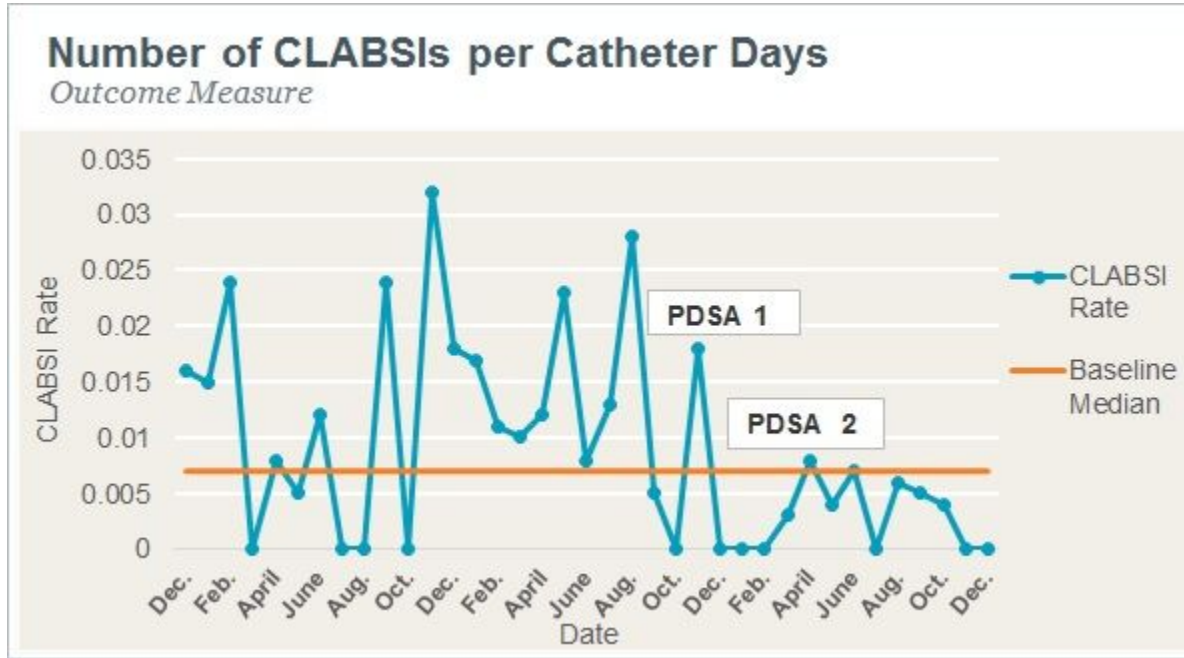
NICU CLABSI Report: December – July

	Total Catheter Days	Number of CLABSI Infections	CLABSI Rate/1000 Catheter Days	Added LOS
December	246	0	0	0
January	232	0	0	0
February	234	0	0	0
March	334	1	2.9	10
April	275	1	3.6	10
May	330	1	3	10
June	312	1	3.2	10
July	165	0	0	0

	Number of CLABSI Infections	CLABSI Rate/1000 Catheter Days	Total catheter days	Added LOS	Deaths
Previous Year	21	11	1899	210	2
This Year	7	2	3127	70	0

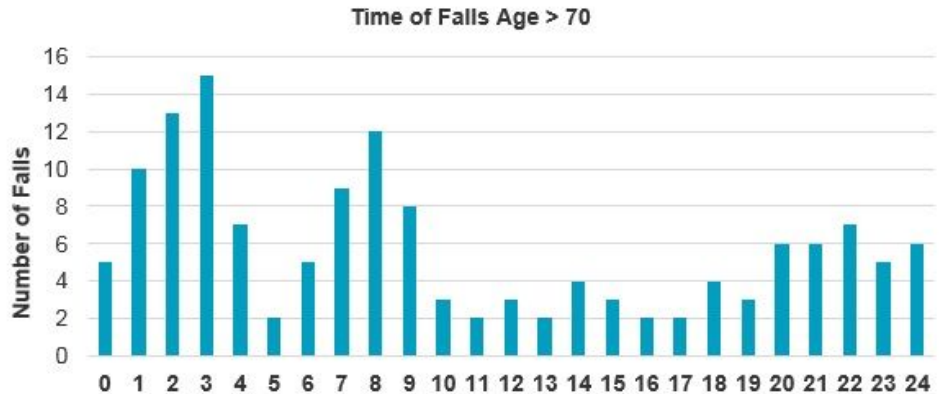
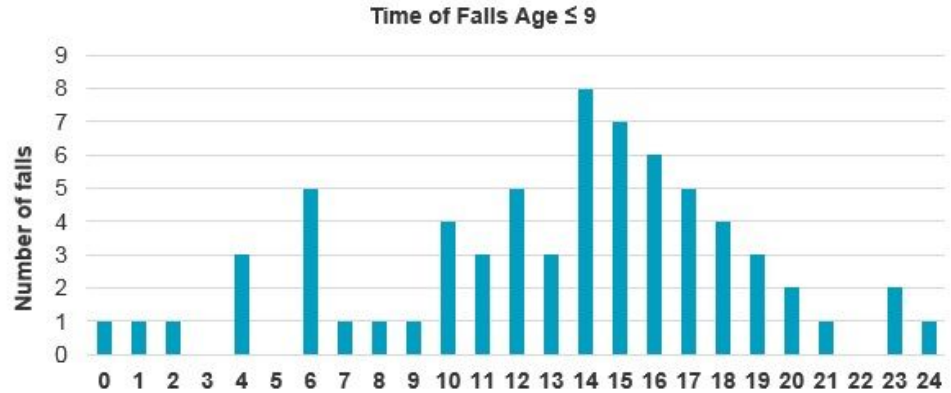
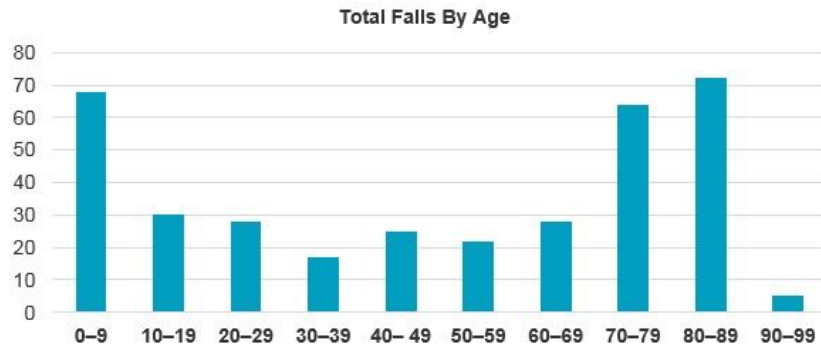


Improvement Capability 103 (QI 103)



Improvement Capability 103 (QI 103)

Stratification



Post-Assessment Review

1. During a clinical rotation on the medical-surgical floor of a hospital, you notice several patients have developed urinary tract infections (UTIs) associated with their Foley catheters (tubes inserted into the bladder to drain urine). Your staff physician agrees that this is a problem and offers to help with an improvement project. Together, you work through several PDSA cycles to reduce the rate of UTIs on your floor.
Which of the following methods would you recommend to display your improvement data?
 - a) Draw a bar chart.
 - b) Write a list of numbers.
 - c) Create a two-column table.
 - d) Draw a run chart.
2. When designing the run chart, it is important to include:
 - a) Units of time on the Y axis
 - b) The rate of UTIs on the X axis
 - c) Units of time on the X axis
 - d) A and B
3. Which of the following is a problem with static data?
 - a) It doesn't adequately portray variation.
 - b) It is often inaccurate.
 - c) It can't display mean, median, or mode.
 - d) All of the above



-
4. Which of the following statements is true about using data for improvement?
- a) Both quantitative and qualitative data can be useful.
 - b) The data should tell a story.
 - c) A run chart is one of the most helpful tools for displaying data.
 - d) All of the above.
5. Which of the following describes data stratification?
- a) Plotting observations to show the relationship between two sets of data
 - b) Classifying and separating data according to specific variables
 - c) Plotting data over time
 - d) Illustrating the relative frequency of occurrence
6. In a run chart, the variable being measured is typically placed on what axis?
- a) X axis
 - b) Y axis
 - c) Either axis
 - d) Neither axis; the run chart does not compare variables.



Lesson 3: How to Build Your Degree of Belief over Time



Improvement Capability 103 (QI 103)

Examples that would give you a ***low degree of belief***

- It's a new idea.
- The test requires a workflow change.
- Your colleagues are resistant to the change.

Examples that would give you a ***high degree of belief***

- The same procedure has worked well in another, similar location.
- Previous testing in your location has been successful.

Indications that the test you're running could have **major consequences** if it isn't successful:

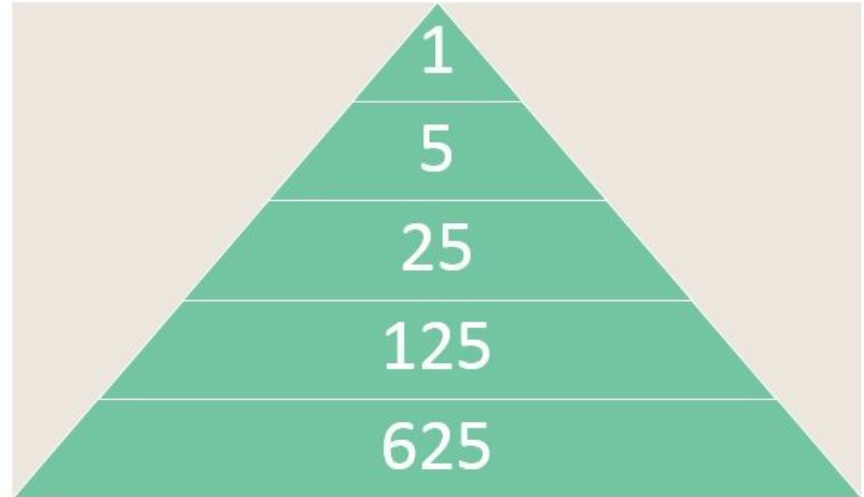
- It involves expensive equipment.
- It introduces a new service, technology, or procedure.
- It has a direct impact on patients.



Improvement Capability 103 (QI 103)

The 5X Rule

- **1:1:1 test:** “1 provider, 1 patient, 1 encounter”
- **Scale** refers to the timespan or number of events included in a test cycle — more (more patients, more time, more events).
- **Scope** refers to the variety of conditions under which your tests occur — difference (different patients, different times, different staff).



Improvement Capability 103 (QI 103)

Broadening the Scope of Your Test

- Change the characteristics of ***patients***. Eg. patient age group
- Change the characteristics of ***staff***. Eg. experienced vs. newly hired provider
- Change the ***time***. Certain times (whether different times of day, days of the week, etc.) may be busier or have different levels of support staff than others.



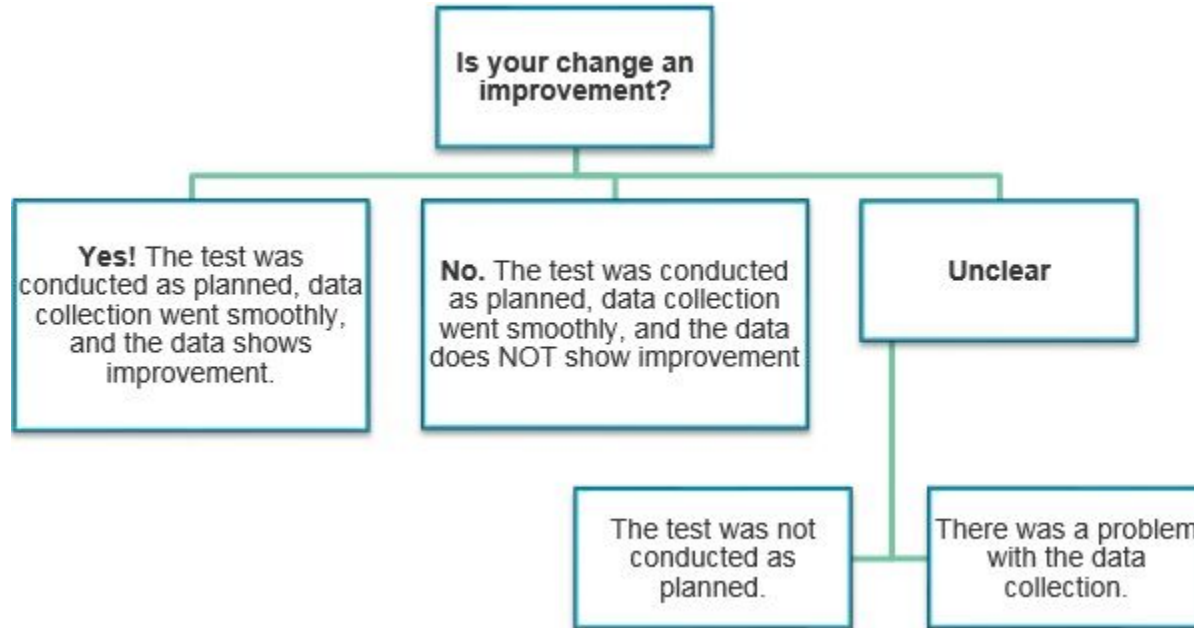
Improvement Capability 103 (QI 103)

Running Concurrent Test Cycles



Improvement Capability 103 (QI 103)

“Unsuccessful”Tests



Post-Assessment Review

1. Imagine you're a member of a newly formed improvement team that has taken up the challenge to reduce health care-associated infections at your hospital. You have an idea for a change to the room cleaning process that you want to test, but you're slightly nervous because improper cleaning and disinfection can carry a high risk for patients with compromised immune systems. You haven't run any PDSA cycles yet. Which of the following would be the best next step?
 - a) Have one housekeeper use the process with one room cleaning.
 - b) Have all housekeepers use the process for a week.
 - c) Have one housekeeper use the process on five room cleanings.
 - d) Confirm the "face validity" of the new cleaning process by demonstrating it with a couple of housekeeping staff members and a supervisor.
2. When planning a sequence of PDSA cycles for a change that involves patients, which of the following is a true statement?
 - a) Patient characteristics in each PDSA cycle should be as uniform as possible to allow valid comparisons.
 - b) The number of patients in each cycle should stay fixed, to allow valid comparisons.
 - c) We would expect the number of patients involved to grow rapidly from early cycles to later cycles.
 - d) None of the above
3. When increasing the number of patients or events from one PDSA cycle to the next, it is usually helpful to multiply by what number?
 - a) 2
 - b) 5
 - c) 10
 - d) 20



-
4. A hospital is trying to implement a new patient assessment form. They want to first test the usability and efficacy of the form. When determining sample size for the first test, it is most important to:
- a) Look at similar research to see what sample size other organizations use.
 - b) Weigh the potential consequences of a test that does not lead to improvement against the belief in success.
 - c) Use a random sampling technique, so results can be extrapolated.
 - d) Ask all staff members what sample size they think should be used.
5. Let's say the hospital has an English-speaking nurse (Nurse Moss) assess one English-speaking patient with the new form. It is a successful test and the improvement team wants to increase the scale of the next test. What would they do?
- a) Have a Spanish-speaking nurse give the assessment to one of her Spanish-speaking patients.
 - b) Have a different English-speaking nurse give the assessment to one of her English-speaking patients.
 - c) Increase the number of patients Nurse Moss assesses by a factor of 5.
 - d) Increase the number of patients Nurse Moss assesses by a factor of 10.



Improvement Capability 104 (QI 104)

Interpreting Data: Run Charts, Control Charts, and Other Measurement Tools

Objectives

1. Draw a run chart that includes a baseline median, a goal line, and annotations.
2. Describe the difference between common and special cause variation.
3. Explain the purpose of a Shewhart (or control) chart.
4. Apply four rules to identify non-random patterns on a run chart.
5. Explain when and how to use the following tools for understanding variation in data: histograms, Pareto charts, and scatter plots.

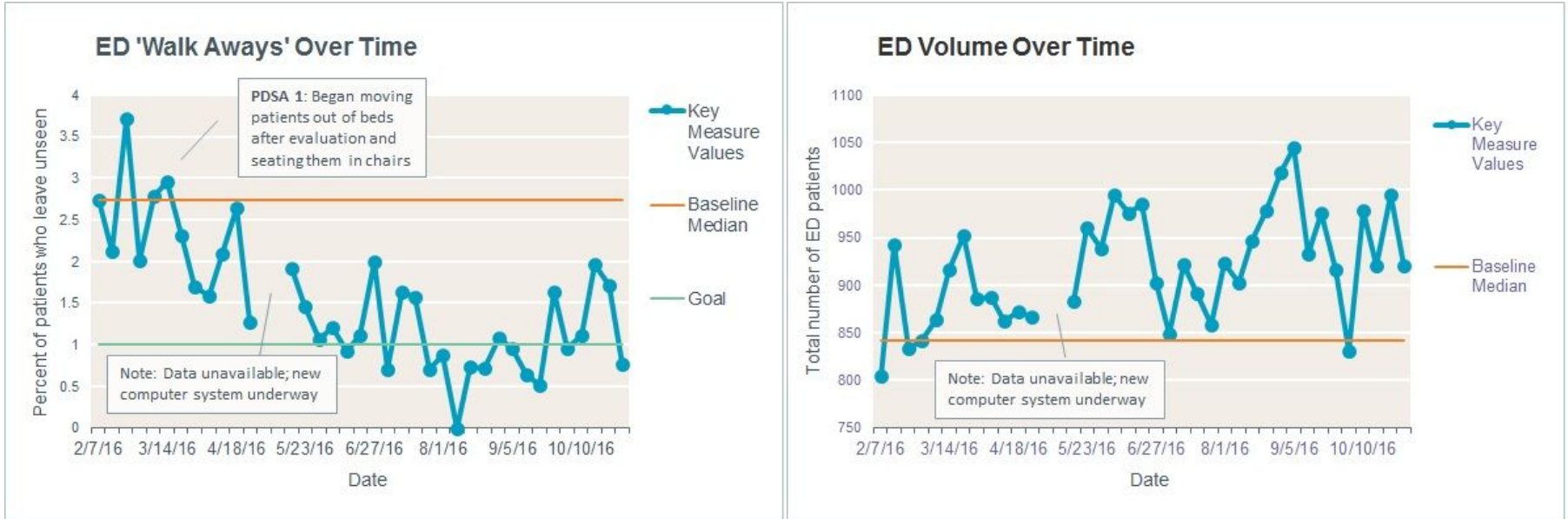


Lesson 1: How to Display Data on a Run Chart



Improvement Capability 104 (QI 104)

Elements of a Run Chart



Post-Assessment Review

1. During a clinical rotation on the medical-surgical floor of a hospital, you notice several patients have developed urinary tract infections (UTIs) associated with their Foley catheters (tubes inserted into the bladder to drain urine). Your staff physician agrees that this is a problem and offers to help with an improvement project. Together, you work through several PDSA cycles to reduce the rate of UTIs on your floor.
Which of the following methods would you recommend to display your improvement data?
 - a) Draw a bar chart.
 - b) Write a list of numbers.
 - c) Create a two-column table.
 - d) Draw a run chart.
2. When designing the run chart, it is important to include:
 - a) Units of time on the Y axis
 - b) The rate of UTIs on the X axis
 - c) Units of time on the X axis
 - d) A and B
3. What is the minimum number of data points you should usually have to look for signs of improvement on a run chart?
 - a) 6
 - b) 10
 - c) 15
 - d) 25



-
4. Which of the following is a problem with static data?
 - a) It doesn't adequately portray variation.
 - b) It is often inaccurate.
 - c) It can't display mean, median, or mode.
 - d) All of the above
 5. When you are graphing a proportion or a percent, what should you look at to help you understand the bigger picture?
 - a) The denominator of the measured value
 - b) The numerator of the measured value
 - c) The median of the denominator
 - d) The median of the numerator
 6. Within the following data set, what is the median? [2.5, 7.2, 2.5, 2.9, 4.7, 3.6, 4.7]
 - a) 2.5
 - b) 3.6
 - c) 4.0
 - d) 4.7
 7. What aspect of the run chart helps you compare data before and after a PDSA cycle?
 - a) The average of the values
 - b) The baseline median
 - c) Annotations of when specific changes were tested (PDSA cycles)
 - d) B and C





Lesson 2: How to Learn from Run Charts and Control Charts



Improvement Capability 104 (QI 104)

Common Cause vs. Special Cause Variation

 Common Cause Variation	 Special Cause Variation
Inherent to the system or process	Not inherent to the process design
Due to regular, natural, or ordinary causes	Due to irregular or unnatural causes
Affects all the outcomes of a process	Affects some but not necessarily all aspects of the process
Results in a "stable" process that is predictable	Results in an "unstable" process that is not predictable
Also known as <i>random</i> or <i>unassignable variation</i>	Also known as <i>non-random</i> or <i>assignable variation</i>

Improvement Capability 104 (QI 104)

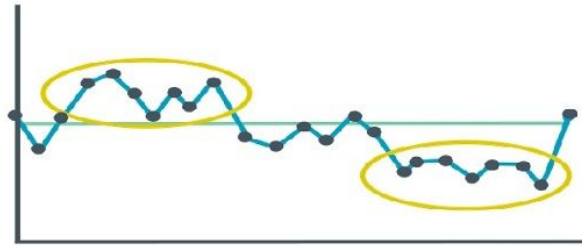
Counting Runs on a Run Chart



Improvement Capability 104 (QI 104)

Four Rules for Interpreting Run Charts

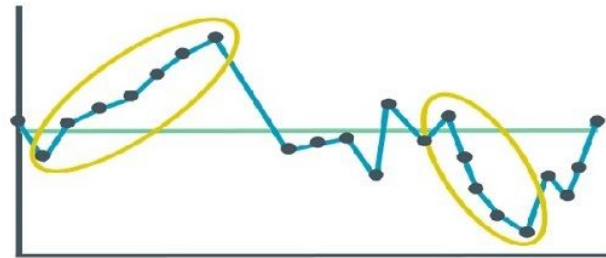
Shift



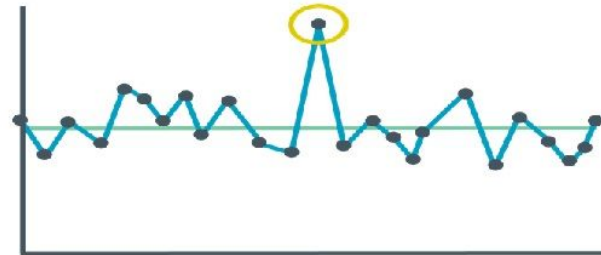
Too many or too few runs



Trend



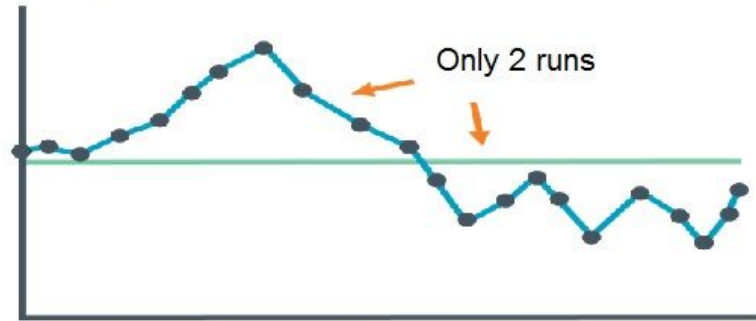
Astronomical data point



Improvement Capability 104 (QI 104)

Four Rules for Interpreting Run Charts

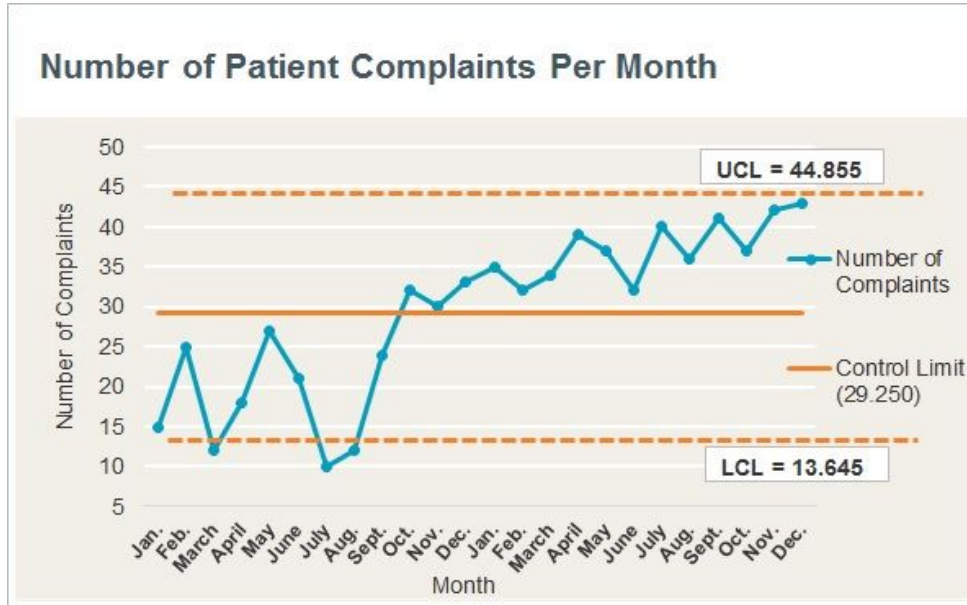
Too many or too few runs



HHHHHHHHHHHTTTTTTTTTTTT
HTHTHTHTHTHTHTHTHTHT

Improvement Capability 104 (QI 104)

How to Read a Shewhart Chart



- Any data point that **falls within** the UCL and LCL (and is not part of one of the four non-random patterns) is part of the **random variation** in the process.
- Any data point that falls **outside those limits** (or displays a non-random pattern between the UCL and LCL) indicates a **special cause of variation**.

