

1. Hello everyone. In this part of the webinar on Quality Improvement we will study about the tools. The tools for analyzing the problem that we have now identified

2. The objective of this lesson is to understand processes and systems of healthcare and how the systems underlying healthcare affect the delivery of care and how these tools lead to identification of possible solutions to reach your aim

3. The importance of problem analysis is to explore **in as detail as possible causes** of a problem and to focus on things that are within our **control . this also** Gives an **opportunity for everyone** to give their insights based on their role in the process and also to **understand what is happening in the system** at present and thus identify possible solutions.

4. We will cover four tools for problem analysis in this Step. We are going to discuss options for identifying possible causes of the problem that you have decided work on. By broadening the understanding of all underlying main causes you will come up with appropriate solutions that are likely to succeed. Some of the commonly used tools are:

- a. Cause and Effect Diagrams
- b. Five why's
- c. Pareto Charts
- d. Process flow map

5. Let's first talk about the cause and effect diagram . Also called the fish bone or the ishikawa chart. Think about why a problem might be happening? It can be attributed to the issues of the people involved , or the place , policies or procedures.

6. One way to determine the possible causes of the problem is to draw the Fishbone Diagram. (a completed diagram looks like the skeleton of a fish!). Write the problem in a box on the right-hand side of a large sheet of paper, and draw a line across the paper horizontally from the box so that it looks like the head and spine of a fish.

Next, draw a line off the "spine" of the fish and write down contributing factors. These may be different levels of the health systems, or building blocks of the system, such as people (staffing), place (equipment), procedure, policies (guidelines) etc.

Now, for each of the contributing factors, identify possible causes. