

Assessment of Basic QI Competency

1. Two medications with similar packaging are placed next to each other in a medication drawer. A fatigued nurse picks up the wrong medication and notices it before administration. This is a “weak signal” that a problem exists. Which of the following is the best system-level response to that “weak signal”?

- a) Instructing nurses to be careful when taking medications from the drawer
- b) Arranging the drugs in alphabetical order
- c) Changing the scheduling of shifts to prevent excessive fatigue among caregivers
- d) A and B

2. You’re an administrator at a hospital in a fast-growing suburb. Your hospital has hired three new orthopedic surgeons, including a new chief. These new hires are likely to triple the number of knee replacements done in your hospital. Currently, this procedure is done infrequently, and each time it feels a bit chaotic. A few weeks after the new chief of orthopedic surgery comes on board, she has a moment of inspiration and sketches out a new, radically different way for patients to “flow” through the pre-operative, intra-operative, and post-operative phases. She sends you an email asking you to meet with her Monday morning to begin implementing it. In your email back to the chief, what is the best response?

- a) In designing a complex system, one always has to strike a balance between the competing needs for safety and efficiency.
- b) Designing a complex system requires input from professionals with a range of expertise.
- c) The new system is likely to work because a flowchart is an effective tool to visualize a complex process.
- d) All of the above

3. James is a first-year surgery resident on his first pediatric rotation. His attending physician (consultant) asks him to immediately start intravenous (IV) replacement fluids on a 2-year-old boy with vomiting and diarrhea. James has recently learned the guidelines for calculating fluid replacement rates for very small children; however, he confuses them and picks a rate that is too high. Which of the following reasons for medical error most clearly played a role in this scenario?

- a) Diagnosing and treating patients is incredibly complex and often performed under time pressure and/or with insufficient information.
- b) Providers may not be prepared to work as a well-integrated team, so multiple caregivers and patient handovers leave room for miscommunication at every turn.
- c) The science of medicine is filled with nuance and conflicting evidence, and what one health care organization feels is good practice, another may not.
- d) All of the above

4. Two women — one named Camilla Tyler, the other named Camilla Taylor — arrive at a busy emergency department at about the same time. Ms. Tyler needs a sedative, and Ms. Taylor needs an antibiotic. The doctor orders the medications but mixes up the patients when filling out the two order sheets. The pharmacist dispenses the medications as ordered, and the nurse administers an antibiotic to Ms. Tyler and a sedative to Ms. Taylor. What is one of the latent errors in this scenario?

- a) The emergency department is particularly busy.
- b) The forms are completed by hand at the same time for different patients.
- c) The two patients in this case have very similar names.
- d) A and C

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

- a) Devise strategies to work around inefficient processes.
- b) Never question your superiors.
- c) Always follow safety protocols.
- d) All of the above

6. Which of the following is the best advice when measuring for improvement?

- a) Always strive for perfection.
- b) Use quantitative and qualitative data.
- c) Set aside as much time as possible for data collection.
- d) All of the above

7. Which of the following indicates a non-random pattern on a run chart?

- a) A run of at least five data points on the same side of the median
- b) An astronomical data point
- c) At least four consecutive data points all increasing or decreasing
- d) All of the above

8. Which of the following statements about astronomical data points is true?

- a) They are useful for coming up with ideas for tests of change.
- b) During a test of change, an astronomical data point in a positive direction proves your change has led to improvement.
- c) Astronomical data points may be dramatically outside other data points or only slightly outside.
- d) None of the above

9. Which of the following traits do histograms, Pareto charts, and scatter plots have in common?

- a) They are all bar charts.
- b) They all show change over time.
- c) They are all visual tools to display data.
- d) All of the above

10. When drawing a histogram, what is a good number of categories to include on your X axis?

- a) 1–5
- b) 6–12
- c) 13–24
- d) >24

11. Which of the following is a reason why the paternalistic model of patient-provider relationships, in which providers instruct patients what to do without their input, 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 are most effective when they accommodate patients' health goals and constraints.
- d) All of the above

12. 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. As her provider, what is the best response?