Post-Assessment Review

1. Which of the following is a rule for determining non-random patterns?
 - a) A run of six points or more
 - b) An astronomical point
 - c) A trend of three points or fewer
 - d) A and B
2. In the above chart, how many useful observations are there?
 - a) 27
 - b) 36
 - c) 37
 - d) 40
3. When did a PDSA cycle occur?
 - a) February 05
 - b) March 05
 - c) June 06
 - d) July 07



-
4. How many runs are there?
- a) 9
 - b) 10
 - c) 11
 - d) 12
5. Using Rule 3, does this chart show non-random patterns?
- a) Yes, there are too many runs.
 - b) Yes, there are too few runs.
 - c) No.
 - d) It is impossible to tell.



Lesson 3: Histograms, Pareto Charts, and Scatter Plots



Improvement Capability 104 (QI 104)

Tools to Help You Understand Variation

- **Histograms**, which plot observations to show their distribution
- **Pareto charts**, also called ordered bar charts, which illustrate relative frequency of occurrence
- **Scatter plots**, which plot observations to show the relationship between two sets of data

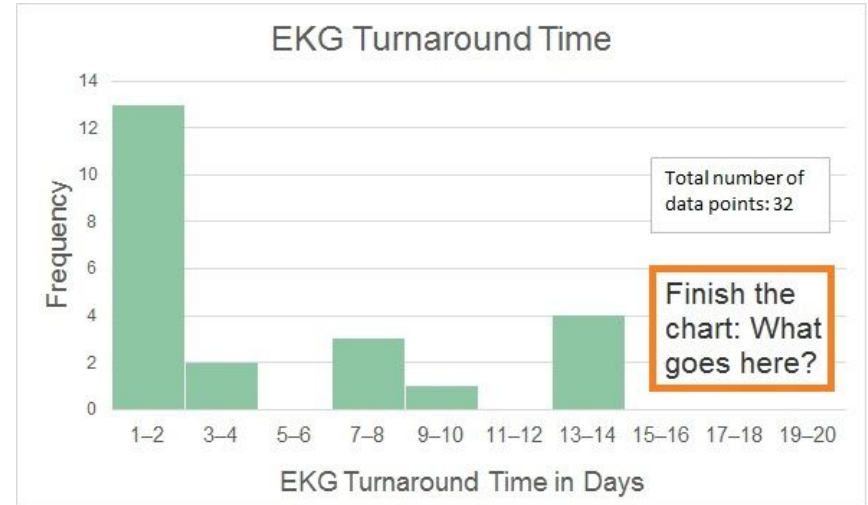


Improvement Capability 104 (QI 104)

Histograms

EKG Turnaround Time (Days): 32 Data Points

9	16	1	4
15	8	13	1
13	16	14	17
7	2	20	2
2	2	18	3
17	2	14	20
1	1	2	7
1	2	15	2



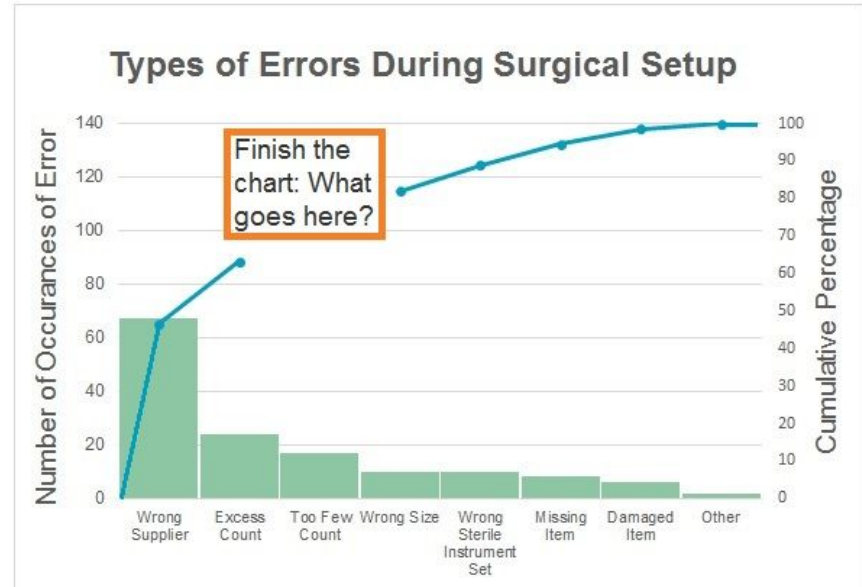
Improvement Capability 104 (QI 104)

Pareto Charts

Types of Errors During Surgical Setup

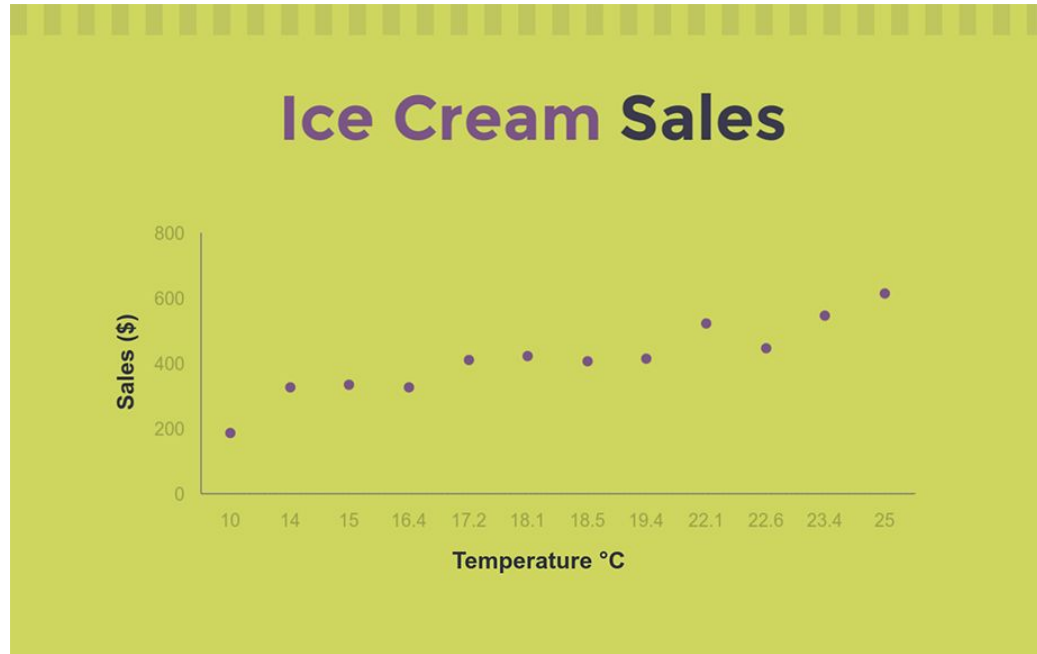
Error Type	Frequency	Percent	Cumulative %
Wrong Supplier	67	46.5	46.5
Excess Count	24	16.7	63.2
Too Few Count	17	11.8	75.0
Wrong Size	10	6.9	81.9
Wrong Sterile Instrument Set	10	6.9	88.8
Missing Item	8	5.6	94.4
Damaged Item	6	4.2	98.6
Other	2	1.4	100
TOTAL	144	100	

➡ What's here?



Improvement Capability 104 (QI 104)

Scatter Plot



Post-Assessment Review

1. Which of the following traits do histograms, Pareto charts, and scatter plots have in common?
 - a) They are all bar charts.
 - b) They are all visual tools to display data.
 - c) They all show change over time.
 - d) All of the above.
2. What famous Italian economist is credited with the theory behind the 80/20 rule?
 - a) Vilfredo Pareto
 - b) Benedetto Cotrugli
 - c) Joseph M. Juran
 - d) Michelangelo Histogram
3. Which of the following BEST describes the purpose of a histogram?
 - a) To show the relationship between two variables
 - b) To show variation in weight over time
 - c) To show distribution of continuous data
 - d) None of the above



-
4. When drawing a histogram, which is a good number of categories to include on your X axis?
- a) 1-5
 - b) 6-12
 - c) 13-24
 - d) >24
5. Which of the following charts would be best to justify focusing on a few large problems and ignoring many smaller ones?
- a) Pareto chart
 - b) Scatter plot
 - c) Histogram
 - d) Run chart



Improvement Capability 105 (QI 105)

Leading Quality Improvement

Objectives

1. Describe how to lead an improvement project through four key phases.
2. Identify and describe the components of IHI's Framework for Spread.
3. Apply strategies to assess and overcome resistance to change.
4. Apply strategies to work effectively with interprofessional colleagues.



Lesson 1: The Four Phases of a Quality Improvement Project



Improvement Capability 105 (QI 105)

Four Phases

1. Innovation

- Aim
- Early logistical plans
- Target population, providers, site
- “Steal” from others

=> aim statement and data collection plan

2. Pilot Test

- Start small with 1:1:1 test
- Minimize risk
- Select the changes
- Educate frontline staff
- Regular feedback => PDSA cycles

3. Implementation

- Continue PDSA cycles
- Larger scale: more people, time and resources
- Embed new standard processes (locally)

4. Spread

- Continue PDSA cycles
- Communication and dissemination plan
- Package content for easy implementation
- Spread to additional sites
- Monitor adoption and performance



Post-Assessment Review

1. What are the four phases of an improvement project?
 - a) Plan-Do-Study-Act
 - b) Innovation-Pilot-Study-Act
 - c) Plan-Implement-Pilot-Spread
 - d) Innovation-Pilot-Implementation-Spread
2. How should Sandy and her improvement team try out the new process for improving pain control?
 - a) Test the new process with one patient and closely review the results.
 - b) Bring together a group of stakeholders to develop an implementation plan.
 - c) Test the new process throughout the hospital to build a pool of data.
 - d) None of the above: There is no need to test this process because another hospital has already proved it to be effective.
3. After a successful pilot, which of the following should Sandy's improvement team undertake as a next step?
 - a) Work on seeing that the change is widely adopted by the unit, such as by making it a formal policy and training new staff on it.
 - b) Continue to run PDSA cycles.
 - c) Spread the change to other hospitals in the network.
 - d) A and B



-
4. Dr. Gonsalvez, the medical director of the medicine ward, wants to lower the 30-day readmission rate of the patients on her unit (i.e., the percentage of patients readmitted to the hospital within 30 days of discharge). She meets with the nurse manager and other stakeholders, and, together, they develop a process to improve the way the ward discharges patients and transfers care back to each patient's primary care provider. The team tests the change on the ward and runs multiple PDSA cycles to improve the process. The data look promising. What improvement project phase have Dr. Gonsalvez and her team just completed?
- a) Spread
 - b) Pilot
 - c) Implementation
 - d) Planning
5. Dr. Gonsalvez and her team continue to test the new idea. Assuming things continue to go well, what might they eventually do?
- a) Share the innovation with other units and/or hospitals.
 - b) Utilize the IHI Framework for Spread.
 - c) Develop a communication and dissemination plan.
 - d) All of the above.



Lesson 2: Change Psychology and the Human Side of Quality Improvement



Improvement Capability 105 (QI 105)

Many People Don't Like Change

- *“Hand washing is incredibly basic. I don’t see why I need a special policy to tell me how to wash my hands.”*
- *“What’s wrong with regular soap and water? We’ve always done it this way.”*
- *“There’s no way I’ll remember to use the sanitizer, and it will impact my performance metrics.”*
- *“That alcohol-based stuff is going to dry out my hands.”*
- *“With all I have to do, I just don’t have time to use the sanitizer before every patient visit.”*
- *“This is just another new policy that’s here today, gone tomorrow.”*



Improvement Capability 105 (QI 105)

Many People Don't Like Change

- The expected autonomy of health care workers
- Stability that comes with routine
- Programmed behavior or behaviors that result from processes within a system
- A limited focus or tunnel vision
- A real or perceived limit on resources
- An accumulation of policies, procedures, regulations

There's no time



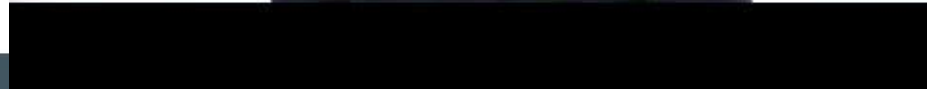
Improvement Capability 105 (QI 105)

The Power of Storytelling



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Improvement Capability 105 (QI 105)



Post-Assessment Review

1. According to Herbert Kaufman, which of the following are reasons health care workers commonly resist change?
 - a) The expected autonomy of health care workers
 - b) A real or perceived limit on resources
 - c) An accumulation of policies, procedures, regulations
 - d) All of the above
2. Imagine that your health care organization is trying to reduce worker fatigue. Your improvement team is working on a planned nap program in which you offer the opportunity for staff members working a shift of more than 12 hours to take a planned nap. You have identified a designated room for the nap, and you have communicated with the staff about the importance of rest in ensuring patient safety. Unfortunately, data reveal that workers are not taking advantage of the program. Your team is frustrated, because this program worked at another hospital in a neighboring town. In the example, which of the following is a process change?
 - a) The planned nap
 - b) The data that show whether staff members are taking a planned nap
 - c) The belief that a planned nap can support patient safety
 - d) None of the above
3. Which of the following represents a culture change?
 - a) The planned nap
 - b) The designated room for the nap
 - c) The staff education about the nap
 - d) The belief that a planned nap can support patient safety



-
4. What's the likeliest reason the program failed?
- a) The nap wasn't long enough.
 - b) The room for the nap was too noisy.
 - c) The culture of the organization did not support napping during a shift.
 - d) Workers weren't as tired as managers thought they were.
5. What would be a good way for the team to respond to the resistance to the change?
- a) Share data that shows the process change is associated with a decrease in adverse events.
 - b) Abandon the idea.
 - c) Tell a story about a patient whom medical science was able to save.
 - d) A, B



Lesson 3: Working with Interdisciplinary Team Members



Improvement Capability 105 (QI 105)

What Makes Clinical Improvement Successful



Improvement Capability 105 (QI 105)

Working Across Professions

Include members familiar with all the different parts of the process you are trying to improve

- Authority within the system
- Technical expertise
- Day-to-day leadership

Be aware of the **stakeholders** in your project

Share a common goal

- Overall goal
- Measures
- Data collection methods



Improvement Capability 105 (QI 105)

Stages of Team Evolution

Forming - Set aim, define tasks, understand roles and problems

Storming - Problems arise, arguments, resistance

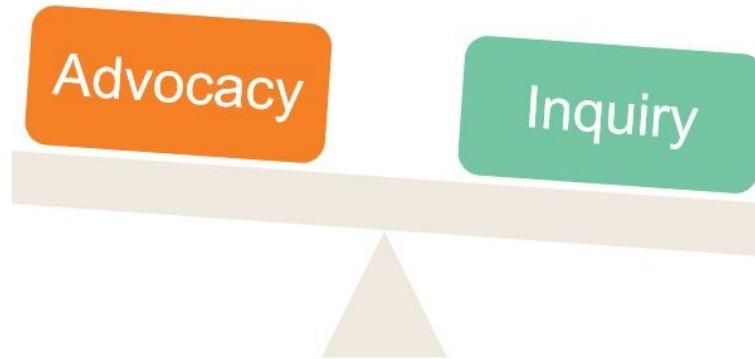
Norming - Recognizing differences, accepting feedback, group decision-making

Performing - Problem-solving, designing and testing changes, recognizing the value of each other



Improvement Capability 105 (QI 105)

Strengthening Teamwork




Advocacy is stating your views

Inquiry is trying to hear other people's views

Improvement Capability 105 (QI 105)

Write Down Your Plan

 Institute for
Healthcare
Improvement

Plan-Do-Study-Act (PDSA) Tracker


Open School

Project Title:

Name: Sponsor: Health System:

Cycle #: Start Date: End Date:


Objectives
What do you want to learn from this PDSA cycle?
What questions do you intend to answer?
1.
2.
3.
4.

Plan 

Test of Change
What change will you test?
Who will perform the test?
When will the testing take place?
Where will the testing take place?
Remember: Start small and scale up! e.g., for your first test cycle, consider a 1:1:1 test (one test by one provider on one patient).

Predictions
What do you expect to learn? (i.e., What do you expect are the answers to your stated questions?)
1.
2.
3.
4.

Data Collection Plan

 Institute for
Healthcare
Improvement

Improvement Project Charter

Open School

Project Title:

Team Members (if applicable):

What Are We Trying to Accomplish?
Problem
Describe in 2-3 sentences the existing condition you hope to improve (i.e., the *gap* in quality).
Rationale
Explain in 2-3 sentences why the current system or process needs improvement. Include baseline data and relevant benchmarks, e.g., from the literature.
Aim Statement
What outcome, in measurable terms, are you hoping to accomplish? Specify how, when, and by whom – i.e., by what *team* date.
Expectations
Why have you chosen the aim you've set forth? (Explain, in specific terms, what you believe will be the beneficial outcomes of this project.
How Will We Know a Change is an Improvement?*
Outcome (or Project) Measure(s)
List the measure(s) you ultimately want to affect.
Process Measures
List the measure(s) that will tell you if the parts or steps in the system are performing as planned to allow the outcome measure:
1.

Post-Assessment Review

1. In designing a performance improvement team, it is helpful to:
 - a) Choose people who are unlikely to disagree with one another
 - b) Have a mix of different types of people on the team
 - c) Have everyone on the team exhibit similar personality preferences
 - d) All of the above
2. Personality and work style profile assessments can help to:
 - a) Identify the personalities present and work to everyone's strengths.
 - b) Identify why some people will never respond well to change.
 - c) Determine who has the right expertise to be on an improvement team.
 - d) A and C
3. Which of the following are strategies to help members of a QI team establish common goals?
 - a) Create a team roster.
 - b) Share stories.
 - c) Write down a shared work plan.
 - d) All of the above



-
4. What is the order of the four steps teams typically follow to get to a place where they are running smoothly?
- a) Forming, storming, norming, performing
 - b) Norming, performing, forming, storming
 - c) Storming, forming, norming, performing
 - d) Performing, storming, forming, norming
5. You're on a team seeking to improve the process for treating patients with sepsis. (Sepsis occurs when chemicals released into the bloodstream to fight infection trigger inflammatory responses throughout the body). Which of the following is an example of "advocacy"?
- a) Listening to your teammate's idea to improve screening for sepsis.
 - b) Stating your idea for updating the sepsis protocol
 - c) Adapting your idea for the sepsis protocol based on your teammate's input.
 - d) A and C



Patient Safety 101 (PS 101)

Introduction to Patient Safety

Objectives

1. Summarize why it is essential to improve patient safety.
2. Describe a framework for improving the safety of health care systems.
3. Identify four key elements of a culture of safety.
4. Explain why systematic learning from error and unintended events is the best response to ensuring patient safety.





Lesson 1: Understanding Adverse Events and Patient Safety



Patient Safety 101 (PS 101)

Lesson 1: Understanding Adverse Events and Patient Safety

Objectives:

After completing this lesson, you will be able to:

1. Summarize the scope of the problem of harm to patients within the health care system.
2. Describe the effect of healthcare-associated harm on patients and families.
3. Explain why blaming and punishing individuals for errors rarely improves patient safety.



PS 101: Adverse events are common

- Studies in the US have found
 - **1 in 10 patients** experiences an adverse event during hospitalization in the US
 - **1 in 2 surgeries** has a medication error/adverse drug event
- The consequences of these adverse events can be
 - Physical
 - Emotional
 - Financial



PS 101: People make mistakes

- **Patient safety** - prevention of errors and adverse effects to patients associated with health care
- Moving away from the term “**medical error**”, which overemphasize the role of individuals in causing harm
 - Explore the real root cause of harm looks at systems instead of individual providers
 - “**Faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them**” were usually to blame for patient harm





PS 101: Blame and punishments are not solutions

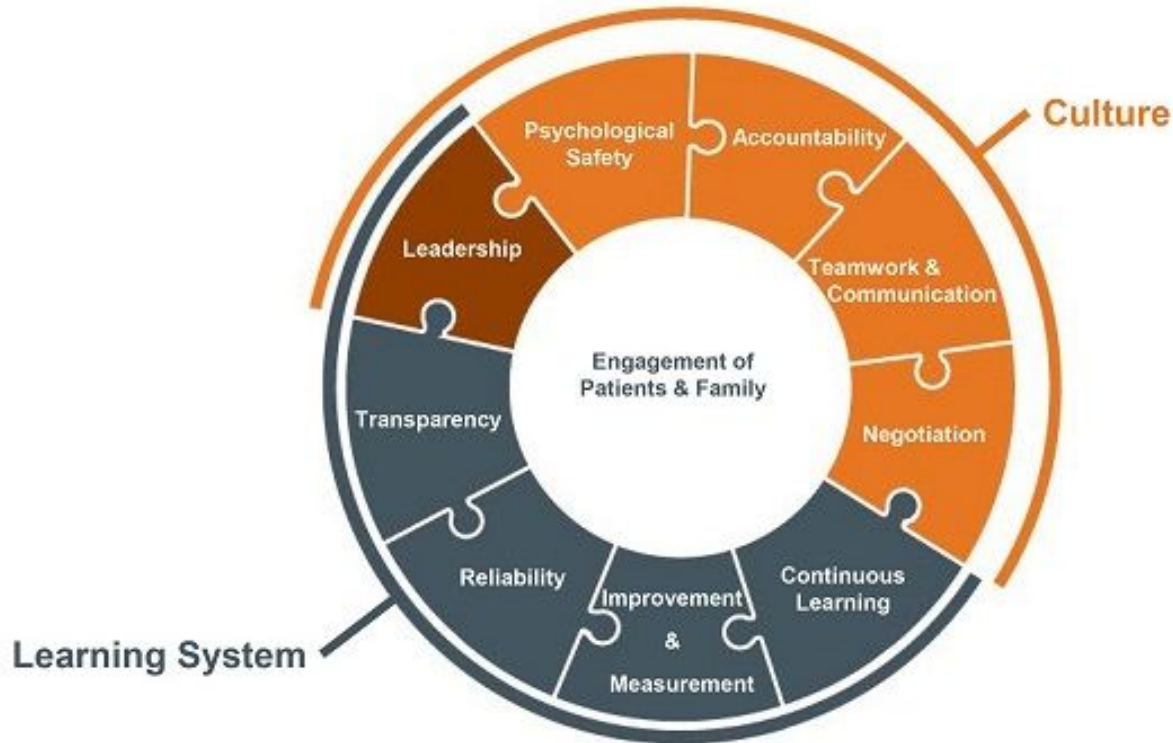
- Safety is a **dynamic non-event**
- **Patients, family members** and **providers** are harmed by medical error
- Blaming people does not solve problems that lead to error, it makes health care less safe







PS 101: Framework for patient safety





Post-Assessment Review

1. **According to WHO, in developed countries worldwide, what is the approximate likelihood that a hospitalized patient will be harmed while receiving care?**
 - (A) <1%
 - (B) 10%
 - (C) 50%
 - (D) >75%

2. **Since the publication of To Err Is Human in 1999, the health care industry overall has seen which of the following improvements?**
 - (A) A 75 percent reduction in preventable medical errors
 - (B) Stronger repercussions for providers who commit preventable medical errors
 - (C) Wider awareness that preventable errors are a problem
 - (D) Wider recognition that medical errors are most often attributable to individual performance
 - (E) All of the above

3. **Safety has been called a “dynamic non-event” because when humans are in a potentially hazardous environment:**
 - (A) It is natural to establish and follow safe practices
 - (B) It requires the same kind of thinking that causes problems to set them right
 - (C) It takes significant work to ensure nothing bad happens
 - (D) There is generally a high prevalence of "near misses"



James is a first-year surgery resident on his first pediatric rotation. His attending (consultant) asks him to start intravenous (IV) replacement fluids on a two-year-old boy who is having vomiting and diarrhea. Having trouble remembering the guidelines for calculating fluid replacement rates for very small children, James asks Maria, a nurse on the unit. Maria responds, "You're the doctor. It's your job to decide this." James picks a rate that is much too high, putting the child into fluid overload.

