Albert Einstein College of Medicine
OF YESHIVA UNIVERSITY

Department of Family & Social Medicine

Team-Based Learning
Faculty
Facilitator Guide

Diabetes

Answer Key: ----

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TABLE OF CONTENTS

GOALS AND OBJECTIVES

Educational Goal
Students will be able to demonstrate competencies of an effective clinician in evaluating and caring for patients with diabetes in the Family Medicine ambulatory and community settings.

Medical Knowledge
The students will:

1. Review the nationally accepted guidelines for preventing, diagnosing, and managing diabetes and pre-diabetes (American Diabetes Association Standards of Care Guidelines).
2. Discuss the medications available to prevent and manage diabetes.

Patient Care
The students will:

1. Discuss elements of lifestyle modification in diabetes prevention and treatment following accepted national clinical practice guidelines (American Diabetes Association Standards of Care Guidelines).
2. Formulate management plans for the longitudinal care of patients with diabetes.

Interpersonal and Communication Skills
The students will:

1. Identify the importance of providing patient-centered education, counseling, and care for diabetic patients.
2. Describe the impact of effective communication with all members of the primary care team (e.g. physicians, nutritionists, pharmacists, social workers, nurses, and community advocates) on patient care outcomes.

Practice Based Learning and Improvement
The student will:

1. Participate in effective collaborative teaching and learning activities with peer medical students.
2. Discuss how improvement principles are useful to patients, health care providers, and medical students.
3. Identify outcome and process measures appropriate for diabetes care.
4. Be able to recommend changes in a clinical process for a group of patients.
5. Apply the introductory concepts of improvement science (ex. continuous quality improvement) to patient care which impacts patient-focused outcomes.

Professionalism
The student will:

1. Demonstrate professionalism by preparing for and participating in the diabetes session.

Systems Based Practice
The student will:

1. Differentiate which cases can be managed by the primary care physician and which should be referred for co-management with a specialist.

LIST OF MATERIALS

- This faculty guide* for the session – one copy
- White paper copies of the associated 5 item Readiness Assurance Test (RAT)* – one for each student
- Scantrons – one for each student
- Scratch cards* for GRAT answers – one for each team (usually 3)
- Memory stick with power point presentation*
- Phase 3 TBL handout – one for each student
- Answer Flash Cards
- Pencils (for students who did not bring them) – Please collect afterwards.
- Handout: DIABETES ORAL HYPOGLYCEMIC DRUG TABLES / DIABETES TBL **(Do NOT distribute until faculty feedback section of Phase 2)**

STUDENTS WILL BRING TO THIS SESSION:

- Their "The Adult Type 2 Diabetes Quality Care Chart Audit" Report Cards from the Diabetes Cybertown Family Health Center Clinics

*These should all be "Version ----" for this TBL.

All materials will be prepared by Adriana in advance and will be available in Block 430 by Friday afternoon prior to your session (Mazer was renamed Block in early 2013). The packet of materials will be in the bottom drawer of the first filing cabinet on the right. Please return the materials to the same place following the session.

TBL SCORING

Some students may have questions about how the IRAT/GRAT scores will translate into clerkship points. Contrary to usual TBL principles, the IRAT/ GRAT scores are not included in the students' grades. However, relevant material is included on the final exam. If students have questions about the grading system, refer them to the Clerkship Directors.

TOPICS AND OBJECTIVES BY PHASE

Phase 1: Preparation

1. PCORE Web Modules: "Diabetes"
2. The "Adult Type 2 Diabetes Quality Care Chart Audit" Report

Phase 2: Readiness Assurance of Core Hypertension / Hyperlipidemia Concepts

Phase 3: Application of Concepts - Diabetes and Continuous Quality Improvement

1. Principles of CQI
2. Process vs. Outcomes
3. Defining Benchmarks for Success

TIMING OF SESSION

All Sessions:
The following process is standard for all sessions.

1. Start on time at 8:00 am. If students arrive late, they will lose IRAT time.

2. Students will record IRAT answers on a scantron. Give them the following instructions:
   a. Write your Banner ID on both the RAT and scantron.
   b. Use a #2 pencil.
   c. Fill in response bubbles completely. There is only ONE answer to each question.