- a) Avoid passing judgment or discussing the delay, because it's not relevant to the current conversation.
- b) Explain in sympathetic but clear terms why cancer is more curable when it's diagnosed earlier and a delay in treatment is problematic.
- c) Reassure the patient that many other people in her situation would be scared to seek treatment, too.
- d) Commend the patient for coming in today and ask why she wasn't able to come in before.

13. In regard to the term "non-compliance," which statement best reflects a partnership between patients and providers?

- a) "Non-compliance" describes patient behavior that doesn't align with the plan of care, for example, not taking medicines as prescribed.
- b) When patients don't follow a plan of care, it may be a sign that the health care system is not meeting the patients' needs or goals.
- c) When a patient is "non-compliant," it is best to assume that lack of information is the root cause.
- d) All of the above

14. According to a survey in *The Lancet*, when patients and families pursue lawsuits against their providers following a medical error, which of the following do they want most?

- a) Publicity for themselves
- b) Increased public reporting of medical errors
- c) Tougher laws
- d) An explanation of what happened

15. Which of the following is NOT a step in brief action planning, a technique to help patients achieve their health goals?

- 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) Offering to share ideas about how other people are working on their health goals
- d) Helping patients assess their confidence level in completing their plans

16. You are working to reduce adverse events related to medication errors, a serious problem on your pediatrics unit. After gathering some data, you present an idea for improvement 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) Work to engage as many individuals on the unit as possible, investigating the source of their worries and responding to their concerns.
- b) Recognize the anxiety this topic has provoked and back off for enough of time to allow people to digest the information.
- c) Recognize the anxiety this topic has provoked and take the same ideas to another unit that has a better culture for improvement.
- d) B and C

17. 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?

- 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

18. On a busy hospital ward, getting the morning doses of prescribed medicines to patients on time has been a chronic problem. For several months, the nurses on the day shift have been ordering extra doses of medicine in the afternoon, putting them in a drawer, and using them the next morning. As a new nurse on the unit, you understand the intention is good, but you are concerned that the workaround may at some point cause harm. You express your concerns to the nurse administrator responsible for improvement on the wards. She listens carefully, 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 of problems in care on the ward.
- b) The nurse administrator did not have the appropriate span of responsibility to engage the system components needed to solve the problem.
- c) The workaround has been effective for several months, and there is not sufficient impetus to introduce a process change.
- d) All of the above

19. You are working to improve the care of patients with diabetes 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 patient who underwent a below-the-knee amputation after years of poorly controlled diabetes.

In order to persuade the most people in the room, which of the following would be best to add to your presentation?

- a) Quality of care measures, such as average blood pressure and cholesterol levels, of the clinic's diabetes patients
- b) A photograph of Kevin, the patient who suffered from diabetes
- c) A list of the providers in the clinic with the worst patient satisfaction measures
- d) All of the above

20. Heather, the medical director of the internal 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 Heather and her team just completed?

- a) Spread
- b) Implementation
- c) Research
- d) Pilot

21. You are a pharmacy student doing a clinical rotation in a pharmacy located just outside of town. You notice that your preceptor (instructor), an experienced pharmacist whom you respect, has been losing his train of thought unusually often. While filling a prescription recently, he grabbed the wrong strength of pills — and then he barked at the 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) “Can I help you with that, please?”
- d) “I need you to stop filling that prescription right now, or I will be forced to report you.”

22. When you arrived at work today and listened to the change of shift report, you heard about a patient named Jane W. According to the recorded sign-out, “Jane is a 57-year-old woman with abdominal pain and vomiting. She has pain medications ordered PRN [as needed].” During your shift, Jane does not request pain medications. Near the end of your shift, however, you get a call from Jane’s daughter. Distraught, she asks why nobody is treating her mother’s pain. When you explain that Jane has not requested any pain medications, her daughter exclaims, “But she’s had a stroke! She can’t use the call light!” How might the transition between providers (“handover”) be improved to address the cause of this miscommunication?