4. To prevent this type of error from recurring in this unit, which of the following is MOST important?
 - (A) Clear medical guidelines for fluid replacement in patients of all ages
 - (B) An improved culture of safety and teamwork
 - (C) Closer supervision of residents, especially in the first year
 - (D) More severe, well-publicized consequences for providers who are reckless

5. Who is likely to be negatively affected by this medical error?
 - (A) The patient and his family
 - (B) James (the first-year surgery resident)
 - (C) Maria (the nurse on the unit)
 - (D) All of the above

Lesson 2: Your Role in a Culture of Safety

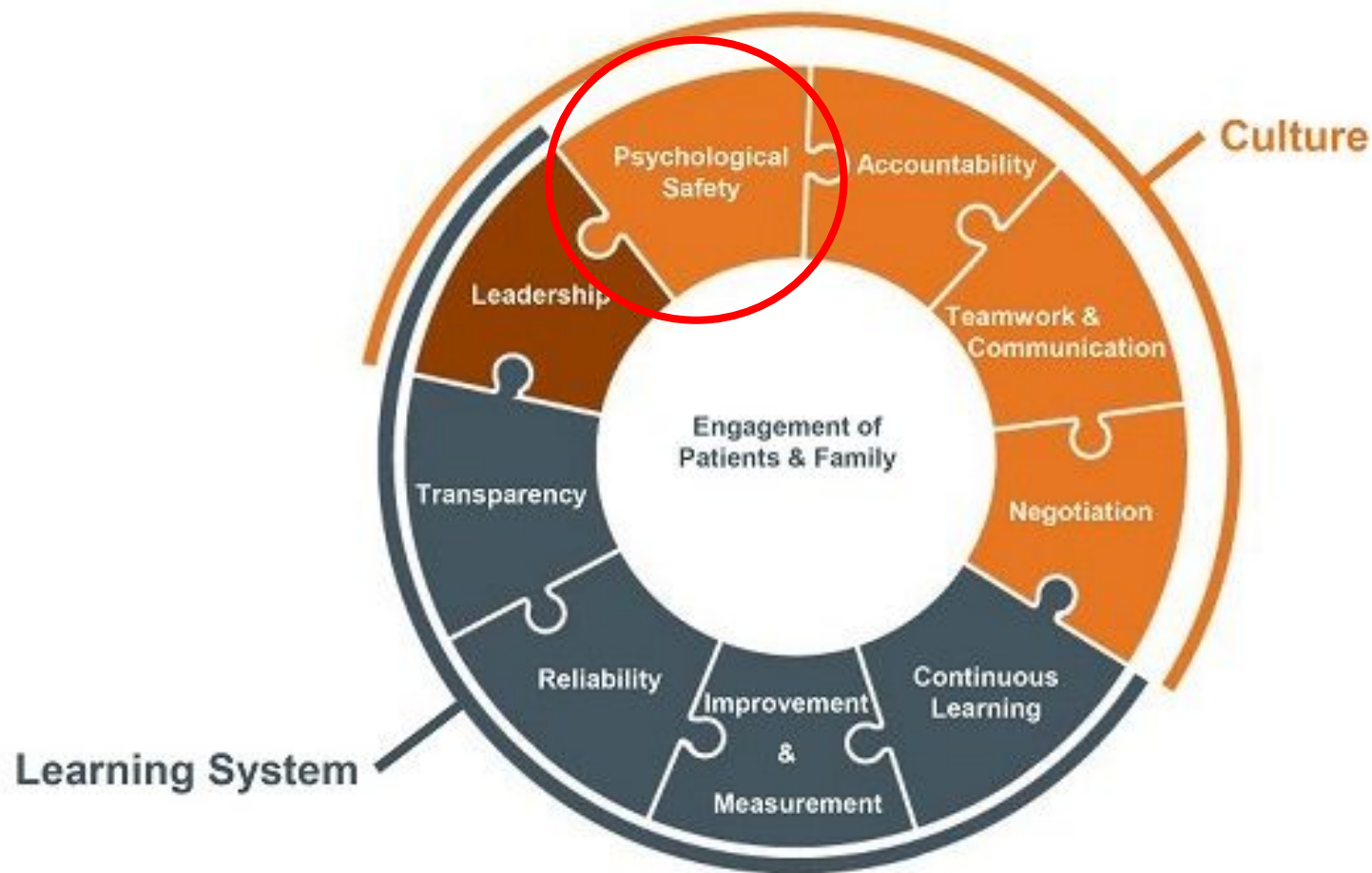


PS 101: Culture of safety

- In a culture of safety:
 - Providers discuss errors and harm openly
 - without fear of being unfairly punished
 - with confidence that reporting safety issues will lead to improvement
 - Every person contributes to culture





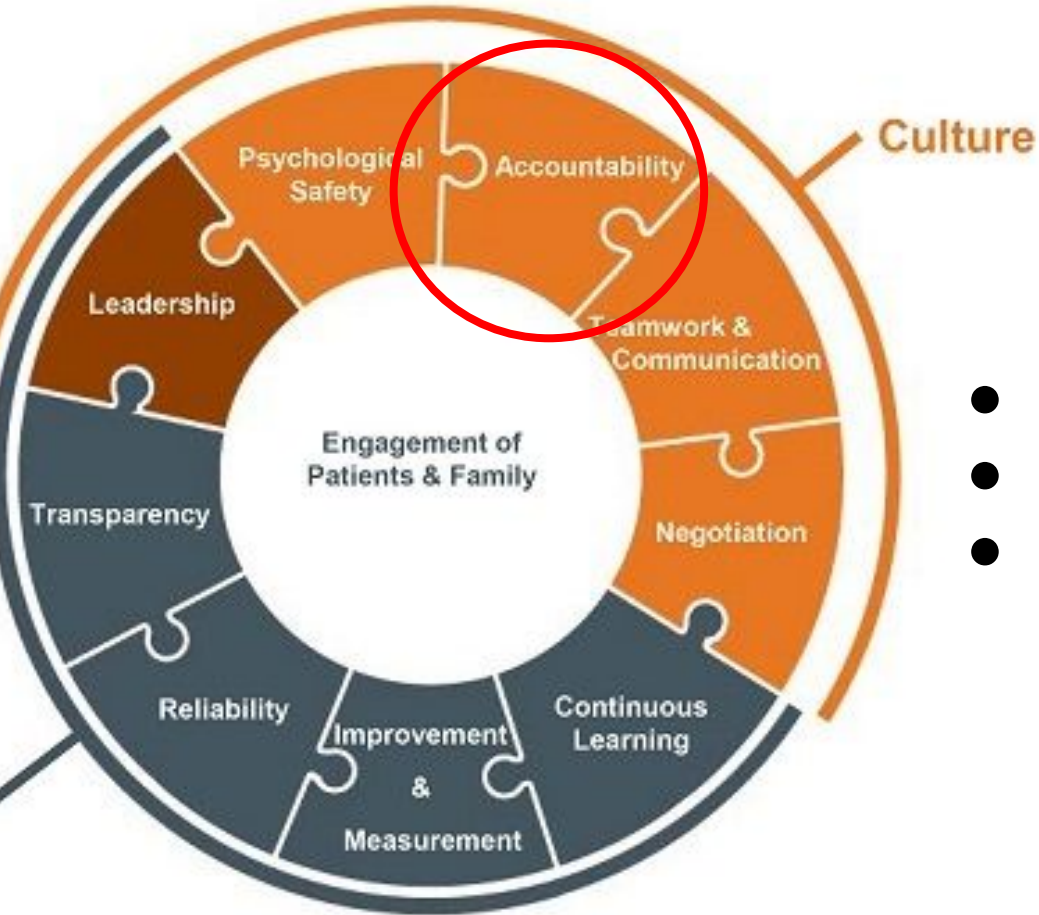




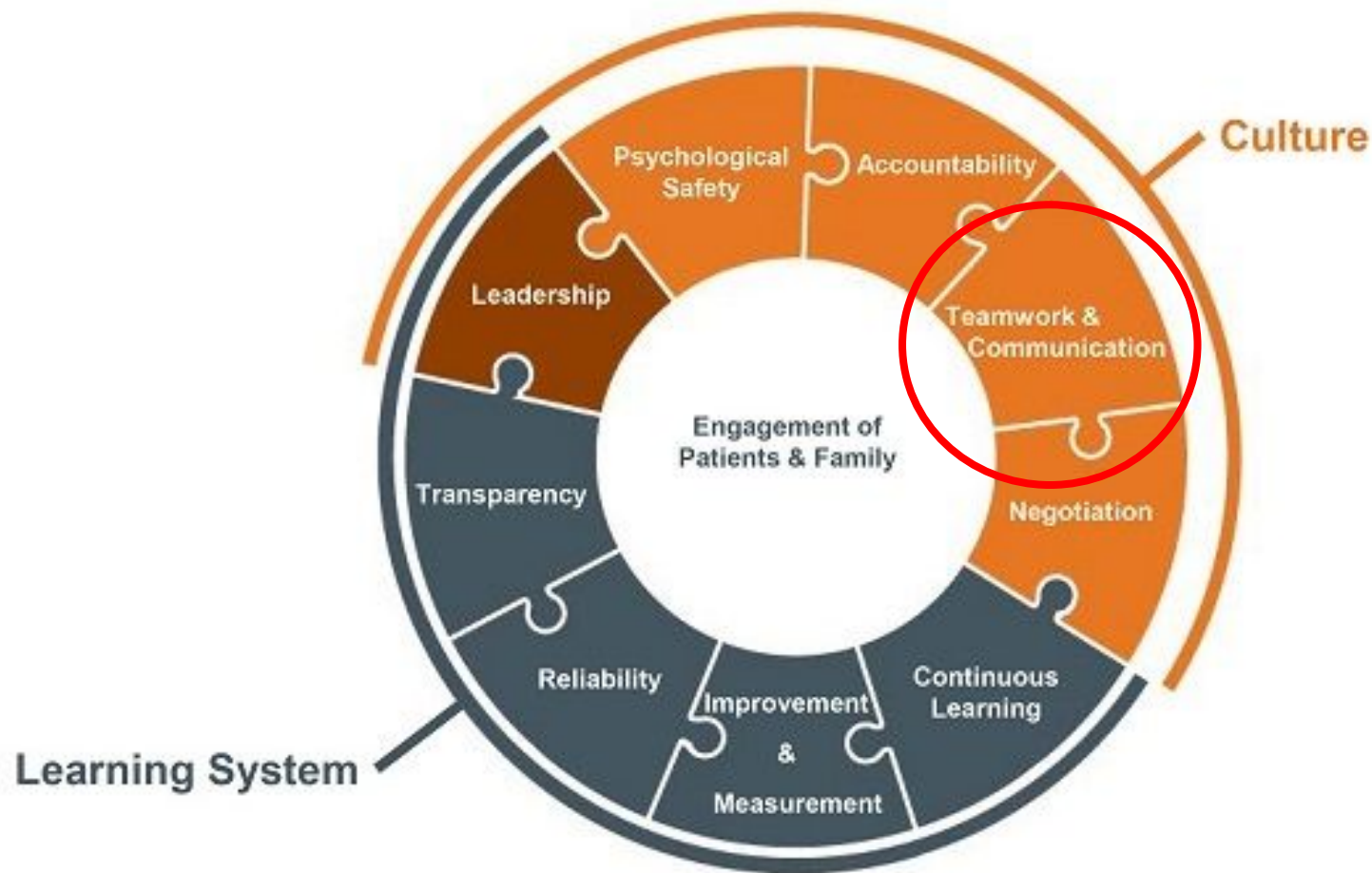
PS 101: Psychological Safety

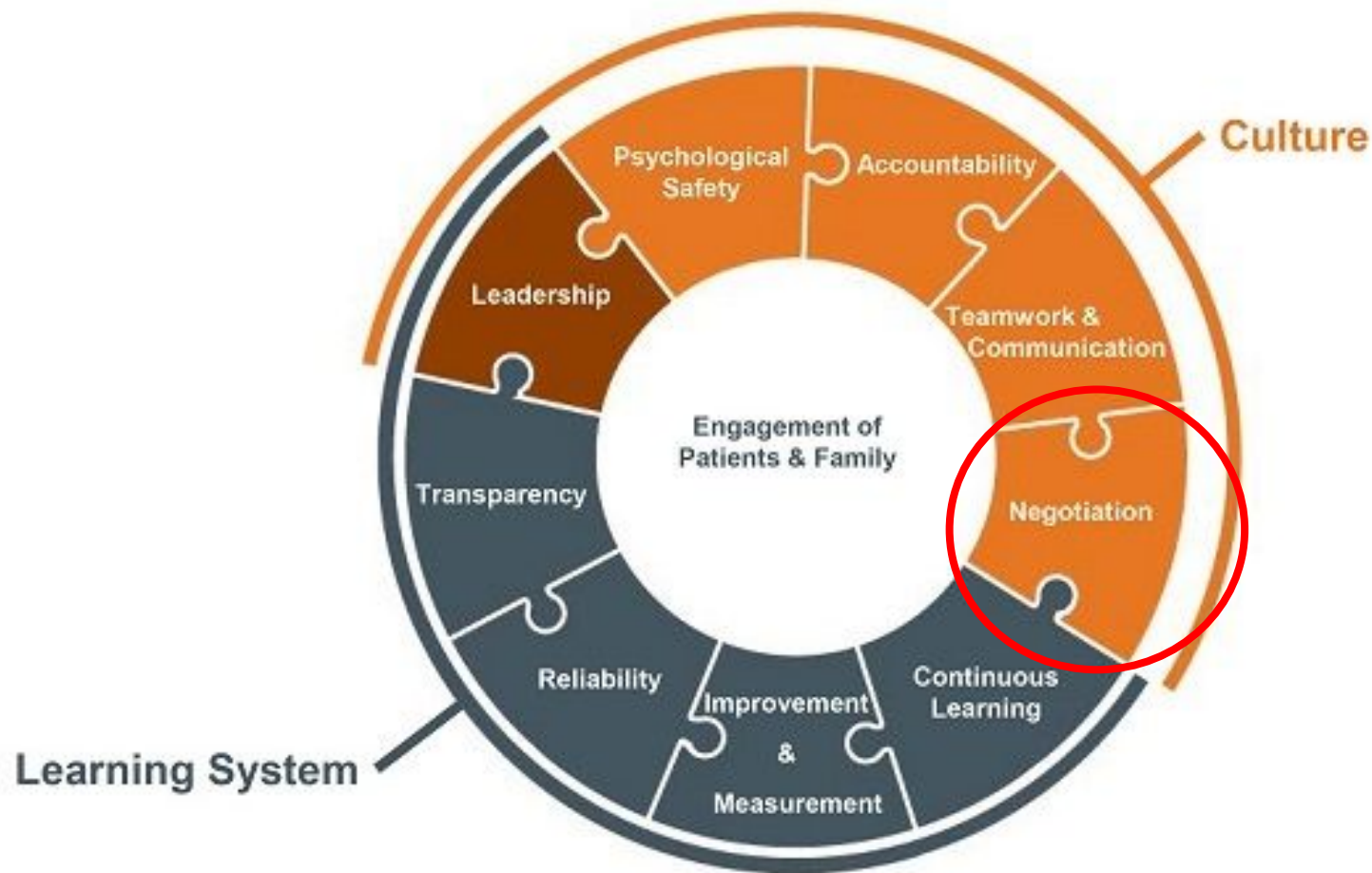
- Psychological safety:
 - Allows people to speak up
 - Point to something that might be a process failure





- Human error
- At-risk behavior
- Reckless behavior





PS 101: Patients and Families

- Potential roles
 - Helping identify adverse events
 - Helping inform clinicians about adverse events they are not aware of
 - Behaving as advocates for their own health





Post-Assessment Review

1. One hospital CEO insists on including performance data in the hospital's annual report. "We do very well on most measures, except for one or two, but we put those in anyway," she says. "We want to hold ourselves accountable." Does this practice demonstrate effective or ineffective leadership?
 - a) Ineffective leadership: Because results are an important indication of leadership, publicly sharing poor results is an unwise practice.
 - b) Effective leadership: Being transparent, even about poor results, is a mark of a good leader.
 - c) Ineffective leadership: Leaders are people who have followers, and sharing poor results might cause the leader to lose some followers.
 - d) Effective leadership: It is good to share results in the annual report, but the leadership would be even more effective if it shared only the strongest results.

2. At the large multi-specialty clinic in which you work, there have been two near misses and one medical error because various clinicians did not follow up on patient results. Different caregivers were involved each time. When asked why they failed to follow up, each caregiver said he or she forgot.

Based on what you know, how would you classify the caregivers' behavior?

Human error



3. At the large multi-specialty clinic in which you work, there have been two near misses and one medical error because various clinicians did not follow up on patient results. Different caregivers were involved each time. After the second near miss, the physician involved was asked to leave the clinic.

A nurse who realized that his colleagues weren't consistently following up on patient results reported the problem to the clinic leadership right away. Which response would be most consistent with a culture of safety?

- (A) Transferring the nurse to another clinic
- (B) Thanking the nurse and asking him to keep quiet about it
- (C) Placing the item on the agenda for the leadership meeting next year
- (D) Investigating the problem and seeking systems solutions

4. Why is psychological safety a crucial component of a culture of safety?

- a) Without it, people won't be interested in improvement work.
- b) It allows people to remove unsafe members of the team quickly.
- c) Without it, patients will not follow their doctors' advice.
- d) It allows people to learn from mistakes and near-misses, reducing the chances of further errors.



5. A medical unit in a hospital is in the midst of hiring some new physicians. During an orientation for new employees, a senior leader stands up and says, “We expect that the same rules apply to everyone on the unit, regardless of position.” Which aspect of a culture of safety does this unit seem to value?

- a) Psychological safety
- b) Fairness
- c) Transparency
- d) None of these

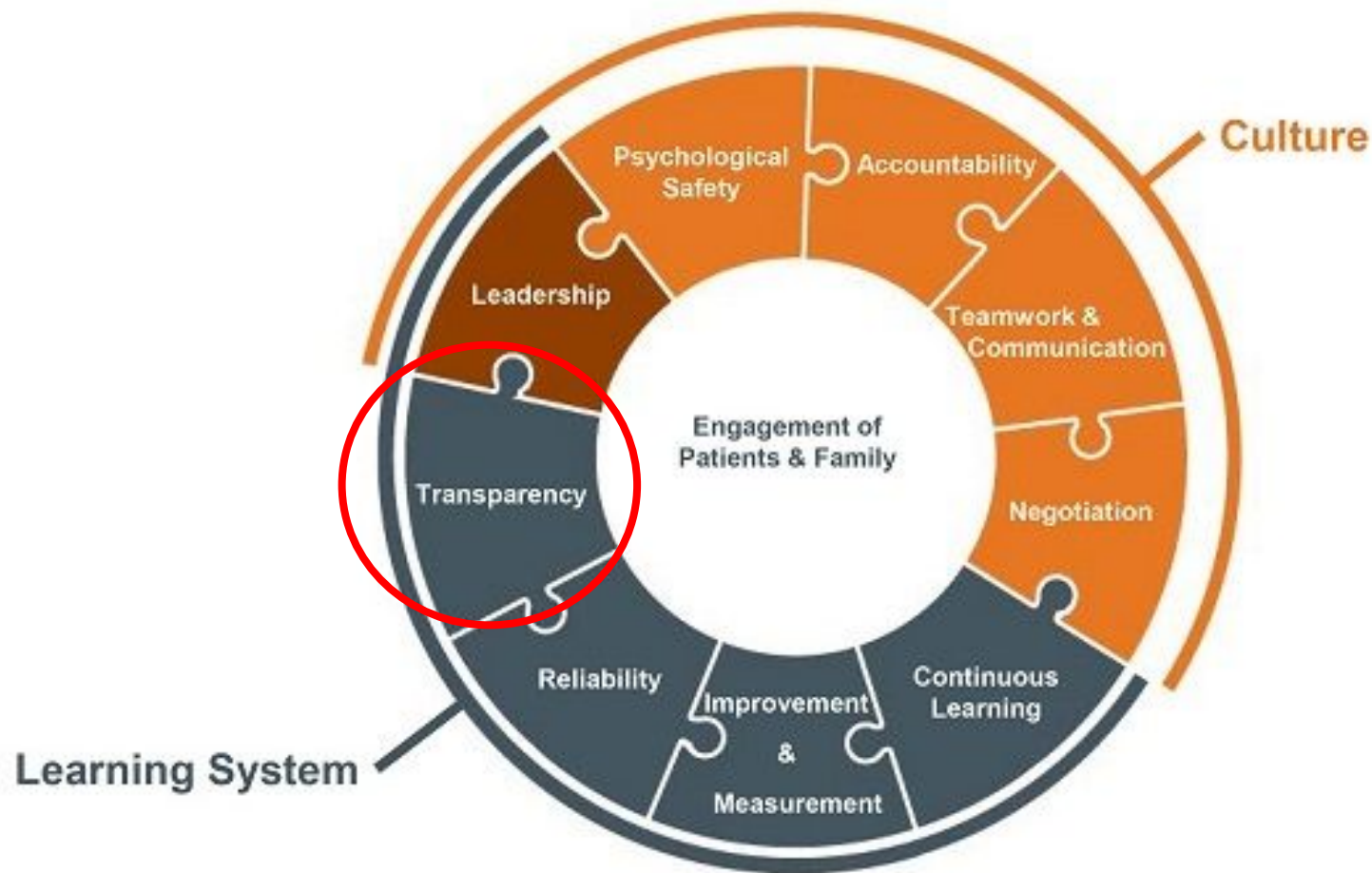
Lesson 3: Your Role in Building Safer, More Reliable Systems

