

Quality Improvement in Healthcare

Module 25 | Strengthening Interprofessional Education for HIV (STRIPE HIV)

Learner Guide



Overview

Goal

The goal of this module is for learners to understand the role that both front-line healthcare workers and local leaders can play in evaluating and improving healthcare quality.

Objectives

By the end of the module, the learners will be able to:

1. Describe what comprises “quality” in healthcare delivery
2. Appreciate their role in delivering high-quality healthcare
3. Define the components necessary to measure quality (e.g., quality indicators) and appreciate how quality indicators are used
4. Understand the use of quality indicators in the care for people with HIV
5. Investigate the root cause(s) of a low-performing quality indicator
6. Apply the Plan-Do-Study-Act (PDSA) framework to improve healthcare quality and study its impact

Workshop Roadmap

Workshop Timeline: 110 minutes

| Duration | Content | Activities |
|------------|---|---|
| 5 minutes | Introduction | Welcome (5 minutes) |
| 25 minutes | Objective #1 : Describe what comprises “quality” in healthcare delivery | <ul style="list-style-type: none">• Activity 1, Part 1: Small group discussion• Activity 1, Part 2: Structures, Processes, Outcomes |
| 10 minutes | Objective #2 : Appreciate your role in delivering high-quality healthcare | Activity 2 : Large group discussion |
| 20 minutes | Objective #3 : Define the components necessary to measure quality (e.g., quality indicators) and appreciate how quality indicators are used | <ul style="list-style-type: none">• Activity 3, Part 1: Design a quality indicator in small groups• Activity 3, Part 2: Large group discussion |
| 15 minutes | Objective #4 : Understand the use of quality indicators in the care for people with HIV | Activity 4 : Small and large group discussion of quality indicators |
| 15 minutes | Objective #5 : Investigate the root cause(s) of a low-performing quality indicator | Activity 5 : Small group “5 Whys” activity |
| 15 minutes | Objective #6 : Apply the Plan-Do-Study-Act (PDSA) framework to improve healthcare quality and study its impact | Activity 6 : Small group “Plan” activity |
| 5 minutes | Conclusion | Review Objectives (5 minutes) |



**Strengthening
Interprofessional
Education
for HIV**

Workshop Setup

Additional learner materials (ALM)

- [PEPFAR Indicators](#) (Used in Activity 4)
- [Plan-Do-Study-Act \(PDSA\) Worksheet](#) (Used in Activity 6)
- [A Model for Measuring Quality Care](#) (NHS Improvement Brief)
- Fishbone Diagram Example (on course website)

Acronyms/Abbreviations

| | |
|--------|---|
| ALM | Additional Learner Material |
| ART | Antiretroviral Therapy |
| cQI | Continuous Quality Improvement |
| PDSA | Plan-Do-Study-Act |
| PEPFAR | U.S. President's Emergency Plan for AIDS Relief |

Key Terms

- **Quality (of care) / Healthcare quality:** There is no single agreed-upon definition. One well-known definition says healthcare quality should focus on six goals: (1) Safe, (2) Effective, (3) Patient-centered, (4) Timely, (5) Efficient, and (6) Uniform care
- **Quality Indicator (or quality metric or measure):** A statistic used to evaluate (and track) an aspect of healthcare quality.
- **PEPFAR Indicators:** Standardized metrics used to measure the performance, outcomes, and impact of HIV/AIDS programs funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). These indicators track services like testing, treatment, prevention, and care to support data-driven decision-making and accountability.
- **Donabedian model:** A framework for thinking about healthcare quality that focuses on quality indicators related to the structure, process, and outcomes of healthcare delivery.
- **Root cause:** Underlying reason (or primary factor) that leads to a problem or undesired outcome. Identifying the root cause helps address the source of the issue rather than just its symptoms.
- **5 Whys Method:** A model to help find the main systems problem that is causing poor performance. It usually involves asking "Why?" five times, but it can take more or fewer questions.
- **Plan-Do-Study-Act (PDSA):** A framework adopted for quality improvement activities in healthcare. It is a four-step iterative process.