3. Distribute the RAT and scantrons, notifying students that they have **10 minutes** to complete it. Write the end time (e.g., 8:15 AM) on the board.
4. During the IRAT, double check all AV equipment and open PowerPoint from jump drive (please do NOT move or copy the file from the jump drive to the computer).
5. Write the GRAT scoring system on the board.
   a. One scratch = 4 points
   b. Two scratches = 3 points
   c. Three scratches = 2 points
   d. Four scratches = 1 point
   e. Five scratches = 0 points

NOTE: Remind the students that both the IRAT and GRAT are closed book activities. No reference materials can be used.

6. Give students a verbal 5-minute warning.
7. When time is up, collect the scantrons ONLY. Allow students to retain their copy of the RAT through the GRAT process.
8. Ask students to break into groups (this is often done on their own in later sessions). Groups should be spread around the room as much as possible.
9. Distribute scratch cards. State the time for this portion of the session (approximately **10 minutes**) and write the end time on the board. You can begin instructor feedback early if all groups finish before time is up.
10. **Walk around the room and listen to group dialogue**. The students will sometimes guess the right answer for the wrong reason. The only way to know this is to listen to their discussions. This will allow you to correct misunderstandings during the feedback section.
11. At the conclusion of the GRAT group time, have the students add up their GRAT scores and write the team scores on the board from this week and previous weeks to foster excitement about the competition.
12. Collect the scratch cards and begin faculty feedback (slides), which should run about **10-20 minutes**. Students keep the RAT questions during this discussion. In addition to the discussions you heard during the GRAT session, you can gauge which questions were more challenging by looking at the scratch cards.

NOTE: New TBL faculty have a tendency to want to lecture. Remember, if there are no questions or comments regarding an answer, move to the next item. If there is a critical ***teaching point*** *(from the following pages) related to the item, state it and remind students to review the content on PCORE.*

If students have questions, you can refer the question back to other students, especially when you heard the correct information from a student during the GRAT process.

NOTE: Timing in this section can be challenging. Be aware of the time needed for Phase 3 (they differ based on the session) to make decisions about the length of discussion. One option is to table a lengthy discussion on one question until you've reviewed all 5, returning to it at the end as time permits. ***Leave at least 60 minutes for Phase 3.***

13. At the end of the faculty feedback (review of questions), ask students to put their names on the RAT and collect all copies. Do not leave any copies behind.
14. Distribute materials for Phase 3 and begin. Individual Phase 3 instructions are included in this Faculty Guide.
15. Count up RATs during beginning of Phase 3 to ensure you have collected all copies.

After the Session:

Please return all materials to the bottom drawer of the first filing cabinet on the right in Block 430 (Mazer was renamed Block in early 2013).

FACILITATION TIPS *(especially during instructor feedback portion of Phase 2)*

1. **Ask teams for the correct answer to each question -** If all teams reported the correct answer, you have several choices:
    a. Move on (especially important if time is running short)
    b. Ask one team to explain how they came up with the answer (they may not know why it is correct)
    c. Ask students to identify what they believe is the key teaching point of the question

2. **Try not to ask "do you have any questions about this?" -** In most cases, the students will say "no" (or just sit there in silence) and participation will wane. Rather ask questions such as 1b or 1c above.
3. **Silence is OK** – Even when asking good questions, it usually takes 5 to 7 seconds for someone to respond. Then, the conversation will continue at a quicker pace.
4. **Respond to Questions by Asking Others** – One goal of TBL (and group learning) is to teach one another. They can learn from one another as much as (or more) that from a single speaker. Students expect you to be the "expert" and tell them the answer. It is appropriate in some cases, but to keep the team learning environment, see #5 below.
5. **Look up Answers** – If no one knows the answer, have the person who asked the question research the answer and report back to the group the next time you meet.
6. **Refer to Discussions During GRAT** – When discussing reasons for correct/incorrect answers, refer back to what was said in the group discussions. This demonstrates that their conversation is valuable and that you are paying attention.
7. **Connect to Clinical Experience** – Connecting the discussion with what students see in clinic will make it more real and applicable as a learning experience. Additionally, it is important to discuss how/why recommendations might differ from standard clinical practice.
8. **Keep Lights On –** They may want to see the PowerPoint better, but lights keep people awake
9. **Encourage Debate –** Allow students to respond to one another as time permits. If debates (especially about specific RAT items) take more than a few minutes, table the discussion until the end of the session.
10. **Alternate Which Teams Respond –** During Phase 3, after the simultaneous report, vary which team discusses their responses first.
11. **Allow for Participation by All Team Members -** Do not assign a spokesperson for a team. It may allow for quicker reporting, but discourages team building (additionally, valuable input might be missed).
12. **Serve as a Role Model** – Show patience and consistency, and accept feedback without being defensive.