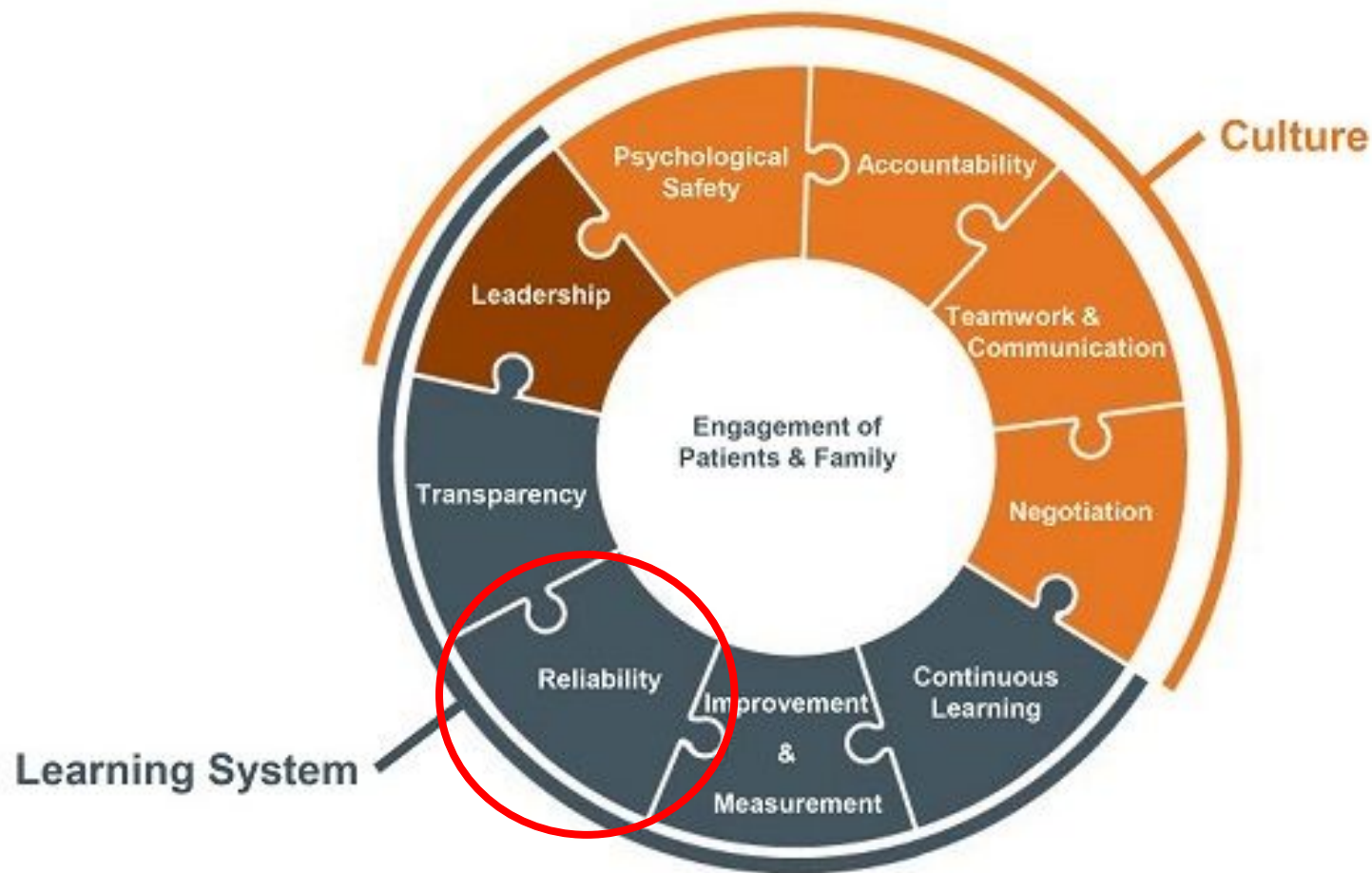


PS 101: How Complex Systems Fail

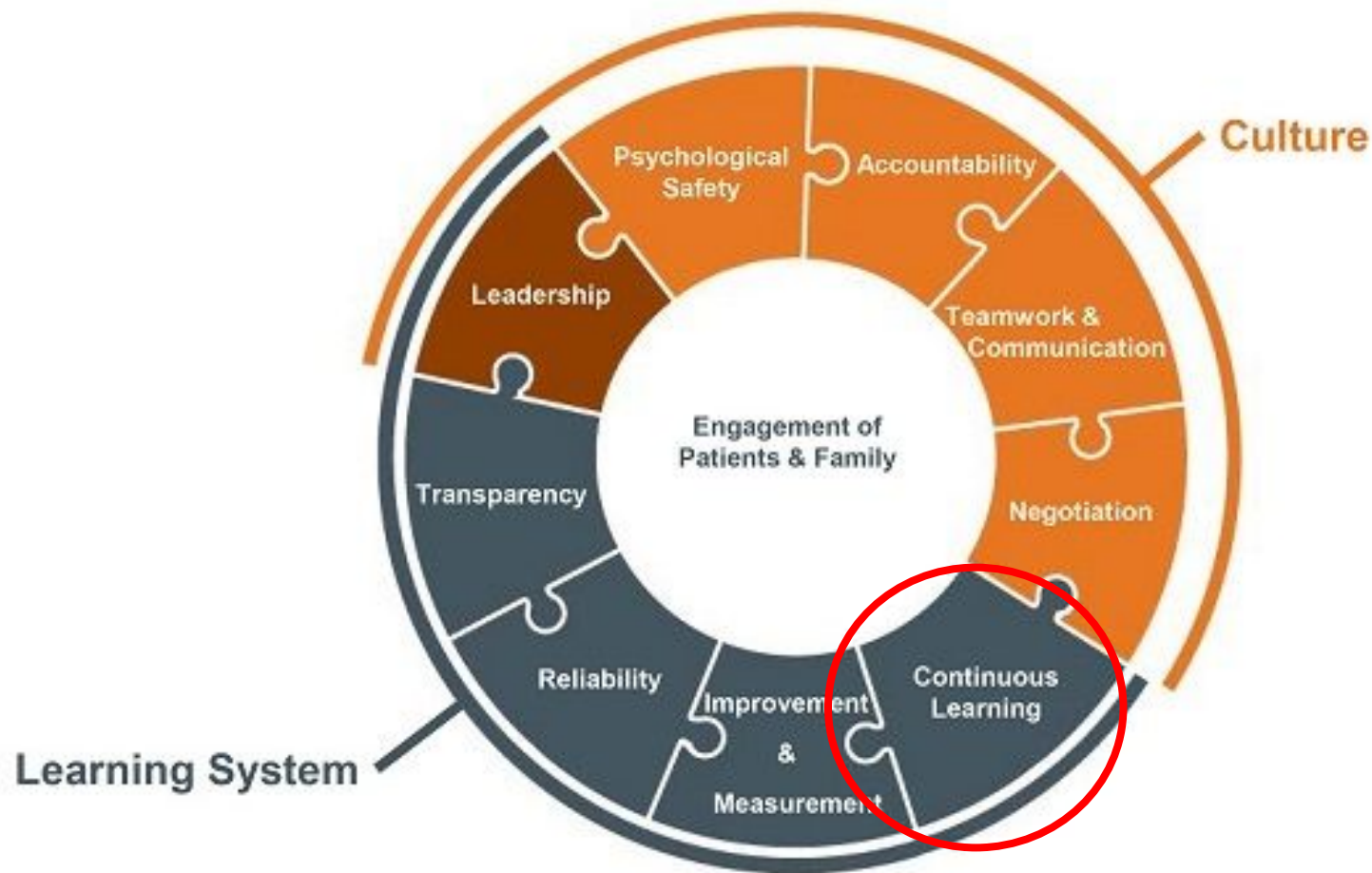
- In every case of error that leads to death or injury, there are more errors that don't lead to harm
 - Weak signals
 - Workaround













Post-Assessment Review

1. Which of these is a behavior providers should adopt to improve patient safety?

Follow written safety protocols, even if they slow you down.

2. Which of the following should you keep in mind as your hospital redesigns the way it handles knee replacements?
 - A) Planning by a multidisciplinary team should allow for the development of an excellent, high-functioning system on the first try.
 - (B) Planning a new complex system for health care delivery has little in common with planning an industrial production process.
 - (C) How system components are integrated with one another is as important as how well they function independently.
 - (D) To ensure buy-in, the leader of the design process should be as high up in the organizational hierarchy as possible.
3. Which of the following is typically true of "weak signals"?
 - (A) They usually result in harm to caregivers or patients.
 - (B) They are uncommon.
 - (C) They can combine with other human or environmental factors to result in catastrophe.
 - (D) They should only be called out by specifically designated individuals within a health care organization.



Post-Assessment Review

4. The term “normalized deviance” refers to

- A) Acceptance of events that are initially allowed because no catastrophic harm appears to result.
- (D) The standard deviation of a variable in a "bell curve" distribution.
- (E) The increase in disturbing song lyrics in modern music.
- (F) Innovation based on observing positive outliers in a production process.

5. You meet with the nurse administrator responsible for improvement when issues in the process of care are identified by those on the wards. She listens carefully to your concern, but in the end says she can only try to help improve nursing issues, and not those that extend to pharmacy or transport. The primary reason your meeting is unlikely to lead to an adequate solution is:

- (A) No one is identified as responsible for improvement when abnormalities in the process of care are identified.
- (B) The responsible individual belittled the nurse reporting the problem.
- (C) The nurse administrator did not have the appropriate span of responsibility to engage the system components needed to solve the problem.
- (D) Since things have been going along without a serious adverse event for several months, it appears that the current work-around is effective.

Patient Safety 102 (PS 102)

From Error to Harm

Objectives

1. Explain the Swiss cheese model of error.
2. Define active failures and latent error and discuss their roles in causing harm.
3. List the main types of unsafe acts utilizing James Reason's classification system.
4. Explain why patient safety experts recommend focusing less on reducing errors and more on reducing harm.



Lesson 1: The Swiss Cheese Model

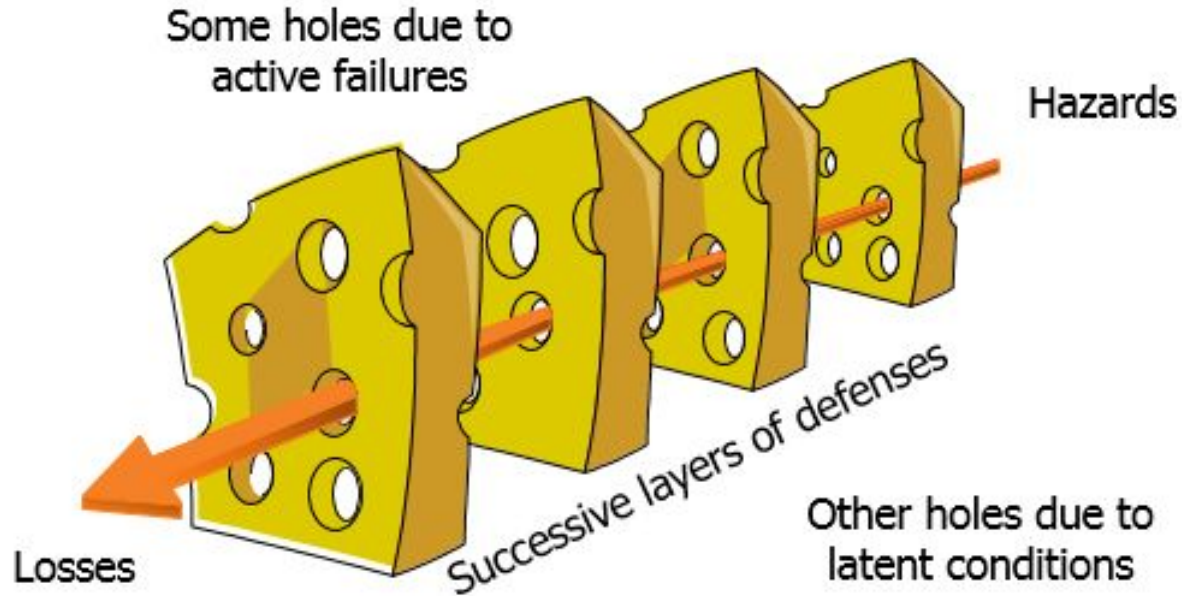


PS 102: From Error to Harm

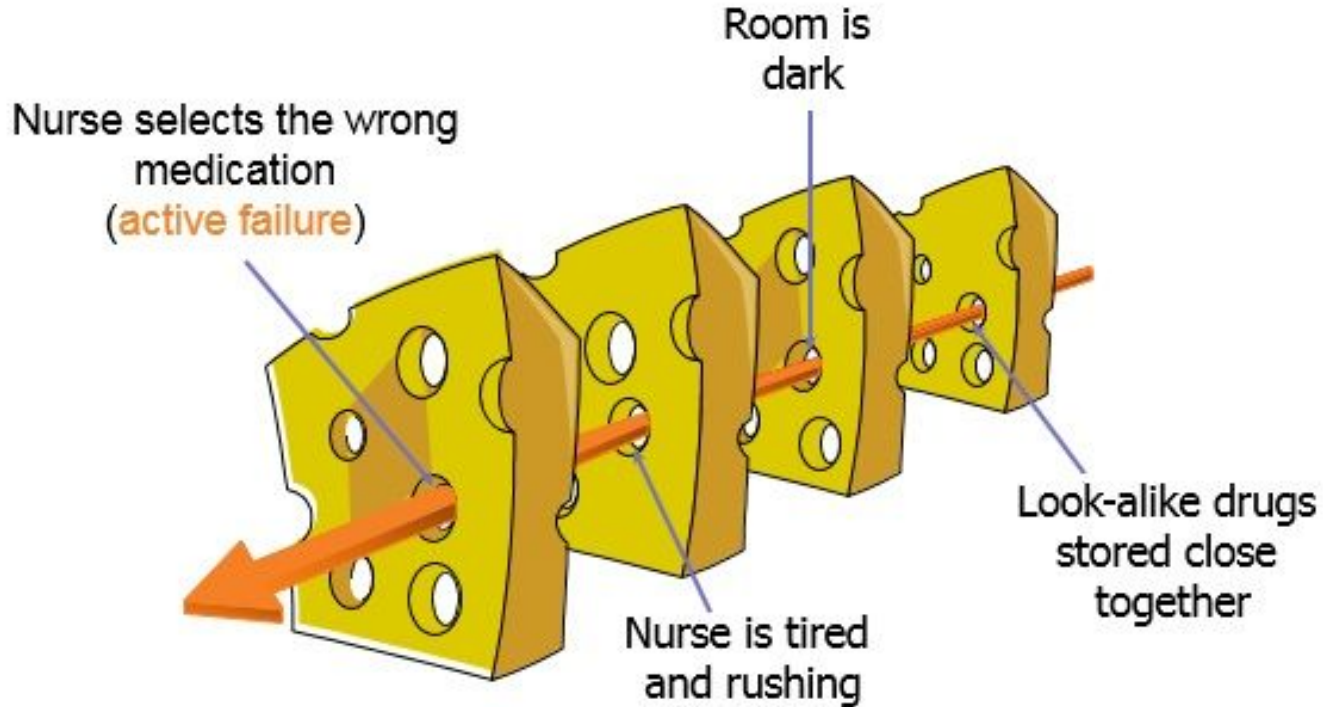
- Understanding the relationship between error and harm is the first step to building safer systems
- Serious adverse events are the result of multiple failed opportunities to stop a hazard from causing harm



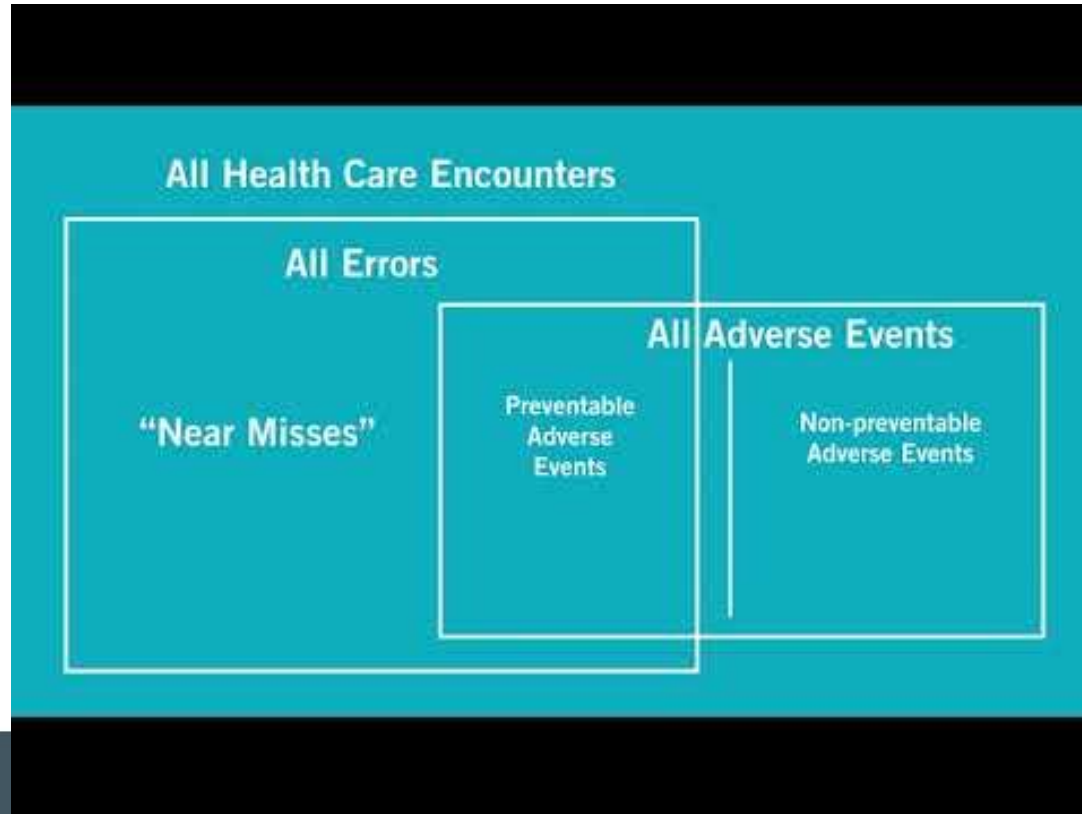
PS102: The Swiss Cheese Model



PS102: The Swiss Cheese Model



PS 102: Relationship between harm and error





Post-Assessment Review

1. Nearing the end of her 18-hour work shift, a resident sees a patient with extremely high blood glucose levels. She writes the patient a prescription for insulin; however, in her exhaustion, she closes her "U" (for "units"), and it looks more like an extra zero. As a result, the pharmacist dispenses an insulin dose that's ten times stronger than the patient needs.

Which of the following is a latent unsafe condition in the system that contributes to the resident's error?

- (A) Long work schedule
- (B) Fatigue
- (C) Inadequate training
- (D) None of the above

2. To prevent this problem from happening again, which of the following would be the best course of action?

- (A) Punish the resident and the pharmacist for their careless actions.
- (B) Require both the resident and the pharmacist to take additional training.
- (C) Develop a system that prevents messy handwriting from causing miscommunication that leads to error.
- (D) Ensure that no prescribing physician is ever tired or distracted.



3. "Latent errors" are best defined as:

- (A) Defects in the design and organization of processes and systems.
- (B) Errors in patient care that don't ever result in harm and thus go undetected.
- (C) Mistakes in patient care that providers fail to report due to fear of punishment.
- (D) Errors in patient care that cause immediate adverse effects.

4. What is the active error in this scenario?

- (A) The forms are completed by hand at the same time for different patients.
- (B) The nurse administers an antibiotic to Ms. Tyler and a sedative to Ms. Taylor.
- (C) The emergency department is particularly busy.
- (D) The pharmacist doesn't notice that the order sheets are incorrectly filled out

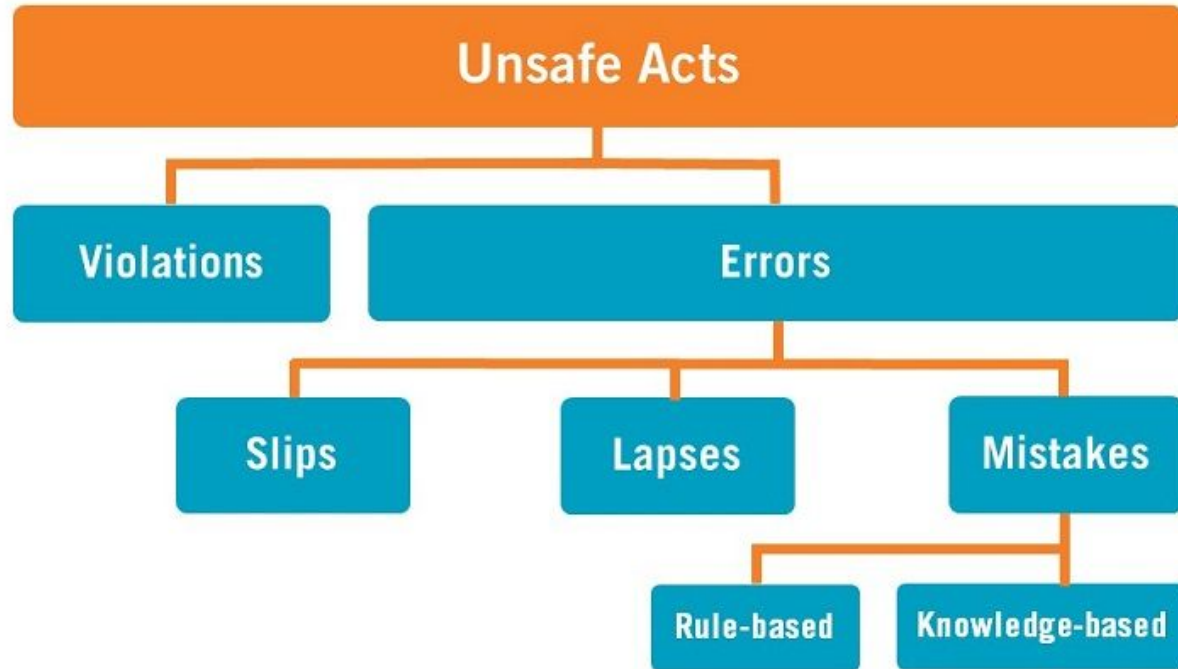
5. What is one of the latent errors in this scenario?

- (A) The emergency department is particularly busy.
- (B) The nurse administers an antibiotic to Ms. Tyler and a sedative to Ms. Taylor.
- (C) The forms are completed by hand at the same time for different patients.
- (D) The two patients in this case have very similar names.

Lesson 2: Understanding Unsafe Acts



PS 102: Classifying Unsafe Acts





“Errors occur because of one of two main types of failures; either actions do not go as intended, or the intended action is a wrong one.”

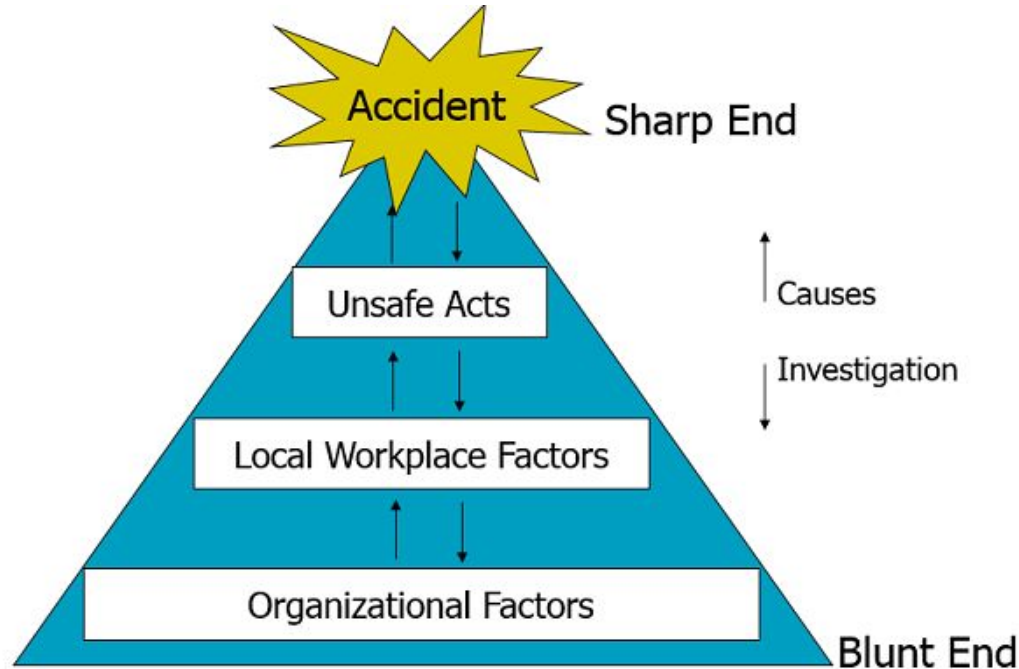
PS 102: Blame vs. Accountability

- Although punishing individuals for errors are not appropriate responses, people should still be held accountable for their actions
- Critical to define **blameworthy events**
 - events that are the result of criminal acts, patient abuse, alcohol or substance abuse, or acts that are intentionally unsafe



PS 102: Systems Approach for Errors

Implement a systems approach to addressing medical error





Post-Assessment Review

1. According to James Reason, by definition an "unsafe act" always includes:
 - (A) A potential hazard
 - (B) Harm to one or more patients
 - (C) One or more mistakes
 - (D) All of the above

2. Anita, a nurse practitioner, Mr. Drummond is a 57-year-old man with diabetes and chronic kidney disease. Having kept up on the literature, Anita is aware that tightly controlling his diabetes can slow the progression of his renal disease. She discusses her plan to increase his dose of glargine (long-acting insulin) by 12 units per day with one of the family physicians in the clinic, who agrees. At the end of the day, as she is working on her documentation, she realizes she never told Mr. Drummond to increase his insulin dose.