Teaching Content with Objectives

Introduction (5 minutes)

Welcome to Module 25 – Quality Improvement. This module will cover how healthcare quality is defined and measured, why it's important, and what all healthcare workers can do to evaluate and improve the quality of healthcare we deliver. In our busy professional lives, it is easy to fall into the habit of fulfilling our daily job responsibilities without stepping back and considering how our actions fit into the broader health of our patients and the communities we serve. For example, frontline staff in a busy clinic evaluating and treating many patients with HIV may not have clear knowledge of the quality of care being delivered there, such as:

- How many patients are virally suppressed? What are the reasons for failing to achieve viral suppression?
- Are patients being hospitalized at high rates? Are the hospitalizations avoidable?
- Are patients receiving appropriate screening and preventive measures?
- Are patients satisfied with their care?

Clinical Vignette – Caring for Women with HIV

You are working in an outpatient clinic associated with a district hospital where you treat patients living with HIV. Your clinic has different days of the week dedicated to caring for certain populations, and today's clinic focuses on women's health. In the morning, you see a number of women with HIV who are pregnant or who have recently given birth. Each clinic day is busy, and during lunch today, there is an all-staff meeting to discuss healthcare quality at the clinic.

Activites

Objective 1 - Activity 1 (25 minutes): Describe with comprises “quality” in healthcare delivery.

“Quality” in healthcare has no universally accepted definition. One popular definition is promoted by the National Academy of Medicine in the United States, which describes healthcare quality as being centered around six core aims:

1. Safety
2. Effectiveness
3. Patient-centeredness
4. Timeliness
5. Efficiency
6. Uniform Care

Activity 1, Part 1 (5 minutes): What do you already know?

Learner Instructions: Think about the patients and the clinic, particularly expecting mothers who are living with HIV. In small groups, make a list of possible answers to these two questions:

- What needs to be in place (e.g., facilities, equipment, personnel) for the clinic to be able to provide high-quality healthcare to expecting mothers?
- From the perspective of these patients, what constitutes high-quality healthcare in this clinic?

Activity 1, Part 2 (20 minutes): Structures, Processes, Outcomes

Learner Instructions: Using the Donabedian model, expand upon your answer to the questions previously discussed in Part 1 above. Divide your answers into the three categories: Structure, Process, and Outcomes.

Objective 2 - Activity 2 (10 minutes): Appreciate your role in delivering high-quality healthcare.

Learner Question: What role can each health profession play in delivering high-quality healthcare?



Objective 3 - Activity 3 (20 minutes): Define the components necessary to measure quality (e.g., quality indicators) and appreciate how quality indicators are used.

Clinical vignette continued – Caring for Women with HIV

During the staff meeting, the clinic director explains that one of the nurses had expressed concern that a number of women were dropping out of HIV care following their pregnancies and had not picked up their medications or come for follow-up appointments. The director had asked other staff members if they had noticed a similar problem, and many agreed. The director would like the staff to discuss an approach to this problem.

A vital first step in being able to improve healthcare quality is to be able to measure it. A quality indicator (sometimes called a quality metric or measure) is a quantitative measurement of some aspect of healthcare quality. It can measure (and track) structure, function, or outcome. Quality indicators are usually expressed as a percentage to indicate how close they are to a particular goal or standard level of quality. For example:

- Structure quality indicator: % of days when the clinic was fully staffed with at least 5 nurses
- Process quality indicator: % of patients newly diagnosed with HIV who started ART within one week
- Outcome quality indicator: % of patients diagnosed with cryptococcal meningitis who are alive after one year

Activity 3, Part 1 (15 minutes): Designing a Quality Indicator

Learner Instructions: In small groups, discuss the clinical vignette above and determine how you would design a quality indicator to assess the retention in care of pregnant women with HIV following delivery. During your discussion, answer these questions:

- How would you define the numerator (i.e., the group you're measuring)?
- How would you define the denominator (i.e., the total group from which the numerator is drawn)?
- What are the trade-offs to your choices?

Activity 3, Part 2 (5 minutes): Quality Indicators in Your Setting


Learner Question: Have you seen quality indicators used in your setting? If so, how? If not, in what ways could they be used?

Objective 4 - Activity 4 (15 minutes): Understand the use of quality indicators in the care for people with HIV.

Clinical vignette continued – Caring for Women with HIV

The clinic director explains that the investigation into patients who are not retained in care after pregnancy is the first potential project in a larger program to evaluate and improve quality in the HIV clinic. The director passes around a list of quality indicators monitored by HIV clinics previously supported by PEPFAR and asks participants to think about which indicators are important for the clinic and if there are additional indicators that should be added.