- a) Use a tool such as SBAR for the shift report.
- b) Add the opportunity for verbal repeat back.
- c) Implement the two challenge rule.
- d) All of the above

23. Which of the following actions is essential for closed-loop communication?

- a) The sender employs a structured communication technique so that every detail is communicated.
- b) The receiver responds to all information with an “okay” or “roger that” to acknowledge he or she has heard and understands.
- c) The receiver repeats back to the sender what he or she has heard.
- d) All of the above

24. A group of people typically follows four steps to become a well-functioning team; what is the correct order of these steps?

- a) Forming, storming, norming, performing
- b) Norming, performing, forming, storming
- c) Storming, forming, norming, performing
- d) Performing, storming, forming, norming

25. Viet is a first-year surgery resident on his first pediatric rotation. His attending physician (consultant) asks him to start intravenous (IV) replacement fluids on a 2-year-old boy who is having vomiting and diarrhea. Having trouble remembering the guidelines for calculating fluid replacement rates for very small children, Viet asks Maria, a nurse on the unit. Maria responds, “You’re the doctor. It’s your job to decide this.” Viet picks a rate that is much too high, putting the child into fluid overload. 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) All of the above

26. 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) All of the above

27. According to the Democracy Collaborative, which of the following is the first step for health care organizations to move from contribution to accountability in their communities?

- 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

28. Which of the following is an example of wasteful spending in health care?

- a) Overtreatment
- b) Fraud and abuse
- c) Failures of care coordination
- d) All of the above

29. In the United States, which of the following is the most significant cause of health disparities?

- a) Socioeconomic status
- b) Race
- c) Health care
- d) Age

30. Which of the following demonstrates individuation, a process to help overcome implicit bias?

- a) Making assumptions about a patient based on his or her group identity
- b) Being aware of your stress level
- c) Denying or ignoring your implicit bias
- d) A and C

31. A good first step in building a system in which problems are routinely “seen and solved” is:

- a) Performing a root cause analysis
- b) Defining normal and helping workers to recognize abnormality
- c) Escalating system-wide problems
- d) None of the above

32. 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) The results of PDSA cycles are more generalizable than other methods.
- b) PDSA cycles provide a mechanism to adjust theories and ideas as the project progresses.
- c) PDSA cycles are an easy way to control for several types of bias.
- d) Both A and C

33. Sandy Liu, a cardiac care nurse, notices that a few of her patients are suffering from inadequate pain control. Currently, a patient who needs pain medication must call the front desk, which then calls the nurse, who then goes to the patient's room to find out what he or she needs. Sandy finds out that a hospital in the next county has a simpler process: Patients can send a text message directly to the nurse to request pain medication. Sandy suggests to her manager that they form a team to improve pain control and test this change in the cardiac care unit. How should Sandy and her improvement team try out the new process?

- 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.

34. What's the main benefit of using a list of change concepts for health care improvement?

- a) It makes PDSA cycles unnecessary.
- b) It makes it much more likely that implementation will go smoothly.
- c) It can help you develop new ideas.
- d) B and C

35. Why is psychological safety a crucial component of a culture of safety in health care?

- a) It's necessary for health care workers to be interested in improvement work.
- b) It allows health care workers to remove unsafe members of the team quickly.
- c) It allows health care workers to learn from mistakes and near-misses.
- d) It allows health care workers to form effective patient-provider partnerships.

36. Why is using W. Edwards Deming’s System of Profound Knowledge helpful in quality improvement?

- 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’s a helpful way to secure funding from external sources for planned improvements.
- d) A and B

37. According to the World Health Organization (WHO), what is “patient safety”?

- a) Eliminating medical error and preventable harm in health care
- b) Eliminating waste in health care services
- c) Eliminating health inequities in populations
- d) All of the above

38. 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

39. According to population health experts Dr. David Kindig and Greg Stoddart, 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

40. Which of the following improvement efforts is the best example of increasing the effectiveness of care as defined by the National Academy of Medicine (formerly called the Institute of Medicine)?

- 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
- c) Improving the percentage of clinic patients achieving their goal blood pressure by presenting a series of reminders to providers about evidence-based processes
- d) Instituting quarterly focus groups of patients seen in the emergency department to better identify patient concerns