This is an example of what type of error?

 - (A) Lapse
 - (B) Mistake
 - (C) Slip
 - (D) Error of planning
 - (E) Violation

3. Roger, a pharmacist in a hospital, is working in the discharge pharmacy filling medications for patients who are going home. He sees a prescription for ciprofloxacin, an antibiotic, and he asks his pharmacy technician Mike to fill it quickly, as the patient is waiting and anxious to leave. Mike checks the shelves and sees they are out of ciprofloxacin, but they do have levofloxacin (an antibiotic in the same class that covers most, but not all, of the same types of infections). Mike knows he should usually check with the prescribing physician before making a substitution. However, in the interest of efficiency in this particular case, Mike deems it OK to go ahead. He substitutes the medications.

This is an example of what type of unsafe act?

- (A) Mistake
- (B) Slip
- (C) Lapse
- (D) Error of planning
- (E) Violation

4. Which of the following is the most significant advantage of shifting to a systems view of safety within health care?

- (A) It is easier to identify and remove people who are unsafe
- (B) It allows us to change the conditions under which humans work
- (C) It prevents human mistakes
- (D) It allows us to view unsafe acts as violations
- (E) All of the above



At University Hospital, the rate of Clostridium Difficile colitis has doubled during the past year. After reviewing the data, the hospital's senior leaders conclude that this is due to poor hand hygiene on the part of the staff, even though they have a clear hand washing policy in place and don't believe most staff are intentionally disregarding the policy. They decide to start a hand washing campaign and post signs all over the hospital reminding providers to wash their hands.

What type of error is this intervention best designed to address?

- (A) Mistake
- (B) Slip
- (C) Lapse
- (D) Error of Planning
- (E) Violation

Lesson 3: A Closer Look at Harm



PS 102: Harm in Healthcare

- Definition of **harm** - unintended physical injury resulting from or contributed to by medical care that requires additional monitoring, treatment, or hospitalization, or that results in death
- Criteria for **harm**
 - Medical care causes the harm
 - The harm leads to additional care
 - The harm is physical (as opposed to psychological)



PS 102: (Re) Defining Harm

- Other types of injury that would be considered harm, especially to **patients**
 - Errors of omission
 - Psychological harm
 - Financial harm



PS 102: Preventing Harm

- The notion of “**preventable**” **harm** changes as scientific knowledge and health systems evolve
- Harm is more preventable than providers once thought. Patient safety has shifted to work on reducing harm in addition to preventing errors.
 - Eg. eliminating central-infections by including a **checklist**





Post-Assessment Review

1. What intervention helped prove that catheter-associated bloodstream infections (CLABSI) were preventable consequences of care?
 - (A) A new guideline that required all staff to wash their hands with alcohol and soap before inserting a catheter
 - (B) A checklist of evidence-based practices applied consistently and collectively every time a catheter is used
 - (C) A new device that no longer required catheters to inject medications and draw blood
 - (D) A new standard that encouraged providers to take patients off ventilators sooner

2. What is one reason that patient safety has shifted to work on reducing harm in addition to preventing errors?
 - (A) Human error has become less common in health care.
 - (B) Harm is more preventable than providers once thought.
 - (C) Identifying errors rarely leads to improvement.
 - (D) Patients are only concerned about errors that cause harm.



3. Which of the following is included in the IHI Global Trigger Tool definition of harm?

- (A) Psychological harm such as a miscommunication about a diagnosis
- (B) Financial harm from expensive medical bills
- (C) The absence of needed care that contributes to harm, such as missed treatment for hypertension that leads to a stroke
- (D) Physical injury caused by medical care that triggers additional care

4. The Swiss cheese model of harm illustrates what important concept in patient safety?

- (A) Unsafe acts (including errors and violations) are the most important cause of harm to patients.
- (B) Both latent unsafe conditions and active failures (unsafe acts) contribute to harm.
- (C) Harm results when the layers of defense in a system fail to prevent a hazard from reaching a patient.
- (D) B and C

5. Why do some patient safety leaders such as Dr. David Bates believe the definition of harm should be broader than the definition in the IHI Global Trigger Tool?

- (A) Because health care systems have eliminated all harms included in the current definition
- (B) Because expanding the definition of harm would make it easier to measure
- (C) Because health care systems should work to prevent more types of harm than the current definition includes
- (D) Because health care providers aren't usually concerned about harms such as psychological injury

Patient Safety 103 (PS 103)

Human Factors and Safety

Objectives

1. Explain how human factors principles apply to health care.
2. Describe how changes to processes can mitigate the effects of factors that contribute to error.
3. Define simplification, standardization, constraints, forcing functions, and redundancies.
4. Discuss the risks and benefits of using technology to improve patient safety.



Lesson 1: Understanding the Science of Human Factors



PS 103: The Science of Human Factors

- **Human factors engineering** - the study of all the factors that limits human performance to minimize failure and maximize efficiency
- Example
 - Administering the incorrect medication because of look-alike medication names and packaging



PS 103: Understanding Human Cognition

- **Controlled thinking** - consciously solve problems and make decisions
 - **Rule or knowledge-based errors**
 - Errors of planning (**mistakes**)
- **Automatic thinking** - rapid, effortless thought
 - **Skill-based errors**
 - Errors of execution (**slips**); errors of memory storage (**lapses**)



PS 103: The Science of Human Factors

- Patterns that can contribute to error in healthcare
 1. Controlled thinking
 2. Automatic thinking
 3. Heuristics
 4. Faulty assessment of probability
 5. Failure to seriously consider all relevant possibilities
 6. Internal and external factors



Lesson 2: Design Principles to Reduce Human Error



PS 103: Error Reducing Principles

Standardization



PS 103: Simplify & Standardize

- Two strategies to reduce confusion and streamline processes
- **Simplification** reduces complexity
- **Standardization** reduces variation



PS 103: Avoid Reliance on Memory

- Reducing reliance on memory can prevent errors of both planning and execution
- Use checklists



PS 103: Use Forcing Functions and Constraints

- Goal: Make it harder to do the wrong thing
- **Constraint** - being checked or restricted to perform action
 - Ex: behind-the-counter medicine
- **Forcing functions** - make it impossible to do a task incorrectly



PS 103: Use Redundancies

- Redundancy = double check
 1. **Social redundancy** - one person checks the work of another
 2. **Use of Technology**





Post-Assessment Review

1. Which of the following is a basic strategy for minimizing the opportunity for error in a process?
 - a) Reducing reliance on technology
 - b) Standardizing how the process is completed
 - c) Trying harder to perform the process correctly
 - d) A and C

2. Which of the following statements about redundancies within processes is always true?
 - a) They are needlessly inefficient.
 - b) They remove the opportunity for error.
 - c) They require two people to do the work of one.
 - d) None of the above



3. Your hospital is implementing an electronic health record (EHR) and is teaching all staff how to use it. As you go through the EHR training, you notice that it takes five clicks to bring up the vital signs for a patient. In the past, when you wanted to see a patient's vital signs, you could simply look at the sheet of paper clipped onto the end of the bed.

Which of the following likely needs to be improved about the new process to review vital signs?

- a) It needs to be simplified.
- b) It needs to be standardized.
- c) It needs redundancies added.
- d) It needs to avoid reliance on memory.

4. At the end of your training session on the new EHR, you are handed a two-sided laminated card titled "Quick Start Guide." It provides step-by-step instructions for basic tasks such as entering orders and writing daily notes in the EHR. This is an example of:

- a) Using forcing functions and constraints
- b) Automating carefully
- c) Simplifying
- d) Avoiding reliance on memory

5. The first time you admit a patient to the hospital using the new EHR, you see a screen pop up as you are attempting to enter orders. At the top it says, "You must enter orders for DVT (blood clot) prevention before completion of this admission order set. Click here to complete this order." This pop-up box is an example of the use of:

- a) A forcing function
- b) Simplification
- c) Redundancy
- d) A and B

Lesson 3: The Risks and Rewards of Technology



PS 103: Technology Can Prevent Errors

- technology has great potential to prevent us from making errors, or mitigate the impact of errors
 - Electronic medical records (EMR)
 - Computerized prescriber order entry systems (CPOEs)
 - Bar-coding systems
 - IV infusion pumps
 - Pharmacy computer systems





PS 103: Technology Can Prevent Errors

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 - Bar-coding systems
 - IV infusion pumps
 - Pharmacy computer systems



PS 103: Limitations of Technology



PS 103: Limitations of Technology

- Problems with technology can be divided into two categories
 - **Human-computer interface issues**
 - **Computer-related problems**





Post-Assessment Review

1. Which of the following statements about bar-coding systems is true?
 - a) They typically offer few benefits and merely promote workarounds.
 - b) They can completely prevent medication errors.
 - c) They can help providers keep track of laboratory specimens, identify medications and medical equipment, and identify patients.
 - d) B and C

2. Effective ways for addressing defects in the human-technology interface include:
 - a) Involving the user in the design of the technology
 - b) Testing the technology under real-life conditions
 - c) Reducing the cost of the technology
 - d) A and B



3. You're working in an outpatient clinic that recently started using an electronic health record (EHR). You are entering a prescription for an antibiotic into the EHR to treat Mrs. Jones's urinary tract infection. As you enter the order, a warning screen pops up saying that she has chronic kidney disease, and the medication dose should be adjusted based upon her last recorded creatinine level (a measure of kidney function). However, you know that Mrs. Jones's most recent creatinine level — recorded at a different clinic and therefore not available in your EHR — came back normal. When you attempt to move past the warning, the system will not allow you to proceed.

What does this block best exemplify?

- a) How technology can be used to make patient care safer
- b) How technology can be used to make care more efficient
- c) How technology that dictates your work — rather than facilitates it — can introduce unintended problems
- d) A and B

4. You're caring for a patient with diabetes who was admitted to your hospital with an elevated blood glucose level. She is on an insulin pump that is programmed to deliver one unit of insulin per hour through her intravenous (IV) line. Which of the following is a risk of this technology?

- a) The pump is dictating rather than facilitating your work.
- b) The pump could malfunction.
- c) There is no risk associated with the pump.
- d) A and B

5. 5) Which of the following is the best example of using technology to improve safety and prevent errors?

- a) Switching to an electronic health record (EHR) platform that is of comparable quality but lower cost
- b) Implementing redundancies, in which providers double-check each other's electronic inputs
- c) Providing inpatients with electronic tablets so that they can keep in better touch with the outside world
- d) Giving nursing assistants electronic tablets to ensure there's no delay in recording patients' vital signs

PS 103: Limitations of Technology

- Technology can make people complacent, introduce new errors, and get in the way of meaningful face-to-face interactions.
 - Poorly designed interface cause clinicians to click the wrong option
 - Automation complacency cause people to lose skills or stop paying attention
 - People place too much trust in technology and become overly reliant on it



Technology in Healthcare

Pros

- can be part of implementing any of the error-reducing principles
- greatly improve safety, especially because it can mitigate and prevent human error
 - EMR
 - Computerized prescriber order entry systems
 - IV pumps

Cons

- create new hazards in the healthcare system
 - Poorly designed interface cause mistakes
 - Alert fatigue
- Problems with health information technology can largely be distilled into two broad categories
 - **Human-computer interface issues**
 - **Computer-related problems**



Patient Safety 104 (PS 104)

Teamwork and Communication

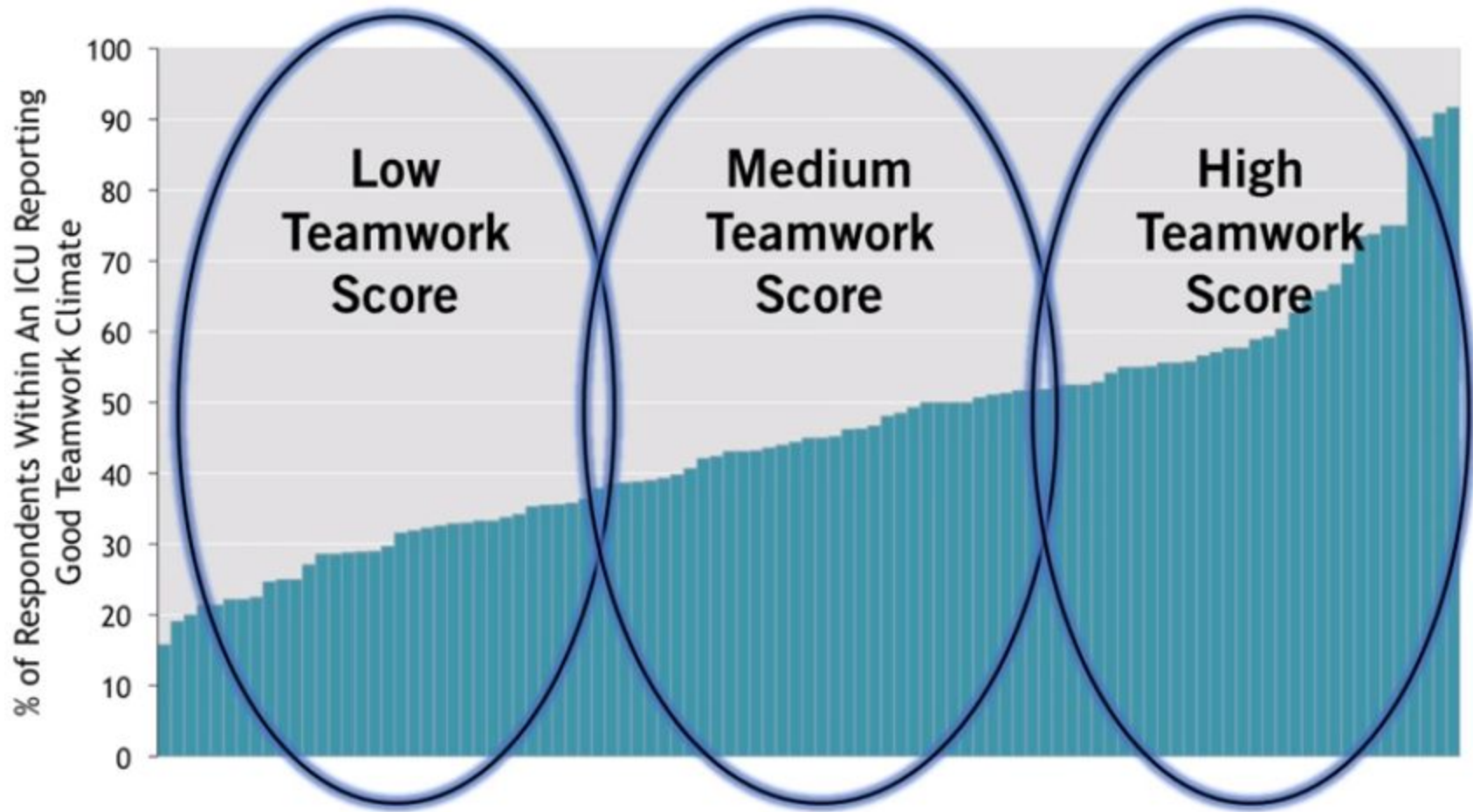
Objectives

1. Explain how individual behavior and team dynamics in health care can make care safer or less safe.
2. Use structured communication techniques to improve communication within health care.
3. Specify possible interventions to improve patient safety and reduce risk during times of transition.



Lesson 1: Fundamentals of Teamwork and Communication







Disrespectful Behaviour

- Any behavior that impairs the medical team's ability to achieve intended outcomes
- Humiliating, demeaning treatment of nurses, residents, and students
- Passive-aggressive behavior
- Passive disrespect
- Dismissive treatment of patients
- Systemic disrespect



Good Leaders

- Make yourself approachable
- Invite everyone into the conversation
- Establish shared goals



Speak Up

Indirect method does not convey urgency





Post-Assessment Review

Effective health care teams have several important characteristics, including:

- (A) The ability to rehearse procedures together, like a choir or a sports team.
- (B) Stable membership; that is, they have the same people on the team from day-to-day.
- (C) Effective communication techniques.
- (D) The ability to achieve good results without strong communication.

Which of the following is likely to be the most immediate result of building an effective health care team?

- (A) Less costly health care
- (B) Safer care
- (C) Fewer delays in care
- (D) Elimination of waste in the system

As a nurse practitioner in a small, rural urgent care clinic, you believe that your clinic team works well together. Which of the following facts would best support your belief?

- (A) Not a single complaint about unprofessional behavior has been filed by clinic members over the past year.
- (B) The providers work in rotating shifts and rarely need to transmit information from one shift to the next.
- (C) The team routinely takes a moment to discuss the plan and voice concerns before doing a procedure.
- (D) All of the above.



Post-Assessment Review

One reason it's critical for caregivers to improve their teams' effectiveness is:

- (A) Effective teams reduce the risk of errors by providing a "safety net" for individual caregivers.
- (B) Effective teams limit the number of caregivers patients have to speak with, reducing confusion among patients and families.
- (C) Teams rely less on technology and more on human capabilities, thus leading to better care.
- (D) All of the above

When considering your role within a health care team, it is important to keep in mind that:

- (A) No matter what profession you belong to, you will be a member of the team and must work intentionally toward making that team effective.
- (B) You may be part of a team, but will likely be able to work autonomously without much input or help from others.
- (C) Teamwork skills will come naturally to you, because we all learn them in other settings.
- (D) You will need to be a good team member until you become an expert in your field, at which point you probably won't need teamwork skills.



Lesson 2: Tools and Techniques for Effective Communication



-
- Critical language
 - Briefings and debriefings
 - SBAR
 - Repeating back



Critical Language

- An agreed-upon set of terms that indicates to all members of a team that there is a problem
- **Advocacy-inquiry**
- E.g., “I need a little clarity”



Critical Language - CUUS

“I’m **C**oncerned...”

“I’m **U**ncomfortable...”

“I feel it’s **U**nsafe...”

“I’m **S**cared”



Critical Language

The Two-Challenge Rule



Briefing and Debriefings

- Briefings
 - Safety briefings
- Debriefing
 - What did we do well?
 - What did we learn?
 - What should we do differently next time?





SBAR

		Questions	Description	Example
S	Situation	What is going on with the patient? What is the situation you are calling/communicate about?	First, the speaker presents the situation, by identifying himself, stating the patient's name and briefly describing the problem	<i>'Dr Preston, I'm calling about Mr Lakewood, who's having trouble breathing'</i>
B	Background	What is the background or context on this patient?	The speaker then provides the background, such as the patient's diagnosis or reason for admission, medical status and relevant history. The patient's chart is reviewed and questions the other care provider may have are anticipated	<i>'He's a 54 year old man with chronic lung disease who has been sliding downhill, and now he's acutely worse'</i>
A	Assessment	What is the problem?	Then specific information on vital signs, recent laboratories and other quantitative or qualitative data related to the patient's current state are provided. This section can include a provisional diagnosis or clinical impression	<i>'I don't hear any breath sounds in his right chest. I think he has a pneumothorax'</i>
R	Recommendation	What is the next step in the management of the patient?	An informed suggestion for the continued care of the patient has to be made by the speaker. The immediate need is explained clearly and specifically, including what is necessary to address the problem	<i>'I need you to see him right now. I think he needs a chest tube'</i>



Repeating Back

- **Closed-loop communication**
 - a. The sender concisely states information to the receiver.
 - b. The receiver then repeats back what he or she heard.
 - c. The sender then acknowledges that the repeat back was correct or makes a correction.
 - d. The process continues until participants verify a shared understanding.
- **Teach back**



Post-Assessment Review

Approximately what percentage of serious adverse events in health care can be linked to miscommunication between caregivers when patients are transferred or "handed-over"?

- (A) 5 percent
- (B) 20 percent
- (C) 50 percent
- (D) 80 percent

You are a pharmacy student, and this month you are doing a clinical rotation in a pharmacy located just outside of town. This is a very different experience from working in a hospital pharmacy, and you are enjoying the time immensely. However, you notice that your preceptor (instructor), whom you respect and who has been practicing and teaching for many years, has been losing his train of thought unusually often when talking with patients. And while filling a prescription recently, he grabbed the wrong strength of pills — and then he barked at the pharmacy technician who corrected him. As he begins to fill another order this morning, you see that once again, he seems to be using the wrong pills.

Which of the following is a factor that might make it difficult for you to say something to this pharmacist?

- (A) You're just a student, and health care is hierarchical by design.
- (B) The pharmacist got annoyed when someone corrected him earlier.
- (C) You do not have time to say anything today.
- (D) A and B



Post-Assessment Review

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Why should you tell the pharmacist about your concern?

- (A) So that the pharmacist will think well of you when completing your evaluation at the end of the rotation
- (B) So that you can make your knowledge and eye for details apparent
- (C) So that the patient does not experience an adverse event
- (D) So that the pharmacist gets some extra training

You are a pharmacy student, and this month you are doing a clinical rotation in a pharmacy located just outside of town. This is a very different experience from working in a hospital pharmacy, and you are enjoying the time immensely. However, you notice that your preceptor (instructor), whom you respect and who has been practicing and teaching for many years, has been losing his train of thought unusually often when talking with patients. And while filling a prescription recently, he grabbed the wrong strength of pills — and then he barked at the pharmacy technician who corrected him. As he begins to fill another order this morning, you see that once again, he seems to be using the wrong pills.

You decide to speak with the pharmacist while he is filling the order. What would be the most appropriate thing to say?

- (A) "Did you check the bottle from which you're dispensing that medication?"
- (B) "I am concerned there is a safety issue here."
- (C) "What are you doing? Can I help?"
- (D) "Stop filling that prescription right now or I will be forced to call the manager."



Post Assessment Review

You are a pharmacy student, and this month you are doing a clinical rotation in a pharmacy located just outside of town. This is a very different experience from working in a hospital pharmacy, and you are enjoying the time immensely. However, you notice that your preceptor (instructor), whom you respect and who has been practicing and teaching for many years, has been losing his train of thought unusually often when talking with patients. And while filling a prescription recently, he grabbed the wrong strength of pills — and then he barked at the pharmacy technician who corrected him. As he begins to fill another order this morning, you see that once again, he seems to be using the wrong pills.

After you speak up, which of the following responses by the pharmacist would best indicate that this pharmacy has a culture of safety?

- (A) "Thanks! I'll tell your supervisor that you helped me today."
- (B) "If you know what's good for you, you won't tell anyone about this."
- (C) "Thanks! But in the future, please correct me in private, when others aren't around."
- (D) "Thanks! I appreciate that. But don't ever say something like that to the other pharmacist here. He's got quite a temper."



Ask Me 3

- What is my main problem?
- What do I need to do?
- Why is it important for me to do this?