Learner Instructions: In small groups, review the indicators in the Additional Learner Materials (ALM) document “PEPFAR Indicators”. Using the “Indicator Description” column, answer the following questions:

- What quality indicators are relevant to your profession and the patients you care for?
- Are there any quality indicators that you suspect may be good targets for improvement in the setting where you work?
- Are there quality indicators relevant to your profession that are missing from the PEPFAR list? 

Objective 5 - Activity 5 (15 minutes): Investigate the root cause(s) of a low-performing quality indicator.

Clinical vignette continued – Caring for Women with HIV

The HIV clinic spends the next month gathering data from the last year to examine their rate of care retention for pregnant women after they give birth. They find that in the last 12 months, only 71% of women were retained in care following childbirth. The director assigns a group of healthcare workers to investigate why this is the case. This is especially worrisome because women who are breastfeeding while not virally suppressed are at heightened risk of transmitting HIV to their infants.

There are multiple approaches to investigating the root cause(s) of a low-performing quality indicator (in this clinical vignette, pregnant women with HIV falling out of care after they give birth). We will discuss one method called the “5 Whys”. This is sometimes followed by creating a fishbone diagram, a tool discussed in other STRIPE HIV modules.

Learner Instructions: Ask the question, “Why would pregnant women with HIV not be retained in care following childbirth?”

In small groups: 

- Brainstorm a list of potential reasons for this first question, or “Why”.
- Choose one of your reasons.
- Ask “Why?” at least four more times to try to identify a systems-related root cause to this hypothetical scenario.

In your small group, use the “5 Whys” method to answer the following question:

1. Why are pregnant women with HIV not retained in care following childbirth?

Now, choose one of your answers to question 1 and ask “Why” 4 more times:

2. Why?

3. Why?

4. Why?

5. Why?

Objective 6 - Activity 6 (15 minutes): Apply the PDSA framework to improve healthcare quality and study its impact.

The Plan-Do-Study-Act (PDSA) cycle is one framework adopted for quality improvement activities in healthcare. The steps of the framework involve the following:

1. **Plan:** Figure out what aspect of healthcare quality you would like to improve. Use your analysis of root cause(s) to design an intervention for improvement and to measure the impact of your intervention.
2. **Do:** Carry out the intervention, collect data, and document problems and successes.
3. **Study:** Study the impact of your intervention and what you learned when carrying it out.
4. **Act:** Make a plan for next steps based on what you have learned and start the improvement cycle again (these cycles are sometimes referred to as continuous quality improvement or cQI).

Learner Instructions: In small groups, return to the systems issue that you identified at the end of the “5 Whys” above, then:

- Create an intervention that you would like to test to try to improve upon this issue (pregnant women with HIV not being retained in care after childbirth).
- For this activity, focus on the “Plan” step for this intervention:
 - What questions would you like it to answer?
 - How do you predict it will work?
 - Who/what/where/when will the intervention take place?
 - How will you collect data on its impact?
- Use the “Plan” section on pages 1 and 2 of the PDSA worksheet to fill in this information in your small group.



Conclusion (5 minutes)

Learner Instructions: Read through each objective and summarize key learning points from each. Reflect on how you might apply them by taking specific actions to improve quality in your setting.

Resources

1. Donabedian, A. Evaluating the quality of medical care: 1966. *Milbank Mem. Fund Q.* 44, S166–S206 (1966).
2. Donabedian, A. The quality of care. How can it be assessed? *JAMA* 260, 1743–1748 (1988).
3. Donabedian, A. The seven pillars of quality. *Arch. Pathol. Lab. Med.* 114, 1115–1118 (1990).
4. Jazieh AR. *Glob J Qual Saf Healthc.* 2020 Nov 30;3(4):144–146. doi: 10.36401/JQSH-20-X6.
5. ACT Academy for their Quality, Service Improvement and Redesign. <https://www.med.unc.edu/ihqi/wp-content/uploads/sites/463/2021/01/A-Model-for-Measuring-Quality-Care-NHS-Improvement-brief.pdf>
6. The Deming Institute. <https://deming.org/explore/p-d-s-a> (accessed 3/6/25)
7. AHRQ. Plan-Do-Study-Act Form. <https://www.ahrq.gov/sites/default/files/wysiwyg/evidencenow/tools-and-materials/pdsa-form.pdf> (accessed 3/6/25)
8. Institute for Healthcare Improvement. 5 Whys: Finding the Root Cause. <https://www.ihc.org/resources/tools/5-whys-finding-root-cause> (accessed 3/6/25)