From Tulane School of Medicine: Effective Small Group Facilitators…

- **prepare** a plan for the small group session. Small group discussions can have different goals.
- **listen** well and are **patient**.
- are **supportive** of the group, individuals in the group, and the small group process itself.
- make learning a **shared responsibility**. The facilitator tries to involve all participants and monitors his own level of participation.
- are comfortable with **silence**. Learners think, and thought requires time.
- are prepared to **refocus** the discussion.
- take **risks** by expressing personal thoughts about a topic or patient. By being honest and authentic, the facilitator creates a setting where all members of the group are comfortable expressing themselves. The facilitator is not fearful of saying, "I don't know."
- **challenge** but do not threaten. Effective facilitators ask thoughtful questions and involve all participants but are careful not to belittle or judge individuals.
- are judicious with the use of **feedback**. A group discussion is principally about sharing information, ideas, and opinions, not making evaluative comments. However, at times feedback will promote continued positive group interaction.
- **summarize** progress or decisions when appropriate – during the session, end of the session.

PHASE 2: SUMMARY TEACHING POINTS

PHASE 2: IRAT/GRAT ANSWER KEY *(----)*

Team Based Learning: Diabetes
Individual & Group Readiness Assurance Tests

PHASE 3: SUMMARY TEACHING POINTS

Question 1:

- **Quality improvement can be based on process measures (e.g., percent of patients with A1c test or eye exam) or outcome measures (e.g., percent of patients with A1c or blood pressure at target level, percent of patients with amputation or death).**
- **Quality improvement measures can be standardized (e.g., lab values) or unstandardized (e.g., "eye exam"), and the data may be more or less complete.**
- **Gaps may exist between quality indicators and quality care.**
- **Focus of quality improvement is analyzing available data after making small changes in process to continually adjust care.**

Question 2:

- **Benchmarks in quality improvement are only useful when clearly defined, and agreed upon before being measured.**
- **Interdisciplinary teams are useful in clearly defining meaningful and reliable quality benchmarks.**

Question 3:

- **Quality is defined by meeting or exceeding expectations of those being served.**
- **Those being served can be active participants in quality improvement initiatives (e.g., community advisory boards, waiting room questionnaires, focus groups, phone call surveys, reminder cards).**
- **Most problems with quality care are related to poorly functioning system processes (e.g., lack of reminders for routine microalbumin screening), rather than individual deficiencies.**
- **Quality improvement is most effective when integrated into standard work protocols (e.g., nursing regularly reviewing lists of diabetic patients, and calling in patients with A1c >9.0 for intensive management), rather than through a one-time initiative.**
- **Unintended variation in process (e.g., relying on patient self-identification as having diabetes) is usually what leads to unwanted variation in outcome.**

PHASE 3: ANSWER KEY

Diabetes & Continuous Quality Improvement

Instructions:

1) **You should have brought your "The Adult Type 2 Diabetes Quality Care Chart Audit SUMMARY REPORT" from the PCORE Diabetes Module to this session.**
2) Take 25 minutes to compare your score card answers and discuss the 3 following questions as a team. Although there may be several possible answers, be prepared as a team to commit to and defend your ONE choice. It is important that you do not share your "team answer" with the entire class.
3) **Teams will reveal their one "answer" simultaneously using a flash card when prompted by the faculty member.** This portion will be 25 minutes.

FACULTY FACILITATORS: After the teams reveal their one answer simultaneously after each question, encourage a different team to speak first.

The following three questions relate to your quality care chart audit from the PCORE diabetes module:

Choose the one best answer:

1. The diabetes care quality indicators at Cybertown Family Health Center show wide variability. Assuming that your chart audit accurately reflects the population of diabetic patients at your clinic, which one indicator do you feel provides the most accurate indicator of the quality of diabetes care at your clinic?

a) Percentage of patients whose last A1C was < 7%, because this measure is standardized by the laboratory.
b) Percentage of patients whose last blood pressure was <140/90, because there is a protocol in place for every patient seen at the clinic to have their blood pressure measured.
c) Percentage of patients that had an A1C ordered within the last 6 months, because this is the most direct measure of provider behavior.
d) Percentage of patients that had an annual dilated eye exam, because this reflects coordination of care.