Lesson 3: Safety During Transitions Across the Continuum of Care



Transitions are Dangerous

- 20% of patients experience adverse events within 30 days after discharge
- At least one adverse drug event during 45-day period in 18.7% of discharges
- More than half of patients had a medication discrepancy at the time of admission





Medication Reconciliation

1. **Verification:** collecting the list of the patient's medications and dosing information
2. **Clarification:** confirming that the list makes sense
3. **Reconciliation:** documenting any changes



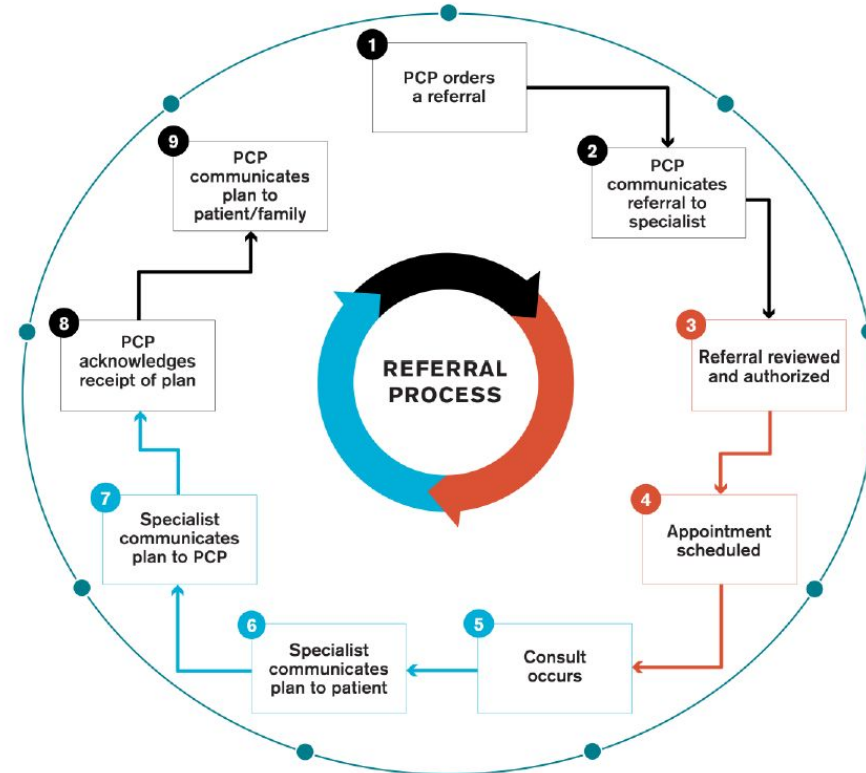
Test Results & Referrals

In the US, clinicians in the ambulatory setting request more than 100 million specialist referrals each year — half of which are never completed.





Closing the Loop



Standardizing Transitions of Care

- Pharmacist completes medication reconciliation within 24 hours of admission
- **Warm handover** completed if the patient is discharged to a facility
- Clinician follow-up phone call made within 48 hours of discharge
- Follow-up appointment made prior to discharge with patient involvement. Appointment to take place within 7 days of discharge
- Attending physician or delegate on discharge team to be accessible for questions by telephone for the first 72 hours after discharge



PS 104 Teamwork and Communication

- Teamwork and communication are vital in **creating a culture of safety** - an environment that encourages open discussion of mistakes and uses them to improve.
- Components of good team dynamics
 - Respect
 - Model of good leadership behaviour
 - Not afraid to speak up about problems



Tools for Effective Communication

- Critical language
- Two-challenge rule
- Briefings and debriefings
- SBAR
- Repeating back
- Ask me 3



Safety During Transition of Care

- Transitions are risky times for the patient and healthcare providers

Main safety risks during transitions	Solutions
Adverse drug events	Medication reconciliation
Failures of patients attending to testing and referrals	Closing the loop
Inconsistent processes for transition	Standardizing transitions of care with “bundles”



Engaging patients in their own care

- Patients often need to be able to act out precise recommendations when they leave the health care setting for home
 - Use common, simple words to be as clear as possible and minimize the risk of misunderstanding.
 - Speak more slowly when providing instructions.
 - Ask open-ended questions to assess the patient's understanding of written materials, such as prescription labels.



Post-Assessment Review

What is a culture of safety?

- (A) A place where errors never happen
- (B) A place where errors are always caught
- (C) A place where all staff can talk freely about safety problems without fear
- (D) A place where all staff feel comfortable reporting errors only if they're guaranteed anonymity

Which of the following responses by the pharmacist would best indicate that this pharmacy has a culture of safety?

- (A) Asking you to keep the issue confidential to protect his professional reputation.
- (B) Talking about the near miss with other staff.
- (C) Punishing you for questioning his authority.
- (D) Reminding you that you shouldn't question authority figures, but giving you a warning instead of punishing you.



Post-Assessment Review

What are some of the characteristics of a culture of safety?

- (A) Fairness, transparency, and psychological safety
- (B) Fairness, equitable pay, and emotional intelligence
- (C) Deference to expertise, transparency, and emotional intelligence
- (D) Deference to expertise, equitable pay, and psychological safety

What is "SBAR"?

- (A) A system for delivering information
- (B) A system for identifying areas for improvement
- (C) A system for confirming receipt of information
- (D) A system for assessing patient values



Post-Assessment Review

Linda, a pharmacist at an outpatient pharmacy for a medium-sized medical group, receives a call from John, a nurse practitioner in the cardiology clinic. John tells Linda he needs to call in a new prescription for hydrochlorothiazide at 50 mg once a day for Ms. Krane. At the end of the conversation Linda says to John, "Okay, so you want Ms. Joanne Krane to have a new prescription for hydrochlorothiazide at 50 mg by mouth once a day. Thirty pills and six refills."

What has Linda just done?

- (A) Increased the likelihood of error by repeating an order
- (B) Provided a read back
- (C) Used SBAR in communication
- (D) B and C



Patient Safety 105 (PS 105)

Responding to Adverse Events

Objectives

1. Describe four steps to take following an adverse event.
2. Explain how to communicate effectively about bad news and when you should apologize.
3. Discuss the impact of adverse events on providers.



Lesson 1: Responding to an Adverse Event: A Step-by-Step Approach



-
- Step 1: Provide Care
 - Step 2: Communicate
 - Step 3: Report
 - Step 4: Document



Step 1: Provide Care



Step 2: Communicate

- Follow the organization policy
- Promote a trusting relationship by
 - Expressing compassion
 - Making it clear that you intend to learn and share more about what happened as soon as possible
 - Making it clear who will be available to help the patient and family
- Okay to defer communication but not conceal information



Step 3: Report

- What to report
 - Harm events
 - Near misses
- The risk management team decides what to prioritize
- When in doubt, report!



Step 4: Document

- Objective details of the situation
- The patient's condition immediately prior to the event
- The intervention after the adverse event and the patient response
- Notification of the primary care physician and attending physician
- Information shared with the patient and/or patient's representative following the event



Post-Assessment Review

When an error occurs, which of the following is generally the proper order of prioritization?

- (A) Communicate with the patient, report to all appropriate parties, check the medical record, care for the patient.
- (B) Report to all appropriate parties, check the medical record, care for the patient, communicate with the patient.
- (C) Care for the patient, communicate with the patient, report to all appropriate parties, check the medical record.
- (D) Check the medical record, care for the patient, communicate with the patient, report to all appropriate parties.

You're a new resident (house officer). At 2:00 AM, you receive a phone call about a patient you are covering who has diabetes. The patient has an elevated blood sugar of 375. You order 12 units of NovoLog (rapid-acting) insulin and ask the nurse to check the sugar again in one hour and call you back. One hour later, the sugar is 280, so you order another 10 units. By 4:00 AM, the patient's sugar is dangerously low at 45. You realize that NovoLog insulin takes two to three hours to reach peak effect. By rechecking the patient's glucose after only one hour and giving more insulin so quickly, you set the patient up for an episode of hypoglycemia.

Why is it important to communicate with the patient about this event?

- (A) Open sharing of this type of information is necessary if patients are to trust their caregivers.
- (B) Open communication is essential according to numerous professional codes of conduct.
- (C) Open sharing of this type of information eliminates the risk of a lawsuit.
- (D) A and B



Post-Assessment Review

Which of the following is true regarding communication about adverse events with patients?

- (A) Information openly communicated to patients about adverse events in their care cannot be used in court.
- (B) Open communication with patients can assuage caregivers' feelings of guilt.
- (C) Due to its complexity, communication with patients following adverse events is best done by lawyers.
- (D) All of the above

According to researchers, which of the following is a common reason why caregivers choose not to communicate when something bad happens?

- (A) They feel the harm is not their fault.
- (B) They lack empathy for patients and families.
- (C) They fear disapproval.
- (D) All of the above



Post-Assessment Review

Which of the following is a common fear clinicians experience after errors?

- (A) Fear of job loss
- (B) Fear of anger from the patient and/or authority figures
- (C) Fear of negative publicity
- (D) All of the above

According to a survey in The Lancet, when patients and families pursue lawsuits against their providers, which of the following is one of the things they want most?

- (A) Publicity
- (B) Increased public reporting of errors
- (C) Tougher laws
- (D) An explanation



Lesson 2: Communication, Apology, and Resolution



Importance of Communication

- In response to an adverse event, open communication:
 - Facilitates honesty and trust
 - Reduces malpractice claims
- *“Patients taking legal action want greater honesty, an appreciation of the severity of the trauma they have suffered, and assurances that lessons have been learnt from their experiences.”*



When to communicate

**Communication
is necessary
when...**

an adverse event causes harm or significant intervention is required to prevent harm.

**It may make
sense to defer
communication
when...**

the care team feels that, for medical reasons, it's not in the patient's best interest to know about an adverse event immediately. (In this case, it may make sense to communicate initially with just the family or a proxy representing the patient.)

**Communication
is usually NOT
necessary
when...**

there is a near miss that does not harm the patient. (Consider: How would you feel on an airplane if the pilot shared every small error the flight crew made?)



Apologizing to Patients

1. Acknowledgement
2. Explanation
3. Expression of remorse, shame, humility
4. Reparation



Post-Assessment Review

Janice is a nurse on the orthopedics unit. This night, she is caring for five patients, as well as a new admission from the emergency department. While juggling patient care, she calls the on-call resident (house officer) about Mrs. Bernardo, who is in significant pain from a fractured hip. Janice hastily writes down the morphine order from the resident and is then called away when another patient falls out of bed. An hour later, she realizes, to her dismay, that she has not yet given Mrs. Bernardo her pain medication. When she rushes into the room, the patient is crying and asking, "Why won't someone help me?" Janice quickly administers the morphine.

When discussing the event with Mrs. Bernardo, the most appropriate initial comment would be:

- (A) "How is your pain?"
- (B) "Although it took an hour to get the pain medication, we remain committed to making sure you receive excellent care."
- (C) "I apologize for the delay in your morphine."
- (D) "Pain medication can be very tricky, so we are always careful not to give too much, too quickly. Sometimes that means that it takes a while to get your pain under control."

Why is it important for Janice to apologize to Mrs. Bernardo for the delay in her pain medication?

- (A) It is not necessary to apologize in this case.
- (B) An apology is needed to maintain provider-patient trust.
- (C) All institutions require an apology.
- (D) An apology will prevent the patient relations department from becoming involved.



Post-Assessment Review

"Mrs. Bernardo, there was a delay in you receiving your pain medication that should not have happened. I am very sorry that you had unnecessary pain. The doctor gave me the order to give you a dose of morphine. However, I was caring for another patient who had fallen, and I got distracted and did not give you the medication as quickly as I should have. Again, I just want you to know how sorry I am that this happened."

Which one of Aaron Lazare's four components of an apology is missing in Janice's apology?

- (A) Acknowledgment
- (B) Explanation
- (C) Expression of remorse or shame
- (D) Reparation

When giving an explanation for why an adverse event happened, it can sometimes be a good idea to:

- (A) Give whatever explanation you have at the time, even if some of the information is speculative.
- (B) Explain how the patient could have helped prevent the error.
- (C) Say something like, "There is just no excuse for what happened."
- (D) All of the above



Post-Assessment Review

"Mrs. Bernardo, there was a delay in you receiving your pain medication that should not have happened. I am very sorry that you had unnecessary pain. In the future, someone will check up on you more frequently overnight. Again, I just want you to know how sorry I am that this happened."

Which one of Aaron Lazare's four components of an apology is missing in Janice's apology?

- (A) Acknowledgment
- (B) Explanation
- (C) Expression of remorse or shame
- (D) Reparation

When giving an explanation for why an event happened, it is always important to:

- (A) Be factual.
- (B) Have documents to back up your explanation.
- (C) Go over the explanation with a risk manager prior to your discussion with the patient.
- (D) All of the above



Lesson 3: The Impact of Adverse Events on Caregivers: The Second Victim



Caregivers are Second Victims

- Story of Kim Hiatt



“Virtually every practitioner knows the sickening realization of making a bad mistake. You feel singled out and exposed — seized by the instinct to see if anyone has noticed. You agonize about what to do, whether to tell anyone, what to say. Later, the event replays itself over and over in your mind. You question your competence but fear being discovered.”



Attribution Error & Unfair Blame

- Fundamental attribution error
- When a caregiver accidentally harms a patient, people may attribute this to the caregiver's
 - Personality e.g., “She’s arrogant.”
 - Motive e.g., “He wanted to get out of work ASAP”
 - Enduring trait e.g., “She’s always in a hurry.”



What Caregivers Need

The type of support they typically ask for includes:

- early identification of suffering
- ongoing emotional support from peers
- gossip control
- the opportunity to be part of improvement efforts related to the event.



Seeking Support

- Caregivers often can't or don't take advantage of support services
- Caregivers should accept they are also harmed and may need help addressing their pain



Post-Assessment Review

When an adverse event befalls a patient, who are the "second victims" according to Dr. Albert Wu?

- (A) The patient's family
- (B) The caregivers involved in the error
- (C) The risk managers who become involved in the error
- (D) Other patients who might experience the same error in the future

As the Health Unit Coordinator (HUC), it is your job to enter orders from providers into the computer system. Direct provider order entry is planned for your hospital next year when the electronic health record is implemented. You check charts every couple of hours for new orders, unless the providers "flag" the chart by turning a dial on its side to red — in which case, you check the chart right away. On a particularly busy day, you see a chart tucked in a corner and realize that you have not looked at it in at least six hours. Worse, you check the order dial and see that it's partly red. On the order sheet are orders for "STAT" pain medications and antibiotics for a new patient. You quickly input the orders, your heart pounding. Three hours later, the patient is transferred to the intensive care unit with worsening sepsis (infection).

When your supervisor informs you about what happened, you go numb thinking about those six hours and the cost to the patient. What should ideally happen?

- (A) She should speak calmly with you about what happened and how you're feeling about it.
- (B) She should remind you that these errors happen to everyone and they're no big deal.
- (C) She should encourage you to stay busy at work, to help you move past the incident.
- (D) She should suspend you immediately, so that you have a couple of weeks to process what happened and learn from your mistake



Post-Assessment Review

Why is it important for the organization to offer you help and support at this time?

- (A) The organization is legally obligated to do so.
- (B) Offering support helps prevent depression or decreased job satisfaction.
- (C) Offering support decreases the institution's legal risk following the error.
- (D) Offering support decreases the risk of future errors.

Based on what you know about the incident, which of the following statements seems to be a fundamental attribution error?

- (A) "Someone almost died because things were so busy yesterday."
- (B) "The HUC almost killed someone yesterday because she doesn't pay enough attention."
- (C) "The electronic health record can't come soon enough — the current system almost killed someone yesterday."
- (D) "I can't believe what an awful situation the HUC ended up in yesterday; someone almost died."

Which of the following is a support mechanism that might be available to caregivers after traumatic events?

- (A) Care coordination
- (B) The Employee Assistance Program
- (C) Ombudsmen
- (D) The patient relations department



Post-Assessment Review

Rumors quickly spread on your unit. The next day you overhear a nurse telling another nurse, "The HUC almost killed someone yesterday with her carelessness." What does this comment exemplify?

- (A) Natural concern for patient care on the unit
- (B) James Reason's approach to human error
- (C) Unified theory of safety
- (D) Fundamental attribution error

According to a study by Scott and colleagues, what is a common type of support caregivers ask for after adverse events?

- (A) Change of jobs
- (B) Extended leaves
- (C) Early identification of suffering
- (D) A and B



PS 105 Responding to Adverse Events

A step-by-step approach to adverse events

1. Care for the patient
2. Communicate with the patient
3. Report to appropriate people and groups
4. Document in medical record



Communication, Apology and Resolution

- It is a fundamental ethical requirement that a physician should deal honestly and openly with patients after an adverse event
- When sharing bad news, it's often important to
 - Use open and direct communication
 - speak clearly, slowly, and directly.
 - Pause often to allow the listeners to collect their thoughts.
- When structuring an apology
 1. Acknowledgement
 2. Explanation
 3. Expression of remorse, shame and humility
 4. Reparation
- Often, the apology should be a joint effort; for example, the person who made the error and an attending physician could meet with the patient together



The second victim

- The long-term effects of an adverse event can be devastating for the caregiver, who are often the “**second victim**” in health care and often feel a multitude of negative emotions
- Caregivers involved in adverse events should accept that they are also harmed by the event and may need help and support to address their pain.
- Support for caregivers include
 - early identification of suffering
 - Ongoing emotional support from peers
 - Gossip control
 - the opportunity to be part of improvement efforts related to the event



Leadership 101

Introduction to Health Care Leadership

Objectives

1. Describe several characteristics of leaders, who may or may not have formal positions of authority.
2. Describe different techniques for persuading different types of people.
3. Explain why achieving a workable level of unity among teammates is essential for effective team functioning.
4. List several ways to help sustain your health care leadership journey over time.



Lesson 1: What Makes a Leader



L101: Intro to Health Care Leadership

What makes a leader?

- Leadership is an attitude that leads to action, not a position of authority
- To practice leadership is to take action when problems arise
 - Take initiative
 - Investigate the situation
 - Make connections with allies
 - Identify solutions
 - Take actions





Post-Assessment Review

1. Which of the following descriptions best describes "leadership"?
 - a) A firm, unyielding position on what should be done to solve a problem
 - b) A set of beliefs based upon principle
 - c) A positive, "let's do something about it" attitude toward problems
 - d) A posture of resistance to those in authority

2. Reggie is a new pharmacist in a surgical intensive care unit. He notices that it is taking an average of three hours from the time an order is placed until a patient receives an antibiotic (the goal is one hour). What might Reggie do if he were to act like a leader?
 - a) Look into the cause of the problem and research how other ICUs have solved it.
 - b) Tell his supervisor about the data.
 - c) Transfer to a different ICU that has improved outcomes.
 - d) Make sure that patients during his shift get antibiotics faster by paying close attention to orders.



3) Reggie takes a look at the time between antibiotic order and administration in the other ICUs in his hospital. He discovers that most of the ICUs have the same problem. This is an example of which of the following actions of leaders discussed in this lesson?

- a) Reframing the issue
- b) Connecting to a powerful ally
- c) Forming a clearer picture of the problem
- d) Proving his case

4) When effective leaders hear others complaining about a problem, which action would they most likely take?

- a) Change the subject to talk about something interesting.
- b) Try to learn how big the problem really is.
- c) Add their own complaints to the chorus.
- d) All of the above

5) Your hospital has recently begun using the World Health Organization (WHO) Surgical Safety Checklist in all of its operating rooms. As chief of surgery, you have been hearing different reports about the use of the checklist; apparently, some surgeons are all for it, while others remain skeptical. You are curious about finding out how well and often the checklist is actually being used. Which of the following might be a good first step to take?

- a) Request that an assistant be assigned to the administrative details, so that you can focus on the true work of leadership.
- b) Go to the operating rooms and observe the checklist being used a few times. Collect some data about the use of the checklist
- c) Talk to surgical nurses about their experience with the checklist.
- d) B and C

Lesson 2: Practical Skills for Leading Teams



Practical Skills for Leading Teams

- Team leader needs to navigate the differences in teams and make the most of what each person can offer
 - Assessment instruments to identify members' individual strengths and preferences
 - Find the right approach to motivate others by using persuasion strategies



Persuasion Strategies

- Different strategies appeal to different types of people based on
 - Logic
 - Power - get endorsed by higher authorities
 - Emotions



Workable level of unity

- good leaders know that their followers include a spectrum of personalities and viewpoints,
- find a way to achieve a “**workable level of unity**” - When a group is willing to try an action together, even if there isn't complete agreement on what to do
 - Assign clear roles.
 - Set some ground rules — establish the operating concepts of how you're going to work together at the start of the collaboration.
 - Treat teammates with respect.
 -





Post-Assessment Review

1. Which of the following best describes a workable level of unity?
 - a) When everyone on a team is unanimously in favor of a proposal
 - b) When a team is unable to reach a consensus and cannot move forward.
 - c) When a group is willing to try an action together, even if there isn't complete agreement on what to do
 - d) When an authority figure makes a rule that everyone must follow

2. You are working on decreasing adverse events related to medication errors, a serious problem on your pediatrics unit. After gathering some data, you present it to your colleagues on the unit. The result is several days of heated discussion among various caregivers. As a leader, at this point you should:
 - a) Meet with the hospital's chief executive and ask her to mandate the changes you have in mind.
 - b) Work to engage as many individuals on the unit as possible, investigating the source of their worries and responding to their concerns.
 - c) Recognize the level of anxiety this topic has provoked and back off for a while to allow people to digest the information.
 - d) Consider trying out your ideas on another unit to avoid causing more anxiety on this one.



3. You and a fellow medical student have learned that in many countries, doctors avoid wearing long-sleeved coats at work because the coats can carry harmful bacteria such as methicillin-resistant *Staphylococcus aureus* (MRSA). You and your friend would love to see providers in the US stop wearing the coats. A conference of hospital and clinic leaders is coming up. How might you pique their interest in this issue of wearing long-sleeved coats?

- a) Tell them the story of one patient who became sick with a health care-acquired infection.
- b) Tell them how much money could be saved if long-sleeved coats were banned.
- c) Show them data about how American MRSA rates compare with those of other countries.
- d) All of the above

4. You are working to improve the care of diabetics in your community health clinic, and today you're giving a presentation to the clinic's leadership. You begin by telling the story of Kevin, a diabetic in the clinic who underwent a below-the-knee amputation after years of poorly controlled diabetes. What is the reason for telling this story?

- a) Motivate by guilt.
- b) Engage the largest possible number of people in the room.
- c) Demonstrate that the data that you collected is valid.
- d) Expose a possible legal liability.
- b) Engage the largest possible number of people in the room.



5. In order to persuade the "logical" individuals in the room, what should you be sure to include in your presentation about improving care for patients with diabetes?

- a) Average blood pressure and cholesterol levels (quality of care measures) of the clinic's patients with diabetes
- b) A photograph of a patient who suffered unnecessarily from poorly controlled diabetes
- c) A list of the providers in the clinic with the worst patient satisfaction measures
- d) A reminder of the Board of Trustees' stated goal of improving chronic disease care

Lesson 3: Practical Skills for Leading Teams



Sustaining Leadership Journey

- several ways to help sustain your health care leadership journey over time
 - Consult personal compass
 - Build a supportive personal network
 - Seek opportunities for inspiration in healthcare improvement leadership
 - Publications
 - Online networks
 - Organizations dedicated to improvement
 - Professional conferences





Post-Assessment Review

1. What can quality improvement teams learn from Renoir, Monet, and Cezanne?
 - a) Improvement, like artistic work, should be a solo journey.
 - b) Your personal compass always points the way.
 - c) Teamwork can lead to creative ideas.
 - d) All of the above

2. In the lesson, IHI fellow Jana Deen explained that she went back to her roots and focused on patients to start making changes in health care. What other resources might be helpful as you seek to improve health care?
 - a) Social networking sites like Facebook and Twitter
 - b) National conferences
 - c) Listservs
 - d) All of the above



3. Michael Pugh talks about the distinction between management and leadership. Which of the following is most indicative of leadership?