Question 1

- The diabetes care quality indicators at Cybertown Health Center show wide variability. Assuming that your chart audit accurately reflects the population of diabetic patients at your clinic, which one indicator do you feel provides the most accurate indicator of the quality of diabetes care at your clinic?

  a) Percentage of patients whose last A1C was < 7%, because this measure is standardized by the laboratory.
     - OUTCOME MEASURES
     - STANDARDIZED MEASURES

  b) Percentage of patients whose last blood pressure was <140/90, because there is a protocol in place for every patient seen at the clinic to have their blood pressure measured.
     - OUTCOME MEASURES
     - COMPLETE DATA SETS

  c) Percentage of patients that had an A1C ordered within the last 6 months, because this is the most direct measure of provider behavior.
     - PROCESS MEASURES

  d) Percentage of patients that had an annual dilated eye exam, because this reflects coordination of care.
     - PROCESS MEASURES
     - UNSTANDARDIZED MEASURES
     - INCOMPLETE DATA SETS

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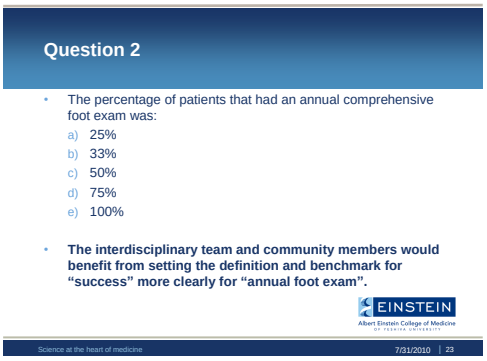
Science at the heart of medicine 6/29/2015 | 13

FACULTY FACILITATORS:
There is no strict "correct" answer to this question.
You want to encourage debate among student teams and within student teams.

- What constitutes "quality of care?"
- Even if you create a test to measure a quality indicator, does it actually mean there is quality?
- Generate a discussion about:
  - **process** (c & d) vs. **outcomes** (a & b) **measures**
  - **standardized** (a) vs. **unstandardized** (d) **measures**
  - **complete** (b) vs. **incomplete** (d) **data sets** (e.g. everyone gets their blood pressure checked at all clinic visits while some patients may have a dilated eye exam in the clinic or are referred to an ophthalmologist while others may refer themselves elsewhere or not at all).

CQI promotes the need for objective data to analyze and improve processes in health care settings. There is no such thing as failure because you can learn from all processes. <u>One could argue that (c) is the best answer because it focuses on clinic processes, but the discussion could produce a different conclusion.</u>



2. The percentage of patients that had an annual comprehensive foot exam was:

a) 25%
b) 33%
c) 50%
d) 75%
e) 100%

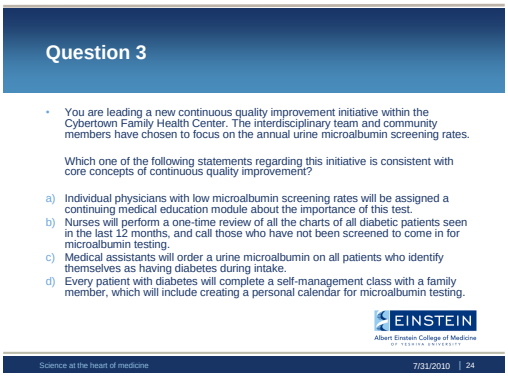
FACULTY FACILITATORS: Open the question to students first. There is no best answer.

This answer generates a wide variety of electronic answers from students. <u>The possible answers listed to this question all come from >3 years of electronic responses to this question from hundreds of medical students.</u> Why?

The interdisciplinary team and community members would benefit from setting the definition and benchmark for "success" more clearly for "annual foot exam".

- Most of the other measures involve clearly defined benchmarks (e.g. blood pressure <140/90, A1C <7%, LDL ≤100).
- While it is assumed that an ophthalmologist would perform the dilated eye exam it would be preferable to be explicit about this.
- For the annual foot exam, it was not clear what constitutes a "foot exam."
    - Is this inspection?
    - Does it include monofilament testing?
    - Does it include reflex or vibratory testing?
    - Does it include nail care?
    - Is a podiatrist or primary care physician responsible for this activity or could either one perform it?

This is similar to the "TBL process" in where team members would have to reach a consensus to answer a question– in this case however it is to define a standard quality indicator.



3. You are leading a new continuous quality improvement initiative within the Cybertown Family Health Center. The interdisciplinary team and community members have chosen to focus on the annual urine microalbumin screening rates.

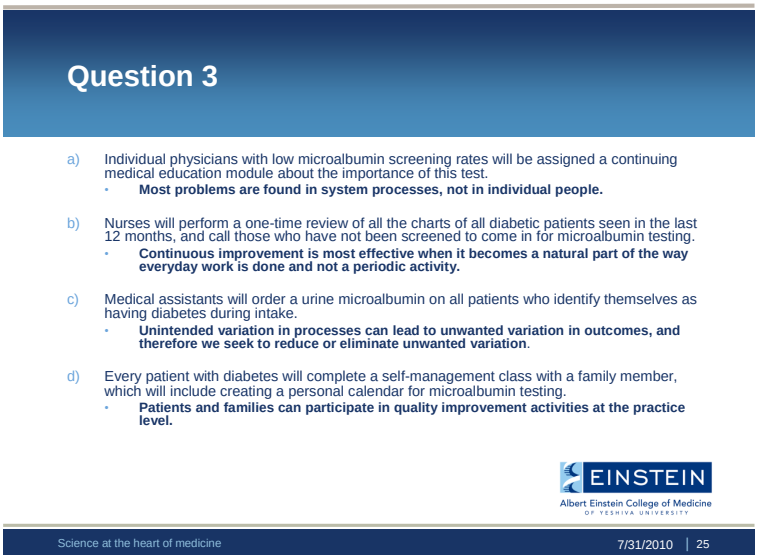
Which one of the following statements regarding this initiative is consistent with core concepts of continuous quality improvement?

a) Individual physicians with low microalbumin screening rates will be assigned a continuing medical education module about the importance of this test.
b) Nurses will perform a one-time review of all the charts of all diabetic patients seen in the last 12 months, and call those who have not been screened to come in for microalbumin testing.
c) Medical assistants will order a urine microalbumin on all patients who identify themselves as having diabetes during intake.
d) Every patient with diabetes will complete a self-management class with a family member, which will include creating a personal calendar for microalbumin testing.

The correct answer is d. Patients and families can participate in quality improvement activities at the practice level.

KEY TEACHING POINTS:
Quality is defined as meeting and/or exceeding the expectations of customers (patients, families, and communities). Success is achieved by meeting the needs of those that are served. **Patients and families can participate in quality improvement activities at the practice level.**

ASK STUDENTS: In what other ways could patients and families participate in CQI?
Suggested answers: Through community advisory boards, waiting room questionnaires, focus groups, phone call surveys, reminder cards.