- a) Commanding people
- b) Hiring people
- c) Influencing people
- d) Problem solving

4. You gather some data about the use of a surgical checklist in your operating rooms and have an idea for an improvement. At the next month's meeting, you present the idea to your colleagues. The most likely outcomes will include:

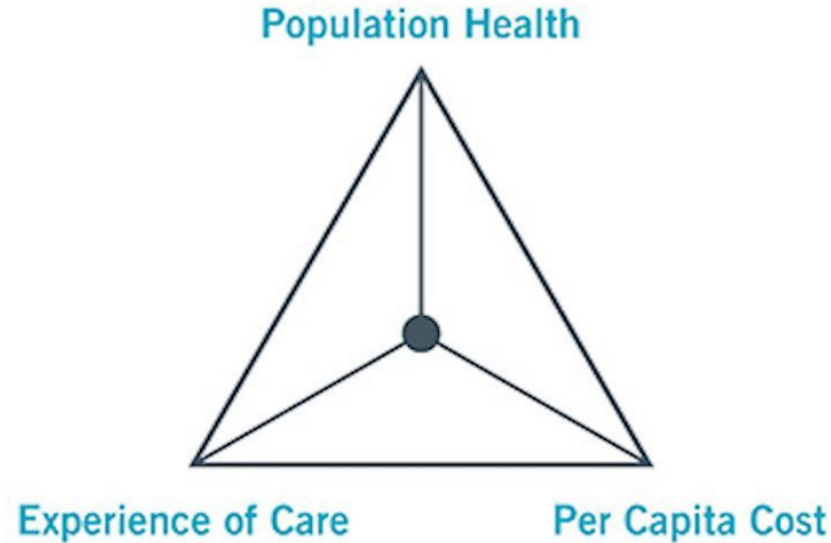
- a) Everyone on the team will be immediately inspired by the data to make a change.
- b) The initial opinions of each member of the team will be firmly embedded, and nothing you can do will change them.
- c) People will have different reactions; some will support you, others will initially resist you.
- d) People will naturally reject the validity of the data.

According to Peter Drucker, which of the following statements is true?

- a) An effective leader knows that a leader is not someone who is loved or admired.
- b) An effective leader knows that leaders are highly visible.
- c) Effective leaders submit themselves to the "mirror test."
- d) All of the above

TA 101: Introduction to the Triple Aim for Populations

The IHI Triple Aim



Overall Objectives

1. Describe the three components of the IHI Triple Aim for populations.
2. Explain the responsibilities of clinicians and health care systems in optimizing population-level outcomes with available resources.
3. Understand medical care as one determinant of the overall health of a population, and the relationship of healthcare quality and safety to population health.
4. Provide examples of population-level interventions designed to improve overall health and reduce costs of care.



Lesson 1: Improving Population Health

Lesson Objectives

1. Define population health and its relationship to health care.
2. Explain why the Triple Aim is defining health care improvement efforts around the world.
3. Explain the major contributors to population health.



What is health and population health?

World Health Organization (WHO) defines **health**: *"A state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity."*

Dr. David Kindig and Greg Stoddart defined **population health** as *"the health outcomes of a group of individuals, including the distribution of such outcomes within the group."*



Determinants of Health

Four main factors determine population health

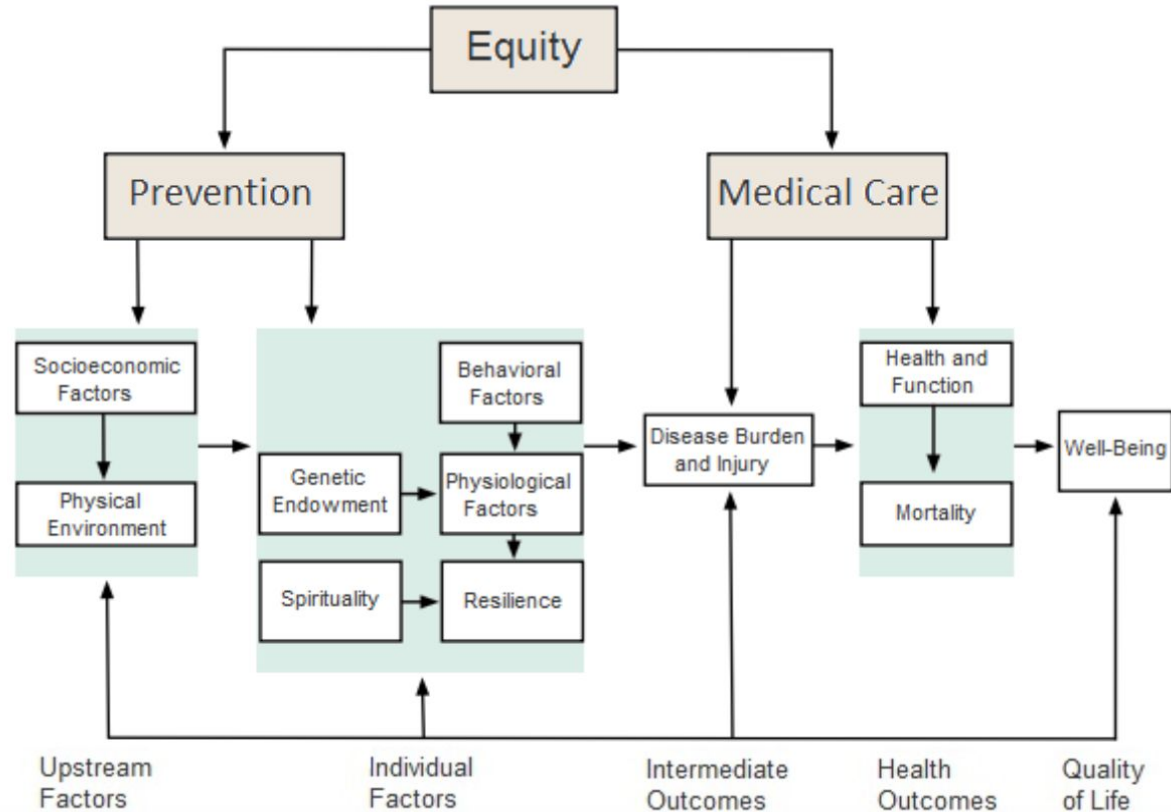
- Social and economic factors — 40%
- Environmental factors — 10%
- Health behaviors — 30%
- Clinical care — 20%

Upstream factors (i.e. SE status & environmental factors) influence individual factors e.g., genetic endowment, behavioral factors, physiological factors, spirituality, resilience



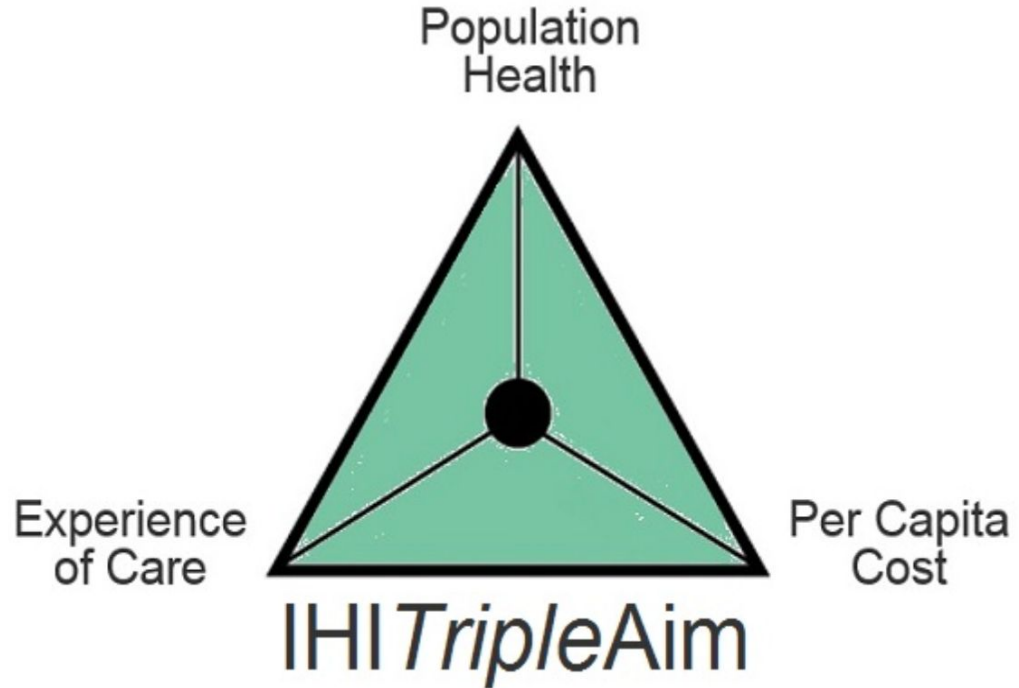


A Model of Population Health



Three Dimensions of IHI's Triple Aim

- Improving the health of populations
- Improving the individual experience of care
- Reducing the per capita cost of care



Post-Assessment Review

1. From the viewpoint of the World Health Organization, "health" is defined as:
 - (A) The absence of disease or infirmity
 - (B) Freedom from mental illness
 - (C) Physical, mental, and social well-being
 - (D) The number of hospital admissions per year

2. Which of the following is the best definition of the term "population health"?
 - (A) Any group of individuals for whom consideration of health or health care at the level of the group is likely to advance health
 - (B) A state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity
 - (C) The health outcomes of a group of individuals, including the distribution of such outcomes within the group
 - (D) A group of citizens in a specific geographic area that lives a "healthy" life

3. You are seeing a patient for the first time. She is a 45-year-old woman who self-identifies as being of Latina ethnicity, and has a strong family history of breast cancer. She is here for her first annual check-up. The "populations" of which she is a member include:
 - (A) The population of the town in which she lives
 - (B) Women with a family history of breast cancer
 - (C) Women of Latina ethnicity
 - (D) All of the above



-
4. According to published estimates, why do you suspect the impact of healthcare on premature deaths in the US relatively small compared to other factors?
- (A) Studies show that only about 10 percent of patients don't follow medical advice.
 - (B) The authors looked only at health care in developed countries in North America and Europe.
 - (C) A variety of other factors — including behavioral patterns and genetic disposition — account for a great proportion of premature deaths.
 - (D) All of the above
5. Which of the following is one of the three simultaneous goals of the IHI Triple Aim?
- (A) Reduce the number of diabetes cases worldwide.
 - (B) Improve the health of the population.
 - (C) Transfer the costs of care to individual patients.
 - (D) Increase the number of primary care physicians in the United States.



Lesson 2: Providing Better Care

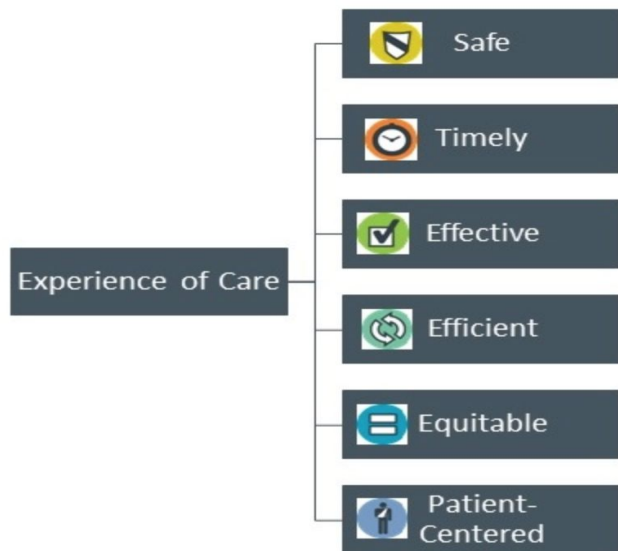
Lesson Objectives

1. Explain why health care influences only a small percentage of premature deaths.
2. Discuss the continuum from providing health care to individuals to providing health care to a population.



Quality of Care

Six dimensions of high-quality health care that could be achieved by focusing on notable gaps

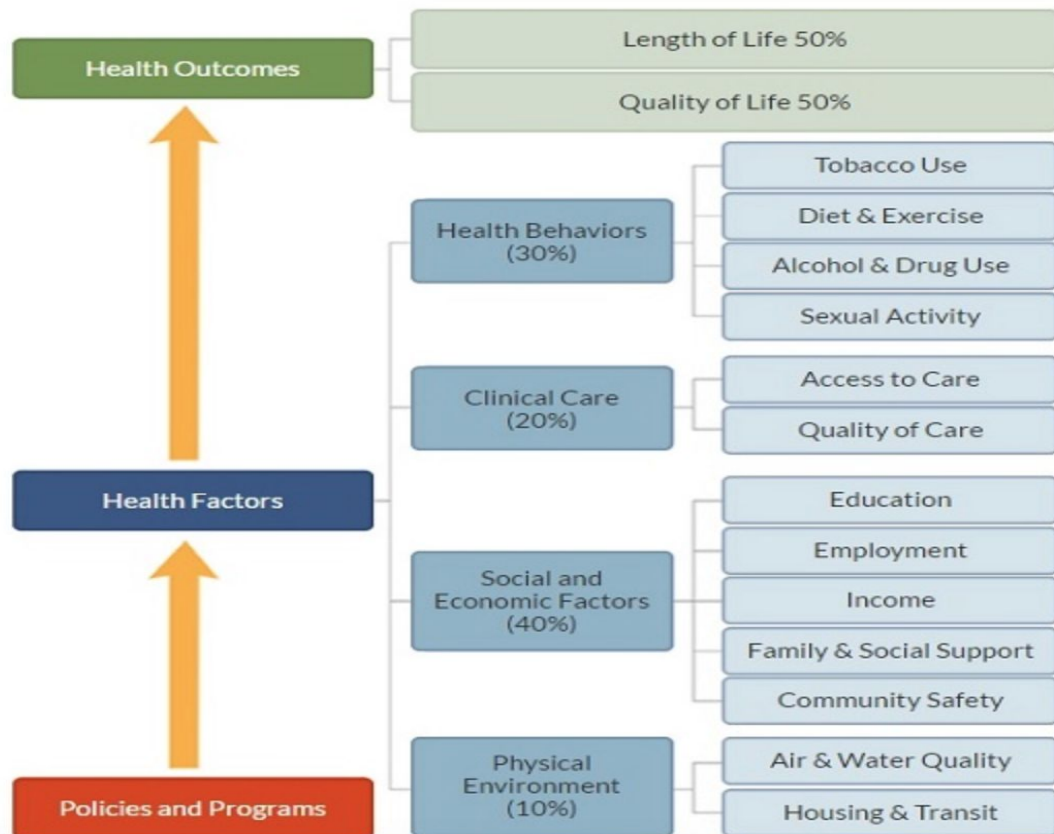


IHI looks at two measures for evaluating improvement in experiences of care, toward achievement of the Triple Aim:

- The perspective of the individual as he or she interacts with the health care system (i.e., patient experience surveys)
- The perspective of the health care system focused on designing a high-quality experience for patients (i.e., as defined by the IOM's six aims for improvement)

The IOM has defined six aims for improvement. These are fully defined and explained in [QI 101: Introduction to Health Care Improvement](#).

The Role of Healthcare: Big Picture



Credit: "County Health Rankings Model" by UWPHI, 2014. Used with permission. All rights reserved.

Post-Assessment Review

1. You are a clinician at a small, rural hospital. A mother brings her overweight 10-year-old son into the office for a routine check-up. Which of the following questions might you ask to gain insight into a potential population-level improvement?
 - (A) "How available are fresh fruits and vegetables in the markets within your community?"
 - (B) "Are there vending machines with sugar-sweetened beverages in your school?"
 - (C) "What are the most easily available sources of information regarding nutrition and physical activity?"
 - (D) All of the above

2. What is the identified role of health care in the population health model developed by David Kindig and others at the University of Wisconsin?
 - (A) The primary determinant of the health of a population
 - (B) The primary determinant of health disparities
 - (C) One of several determinants of population health
 - (D) A major pathway for government intervention to improve health



-
3. You work as a physician at a practice that cares for hundreds of patients with Type 2 diabetes. You think you are doing a good job, but have no way to objectively know. Which of the following might be useful ways to use data from an electronic health record to measure and improve the care your practice provides?
- (A) Identify the patients with Type 2 diabetes in your practice.
 - (B) Determine the average (and range) of hemoglobin A1c values (a lab test that measures diabetes control over time).
 - (C) Compare the average hemoglobin A1c values to those of other practices and work collaboratively to identify best practices.
 - (D) All of the above
4. Which of the following is an example of shared decision making?
- (A) A nurse sternly telling a patient that she needs to do a better job of treating her diabetes.
 - (B) A nurse and physician meeting together to discuss a patient's diagnosis.
 - (C) A team of health care professionals reviewing the details of a case.
 - (D) A diabetic patient and her physician discussing the best options to help her get more exercise more consistently.
5. Which of the following behaviors is best addressed through population-health level intervention and counseling?
- (A) Smoking
 - (B) Physical inactivity and poor diet
 - (C) Motor vehicle accidents
 - (D) All of the above



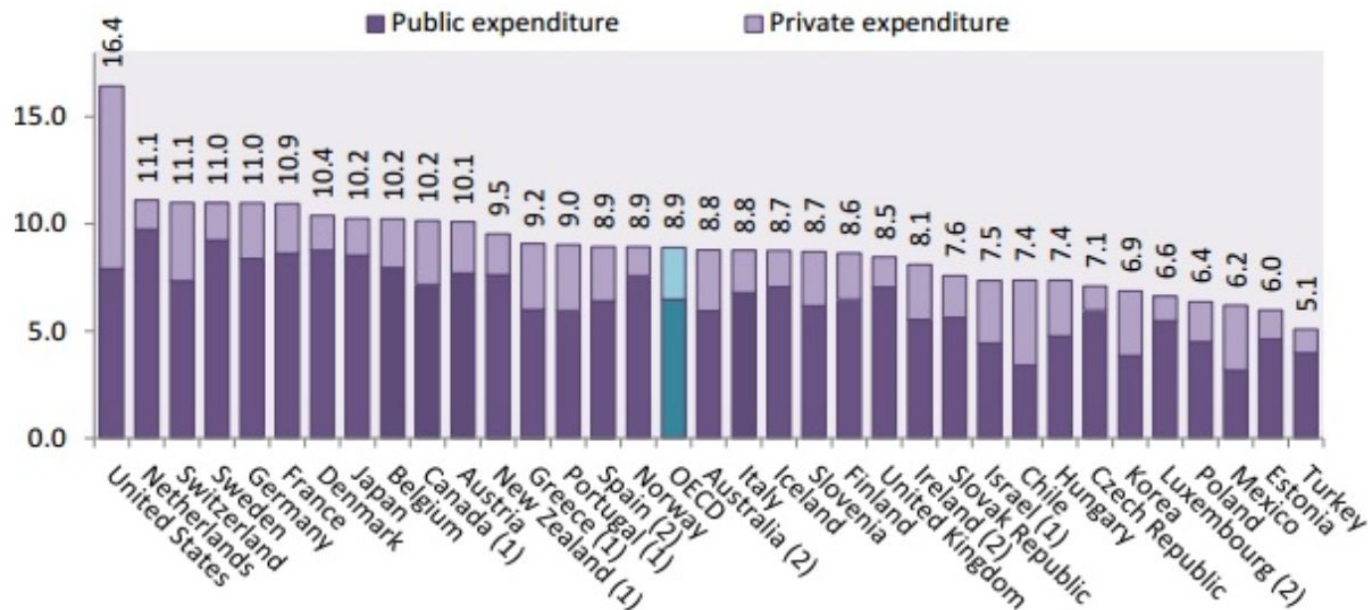
Lesson 3: Lowering Costs of Care

Lesson Objectives

- 1. Distinguish between cost and value in health care.**
- 2. Discuss the potential for the IHI Triple Aim to improve health while reducing costs of healthcare.**
- 3. Describe the ethical case for resource stewardship in health care.**



The Rising Cost of Healthcare



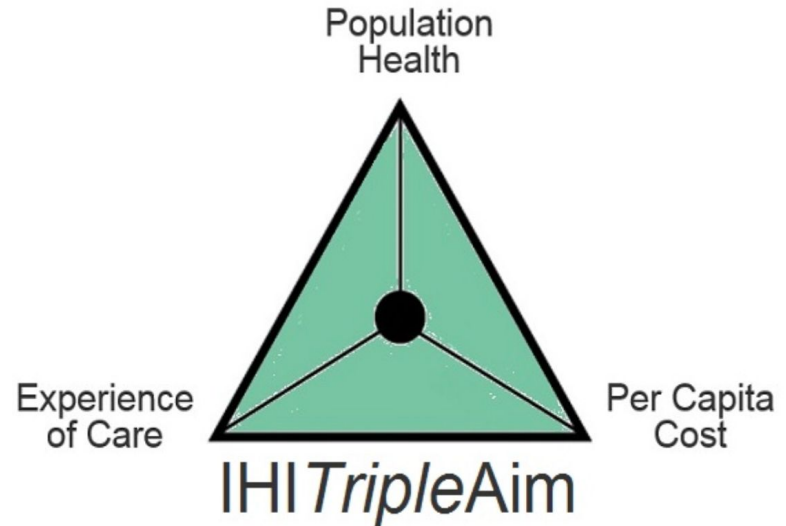
1 Preliminary estimate.

2 Data refer to 2012.

Credit: "Health spending (excluding investment) as a share of GDP, OECD countries, 2013" by OECD Health Statistics © 2015

Lowering Costs by Increasing Value

- **Value** = quality/ cost
- **High-value care**: highest quality care at the lowest cost
- It's important to note that determining true cost or value in health care can be very difficult.



Community Resources and Population Management

Population management: the shift in focus from care provided and paid for at an individual level to managing and paying for health care for defined groups (i.e., populations)

Health care organizations should move from "**contribution to accountability**":

- Step 1: Doing good things for the community
- Step 2: Intentionally addressing social determinants of health and measuring the impact of interventions
- Step 3: Recognizing that institutions must be accountable for all impacts on community health, and leveraging assets to ensure the well-being of the community in which they are based



Resource Stewardship and The Triple Aim

- **Resource stewardship:** the appropriate allocation of resources
- Identifying health problems and solutions further "upstream," outside of acute medical care, prevents avoidable demand on the health system.



Post-Assessment Review

1. How does the Triple Aim strive to lower health care costs?
 - (A) By reducing the services and interventions available.
 - (B) By empowering providers to make decisions for their patients.
 - (C) By reducing waste in health care and increasing the value of care.
 - (D) All of the above

2. Which of the following is an example of wasteful spending in health care?
 - (A) Preventative medicine
 - (B) Avoidable emergency room visits
 - (C) Expensive medications.
 - (D) All of the above

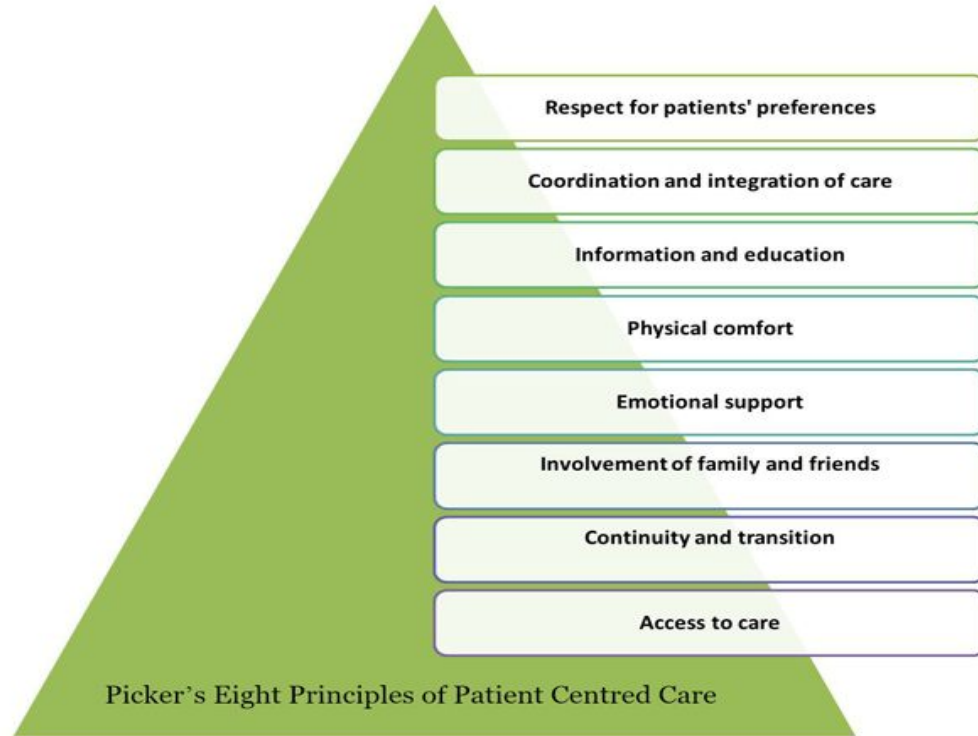
3. A 2015 article from the Democracy Collaborative described how health care organizations to move from "contribution to accountability." Which of the following is the first step?
 - (A) Intentionally addressing social determinants of health and measuring the impact of interventions.
 - (B) Doing good things for the community.
 - (C) Recognizing that institutions must be accountable for all impacts on community health, and leveraging assets to ensure the well-being of the community in which they are based.
 - (D) None of the above



-
4. Improving clinical care within the framework of the Triple Aim requires health professionals to work across disciplines and across communities. Which of the following people can help providers identify community resources?
- (A) Other providers
 - (B) Patients
 - (C) Community members
 - (D) All of the above
5. Resource stewardship refers to:
- (A) Rationing care
 - (B) The appropriate allocation of resources
 - (C) Eliminating direct costs to patients
 - (D) None of the above



PFC 101: Introduction to Patient-Centered Care



Overall Objectives

1. Describe the partnership model of patient-provider relationships.
2. Explain why the partnership model can improve health.
3. Discuss how social conditions, faith, culture, and trust affect the patient-provider relationship.
4. Identify at least four skills to improve clinical interactions with patients.



Lesson 1: Patient-Provider Partnerships for Health

Lesson Objectives

1. Describe the traditional model of patient-provider relationships.
2. List at least two reasons why the traditional model is unsuitable for promoting health in many health care situations.
3. Describe the partnership model of patient-provider relationships.



Models of the Patient-Provider Relationship

- Paternalistic model
- Informative model
- Interpretive and deliberative models



The Traditional Model

- Paternalistic model
- Used in emergency situations
- When the patient expressed the desire for the provider to play the role
- An ineffective model
 - Chronic conditions on the rise
 - Patients have a choice to take medical advice
 - Patients have assets to contribute to their own care
 - Social conditions place limits on what patients can do for their health



Patient-Provider Partnerships

- Four key concepts in patient-centered care:
 - Respect and dignity
 - Information sharing
 - Participation
 - Collaboration
- Features of the new partnership model
 - The new relationship reflects the fact that health is determined by more than health care.
 - Patients are not patients, but people who are active agents in their own health.
 - Health care professionals play the role of facilitators who help patients achieve their own health goals.



Shared Decision Making



Post-Assessment Review

1. Which of the following relationships best reflects the paternalistic model of the patient-provider relationship?
(A) Parent-child
(B) Teacher-student
(C) Commanding officer-soldier
(D) Hairstylist-client
2. Shared decision making, pioneered by Dr. Victor Montori of the Mayo Clinic, best reflects which of the four models of the patient-provider relationship?
(A) Paternalistic
(B) Informative
(C) Interpretive or deliberative
(D) None of the above
3. Which model of the patient-provider relationship is exhibited when the expert provider simply provides information to patients, who hold decision-making power?
(A) Paternalistic
(B) Informative
(C) Interpretive
(D) Deliberative



-
4. Which of the following is a reason why the paternalistic model is unsuitable for improving health outcomes?
- (A) Patients can choose whether or not to follow providers' medical advice.
 - (B) Chronic disease is on the rise, and management of chronic disease requires patients to change their behavior.
 - (C) Providers have more medical expertise than patients, so their decisions are more likely to promote health.
 - (D) A and B
5. Imagine you're a first-year resident enjoying a meal at a restaurant on your day off, and another customer starts choking. The customer's companion shouts, "Is there a doctor here?" in a panic. You rush over to assist the patient, who can't breathe. Which of the following patient-provider relationship would be most appropriate in this situation?
- (A) Interpretive
 - (B) Deliberative
 - (C) Informative
 - (D) Paternalistic



Lesson 2: Understanding Patients as People

Lesson Objectives

1. Discuss the influence of social conditions, faith and culture, and trust on patient-provider relationships.
2. Explain how implicit bias affects patient-provider interactions.
3. Describe how curiosity and humility can help providers understand patients' lives.



Asking Genuine Questions and Culture

- **Agency bias:** cognitive tendency to think of individuals' actions as the primary cause of an outcome
- **Cultural competence:** ability of systems to provide care to patients with diverse values, beliefs and behaviors, including tailoring delivery to meet patients' social, cultural, and linguistic needs.
- **Cultural humility:** an awareness of how much you don't know about a person's culture, and a curiosity about learning more from patients as individuals rather than as representatives of a cultural group.



Trust in Healthcare Institutions and Providers



Implicit Bias and Building Health Equity

- Implicit bias
 - Even people who are committed to social and health equity are susceptible to implicit bias
 - A normal psychological response
- Three ways to reframe how we relate to our patients
 - Reach across barriers to build trusting relationships
 - Address the social determinants of health as well as the clinical determinants of health.
 - A partnership approach is critical in honoring and promoting the agency of underserved patients



Providers and their Role

- To better understand patients' backgrounds and our own, we can ask ourselves: What do providers look like to patients?
- Addressing barriers
 - Pause to notice implicit bias
 - Empathize by seeking to understand without judgment
 - Practice humility by acknowledging what you don't know



Post-Assessment Review

1. Imagine you're a health care provider. A patient presents with a lump in her breast that she first noticed two years ago. When you ask about her medical history, she tells you that she has never seen a health care provider to examine the lump before. What would be the best thing for the provider to do in response to this information?
 - A) Say, "Why did you wait so long to come in? Breast cancer is more curable when it is diagnosed earlier."
 - B) Say, "I'm so glad you came to see me today. Can you help me understand why you weren't able to come in before?"
 - C) The provider shouldn't ask about her delay in seeking care because it's not relevant to the current conversation.
 - D) The provider shouldn't ask about her delay in seeking care because it may come off as judgmental.

2. Which of the following is the description of the term "non-compliance" that best reflects patient-provider partnerships?
 - A) Non-compliance describes patient behavior that doesn't align with the plan of care, for example, not taking medicines as prescribed.
 - B) Non-compliance is a term that comes from the paternalistic model of care, where provider's role is to decide on the plan of care and the patient's role is to follow it.
 - C) When patients don't follow a plan of care, it may be a sign that the health care system is "non-compliant" in meeting patients' needs or goals.
 - D) B and C

3. Which of the following is the main reason why minority patients receive lower quality care and less intensive care than white patients in the US?
 - A) Studies show approximately 45% of providers hold overtly racist beliefs and purposefully mistreat minority patients.
 - B) Providers who grow up in societies with negative stereotypes about minority groups may have implicit biases that negatively affect care for those groups.
 - C) Minority patients are actually treated equally in the health care



-
4. Why do some patients from underserved minority groups sometimes mistrust health care institutions and health care providers?
- A) Health care providers have betrayed the trust of patients before, such as in the Tuskegee syphilis study.
 - B) Underserved patients often have religious beliefs that teach them that health care providers are untrustworthy.
 - C) Patients may feel that health care systems that are difficult to understand and access do not want to provide them services.
 - D) A and C
5. Why is it important for providers to understand how patients may perceive them, including their race, class, gender, age, and educational status?
- A) It's important that providers not mistakenly think that social characteristics influence patients' lives but not their own.
 - B) By understanding what assumptions others may make about them, providers may recognize that stereotypes based on social categories may not be accurate.
 - C) Understanding how others perceive them can help providers recognize the need to get to know patients as individuals, rather than only through social characteristics.
 - D) All of the above



Lesson 3: Skills for Patient-Provider Partnerships

Lesson Objectives

1. Define the four components of empathy.
2. Discuss the difference between asking patients, “What’s the matter?” and “What matters to you?”
3. Describe Ask-Tell-Ask and Teach Back methods of effective communication.



Empathy as a Skill

- **Empathy:** ability to understand and share the feelings of another person — and to communicate the understanding back to that person.
- Four components of empathy are:
 - Seeing the world as another person sees it
 - Understanding another person's feelings in the moment
 - Withholding judgment about the situation and the person's feelings
 - Communicating the understanding



Setting a Supportive Tone

- Providers can establish trusting partnerships with patients by:
 - Pay attention, show care and concern, and really listen.
 - Use your body language to convey collaboration.
 - Use the language that your patient uses, not medical terminology.
- If you work with patients, try one of these, depending on the context:
 - Is there anything you're worried or concerned about?
 - What should I know about you that's not in your medical chart?
 - (Before surgery) What do you want to be doing in six months that you can't do now?



Patients in Control of Information

- Health literacy: a person's ability to find and interpret the information they need to help them make health decisions.
- Ask-Tell-Ask
 - Ask for permission to share information
 - Tell your information
 - Ask what the patient thought or what they understood



Coaching Patients and Limitations to the Patient-Provider Relationship

- **Brief action planning** is a structured conversation that helps a person take a big goal and break it down into something they can actually do in the next week or two.
 - Step 1: Ask the person if he or she would like to make a plan for their health, with a question.
 - Step 2: Ask the person what she or he might do in the next week or two to change that behavior.
 - Step 3: Ask the person to repeat his or her plan back to you.
 - Step 4: Ask the person how confident she or he is about the plan.



Redesigning Care

- Patient access to medical notes
- Self-dialysis
- Shared medical appointments



Post-Assessment Review

1. A cardiac surgeon is informing a patient and his wife about the risks and benefits of a coronary bypass surgery to treat the man's acute heart disease. The surgeon wants to take a collaborative approach in which the patient ultimately decides about the treatment, with the support of the provider. Which of the following behaviors would undermine such a partnership?
 - A) The surgeon takes a seat when talking to the patient and his wife.
 - B) The surgeon asks, "What matters most to you about your health and your treatment?"
 - C) The surgeon describes the risks and benefits of the surgery, being careful not to share her opinion that the surgery is the best option for long-term heart health.
 - D) The surgeon recognizes the patient's emotion and reflects back the understanding with a comment like, "I understand that you're scared about the surgery."
2. A nurse is talking with a patient about the plan for her care after discharge from the hospital. He concludes by saying, "We've just reviewed a lot of information about what happens when you leave the hospital. Did you understand everything OK?" Did he effectively use Teach Back?
 - A) Yes, because he asked the patient to confirm understanding
 - B) No, because he didn't ask the patient to repeat back what she understood
 - C) No, because he placed the responsibility of communication on the patient instead of on himself
 - D) B and C
3. Which of the following is NOT a step in brief action planning?
 - A) Asking patients if they have any health goals they want to work on in the next week or two
 - B) Telling patients what they need to work on to achieve their health goals
 - C) Asking if patients want to hear ideas about how other people are working on their health goals
 - D) Asking the patients to assess their confidence level in completing their plan



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4. Maureen Bisognano, IHI Senior Fellow and President Emerita, has helped popularize the idea of asking patients, "What matters to you?" in addition to, "What's the matter?" This question helps providers do which of the following?
- A) Make a more accurate diagnosis
 - B) Record their patients' end-of-life care wishes
 - C) Understand patients' health goals and priorities
 - D) Decide on the best treatment option
5. You're a hospitalist in a large referral hospital, and you have just discharged a patient who suffered a stroke due to high blood pressure. You've used many strategies, such as Ask-Tell-Ask, shared decision making, and brief action planning with the patient. The patient's primary care doctor says he will follow up with the patient. Two weeks later, the patient is back in the hospital, and you find out the primary care doctor never followed up. What's the best thing to do next?
- A) Call the primary care doctor to learn more about the miscommunication and how to avoid it in the future. If necessary, conduct a quality improvement project to improve the referral process.
 - B) Avoid referring patients to the primary care doctor in the future.
 - C) Make a note in the patient's record that she was non-compliant in completing the follow-up care plan
 - D) A and B
6. Which of the following is one of the four components of empathy, as outlined by nurse scholar Theresa Wiseman?
- A) Judging someone's situation only after talking directly to them
 - B) Helping to solve someone's immediate problem, whether it be physical or emotional
 - C) Understanding another person's feelings in the moment
 - D) Sitting down when speaking with a patient



L101: Introduction to Health Care Leadership



Overall Objectives

1. Describe several characteristics of leaders, who may or may not have formal positions of authority.
2. Describe different techniques for persuading different types of people.
3. Explain why achieving a workable level of unity among teammates is essential for effective team functioning.
4. List several ways to help sustain your health care leadership journey over time.



Lesson 1: What Makes a Leader?

Lesson Objectives

1. Describe leadership as an action, not a formal position of authority.
2. Explain the importance of gathering objective data about a problem and seeking solutions.
3. Discuss the importance of engaging stakeholders at different levels of an organization's hierarchy to address systems problems.



Taking Initiative

"Leadership is an attitude, not a position." : Like good martial artists, leaders take a grounded stance that allows them to make use of the energy of others — even those who appear more powerful than they are.

Dr. Atul Gawande, an influential expert in health care improvement, has given this advice for would-be leaders: "Don't complain." According to Dr. Gawande, if you come across colleagues who are complaining about how bad something is, don't join in the chorus of complaints; after you're done complaining, nothing has gotten any better, and you wind up feeling even worse.

What do leaders do instead of complaining? They take action. Consider how you might respond to Maulik:

- Take initiative
- Make connections
- Identify solutions
- Take action



Using Data



Once leaders have gathered data, they use the power of that information to move forward. Note that they are not trying to get revenge, gain status, or advance their own agenda. They are trying to solve the problem.

Making Connections and Finding Solutions

Strong leaders do the following:

- Connect problems of the powerless to the strategic and business concerns of the powerful.
- Connect problems of the powerless to the hearts of those in power.
- Seek out powerful allies.



Taking Action

- An effective leader asks "*What needs to be done?*" rather than "*What do you want?*"
- An effective leader asks "*What can and should I do to make a difference?*"
- An effective leader constantly asks "*What are the organization's mission and goals?*"
- An effective leader knows that leadership is not rank, privileges, titles, or money.

All of these points are about taking responsibility for action — what we refer to as taking a "leadership stance" — regardless of one's position in an organizational hierarchy.

So leadership is, first and foremost, a stance. But there are also many things that effective leaders must *know*. To get measurable, credible results, leaders need to know:

- How to work with people with different backgrounds and beliefs
- How to organize a team
- How to deal with conflict among team members



Post-Assessment Review

1. Which of the following descriptions best describes "leadership"?
 - (A) A firm, unyielding position on what should be done to solve a problem
 - (B) A set of beliefs based upon principle
 - (C) A positive, "let's do something about it" attitude toward problems
 - (D) A posture of resistance to those in authority

2. Reggie is a new pharmacist in a surgical intensive care unit. He notices that it is taking an average of three hours from the time an order is placed until a patient receives an antibiotic (the goal is one hour). What might Reggie do if he were to act like a leader?
 - (A) Look into the cause of the problem and research how other ICUs have solved it.
 - (B) Tell his supervisor about the data.
 - (C) Transfer to a different ICU that has improved outcomes.
 - (D) Make sure that patients during his shift get antibiotics faster by paying close attention to orders.

3. Reggie takes a look at the time between antibiotic order and administration in the other ICUs in his hospital. He discovers that most of the ICUs have the same problem. This is an example of which of the following actions of leaders discussed in this lesson?
 - (A) Reframing the issue
 - (B) Connecting to a powerful ally
 - (C) Forming a clearer picture of the problem
 - (D) Proving his case



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4. When effective leaders hear others complaining about a problem, which action would they most likely take?
- (A) Change the subject to talk about something interesting.
 - (B) Try to learn how big the problem really is.
 - (C) Add their own complaints to the chorus.
 - (D) All of the above
5. Your hospital has recently begun using the World Health Organization (WHO) Surgical Safety Checklist in all of its operating rooms. As chief of surgery, you have been hearing different reports about the use of the checklist; apparently, some surgeons are all for it, while others remain skeptical. You are curious about finding out how well and often the checklist is actually being used. Which of the following might be a good first step to take?
- (A) Request that an assistant be assigned to the administrative details, so that you can focus on the true work of leadership.
 - (B) Go to the operating rooms and observe the checklist being used a few times. Collect some data about the use of the checklist
 - (C) Talk to surgical nurses about their experience with the checklist.
 - (D) B and C



Lesson 2: Practical Skills for Leading Teams

Lesson Objectives

1. Describe how different personality types can present a challenge to teamwork.
2. Describe several different kinds of approaches leaders use to persuade others to make changes.
3. Develop persuasive appeals to different types of people based on power, logic, and emotions.
4. Explain the concept of achieving a 'workable level of unity' and several tactics to help a team achieve this.



Teamwork and Differences

Three more things leaders know

- An effective leader knows that a leader is someone who has followers.
- Effective leaders are extremely tolerant of diversity and do not look for carbon copies of themselves.
- Effective leaders are not afraid of strength in their associates.

In any situation, highly effective teams comprise people from diverse backgrounds, races, ethnicities, political ideologies, skills, and opinions. As a team leader, you need to navigate these differences *and* make the most of what each person can offer.



Influencing Others

How will you persuade others to follow you? Let's look at three possibilities. Each option will appeal to different types of people:

- **Use logic.** Some people will be most moved by data, evidence, and carefully crafted logical reasoning. For the logical people in the room, you could collect data from your hospital and from other sources, e.g., infection control experts.
- **Get endorsed.** Some people will be looking for signs of support from those with power and authority — the Chief of Medicine, for instance. For the people who look to follow higher-level authority, connect the problem to those above you.
- **Appeal to emotions:** The majority of people tend to be influenced most powerfully not by logic or formal authority but by their hearts. Storytelling is a great way to engage the emotional side of people.



Achieving a Workable Level of Unity

Good leaders know that their followers include a spectrum of personalities and viewpoints, and they find a way to achieve a “**workable level of unity**” among them. They enable the group to move beyond dueling opinions and into action that serves the common good.



Clear Roles



Effective Team Management

Bob Pozen, Senior Lecturer at the MIT Sloan School of Management, describes six aspects of managing a team:

- Setting goals for the team
- Agreeing on success metrics
- Doing a mid-flight review
- Consulting with key people
- Tolerating good faith mistakes
- Celebrating team victories



Post-Assessment Review

1. Which of the following best describes a workable level of unity?
 - (A) When everyone on a team is unanimously in favor of a proposal
 - (B) When a team is unable to reach a consensus and cannot move forward.
 - (C) When a group is willing to try an action together, even if there isn't complete agreement on what to do
 - (D) When an authority figure makes a rule that everyone must follow

2. You are working on decreasing adverse events related to medication errors, a serious problem on your pediatrics unit. After gathering some data, you present it to your colleagues on the unit. The result is several days of heated discussion among various caregivers. As a leader, at this point you should:
 - A) Meet with the hospital's chief executive and ask her to mandate the changes you have in mind.
 - B) Work to engage as many individuals on the unit as possible, investigating the source of their worries and responding to their concerns.
 - C) Recognize the level of anxiety this topic has provoked and back off for a while to allow people to digest the information.
 - D) Consider trying out your ideas on another unit to avoid causing more anxiety on this one.

3. You and a fellow medical student have learned that in many countries, doctors avoid wearing long-sleeved coats at work because the coats can carry harmful bacteria such as methicillin-resistant *Staphylococcus aureus* (MRSA). You and your friend would love to see providers in the US stop wearing the coats. A conference of hospital and clinic leaders is coming up. How might you pique their interest in this issue of wearing long-sleeved coats?
 - A) Tell them the story of one patient who became sick with a health care-acquired infection.
 - B) Tell them how much money could be saved if long-sleeved coats were banned.
 - C) Show them data about how American MRSA rates compare with those of other countries.
 - D) All of the above



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4. You are working to improve the care of diabetics in your community health clinic, and today you're giving a presentation to the clinic's leadership. You begin by telling the story of Kevin, a diabetic in the clinic who underwent a below-the-knee amputation after years of poorly controlled diabetes. What is the reason for telling this story?
- A) Motivate by guilt.
 - B) Engage the largest possible number of people in the room.
 - C) Demonstrate that the data that you collected is valid.
 - D) Expose a possible legal liability.
5. In order to persuade the "logical" individuals in the room, what should you be sure to include in your presentation about improving care for patients with diabetes?
- A) Average blood pressure and cholesterol levels (quality of care measures) of the clinic's patients with diabetes
 - B) A photograph of a patient who suffered unnecessarily from poorly controlled diabetes
 - C) A list of the providers in the clinic with the worst patient satisfaction measures
 - D) A reminder of the Board of Trustees' stated goal of improving chronic disease care



Lesson 3: Strategies to Sustain Your Health Care Leadership Journey

Lesson Objectives

1. Explain why authentic curiosity is an essential leadership trait.
2. List several ways to expand your social network in health care.
3. Explain the importance of having support from peers and colleagues in health care.



Becoming a Leader in Health Care

Michael Pugh gave some general advice for launching a career in health care leadership:

- Seek out new knowledge and experience.
- Get to know the people around you, at all levels.
Become familiar with their processes and challenges.
- Learn and practice quality improvement skills



Jana's Journey



Jana Deen, RN, BSN, JD

Former IHI Fellow
Vice President, Patient Safety Officer
Center for Patient Safety and Clinical Transformation, Catholic Health Partners

Finding Allies

Along life's journey, we encounter a huge number of opportunities for friendship, mentoring, and coaching. It may sound like common sense, but it's important to build a supportive personal network. A favorite IHI saying is, "Never worry alone." That approach has been crucial to Jana's experience:



In his study of the group dynamics of collaborative circles, sociologist Michael Farrell described how some of the most creative work of artists, scientists, and professionals occurred in the setting of a circle of like-minded friends.

For example, French Impressionist giants such as Monet, Renoir, and Cezanne did not just make it on their own. Impressionism was a new style of painting that people questioned and dismissed. The group of friends relied tremendously on each other for support, reassurance, and honest critique — all of which helped propel their art to an entirely new level. The trust that came with these friendships provided a safe space for experimenting or challenging each other.



Finding Inspiration

As you focus on yourself, look to:

- **Publications in your field**
- **Online networks**
- **Organizations dedicated to improvement**
- **Professional conferences**



Conclusion

So far in this course, we've shared things leaders know according to management writer, consultant, and innovator Peter Drucker. Here are some remaining

- An effective leader knows that a leader is not someone who is loved or admired.
- An effective leader knows that leaders are highly visible.
- Effective leaders submit themselves to the "mirror test" (i.e., They make sure that the person they see in the mirror each day is the person they want to be, to respect, and believe in.)



Post-Assessment Review

1. What can quality improvement teams learn from Renoir, Monet, and Cezanne?
 - A) Improvement, like artistic work, should be a solo journey.
 - B) Your personal compass always points the way.
 - C) Teamwork can lead to creative ideas.
 - D) All of the above

2. In the lesson, IHI fellow Jana Deen explained that she went back to her roots and focused on patients to start making changes in health care. What other resources might be helpful as you seek to improve health care?
 - A) Social networking sites like Facebook and Twitter
 - B) National conferences
 - C) Listservs
 - D) All of the above

3. Michael Pugh talks about the distinction between management and leadership. Which of the following is most indicative of leadership?
 - A) Commanding people
 - B) Hiring people
 - C) Influencing people
 - D) Problem solving



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4. You gather some data about the use of a surgical checklist in your operating rooms and have an idea for an improvement. At the next month's meeting, you present the idea to your colleagues. The most likely outcomes will include:
- A) Everyone on the team will be immediately inspired by the data to make a change.
 - B) The initial opinions of each member of the team will be firmly embedded, and nothing you can do will change them.
 - C) People will have different reactions; some will support you, others will initially resist you.
 - D) People will naturally reject the validity of the data.
5. According to Peter Drucker, which of the following statements is true?
- A) An effective leader knows that a leader is not someone who is loved or admired.
 - B) An effective leader knows that leaders are highly visible.
 - C) Effective leaders submit themselves to the "mirror test."
 - D) All of the above