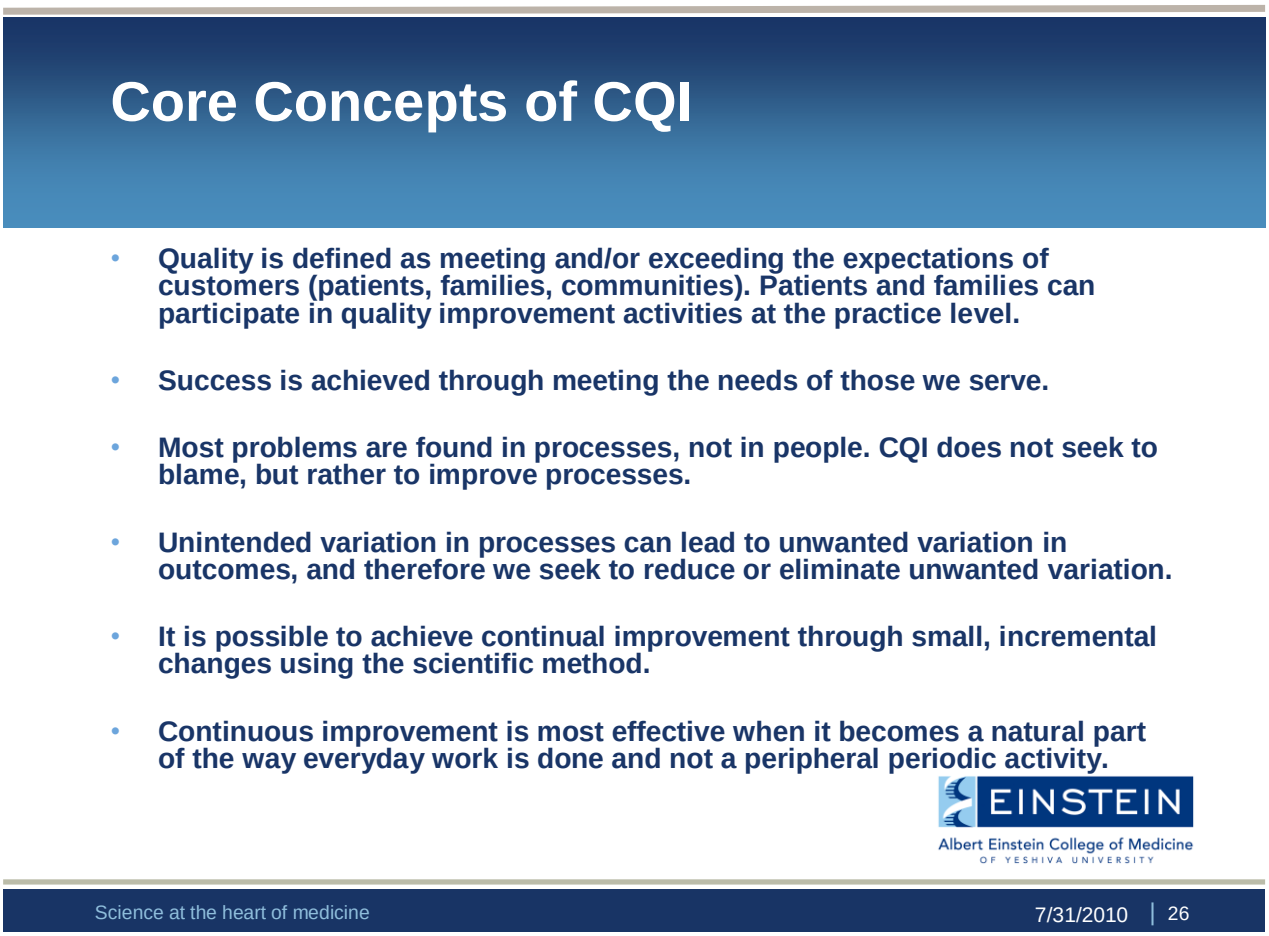
Answer a is incorrect. **Most problems are found in system processes, not in individual people.** Continuous quality improvement does not seek to blame but to improve processes. <u>If physicians are not properly screening and documenting their patients' risk for nephropathy, understanding what systems processes are not working could tailor a suitable solution such as including microalbumin screening in the intake protocol along with blood pressure measurements or creating built-in physician reminders within the electronic medical record.</u>

Answer b is incorrect. **Continuous improvement is most effective when it becomes a natural part of the way everyday work is done and not a periodic activity.** Having nurses conducting a one-time corrective initiative would not be keeping with continuous quality improvement principles. One needs to measure outcomes after changing the process of how the test is ordered and collected. Then one makes continued incremental adjustments until success can be demonstrated.

Answer c is incorrect. **Unintended variation in processes can lead to unwanted variation in outcomes, and therefore we seek to reduce or eliminate unwanted variation**. Having medical assistants vary when they will check urine microalbumin based on patient self-identification may result in missing some patients. It may also test some patients too frequently. This is not in keeping with continuous quality improvement principles. It may be difficult to determine what is working and not working if there is not a standardized process in place.

(Sources: Ogrinc, G., Headrick, L. A framework for teaching medical students and residents about practice-based learning and improvement, synthesized from a literature review. Acad Med. 2003 Jul;78(7):748-56.; The Institute For Healthcare Improvement (IHI): Eight knowledge domains for the improvement of health care, Website accessed September 7, 2009.)

CLOSING TEACHING POINTS:



Encourage students to review the six core concepts of continuous quality improvement in the PCORE module.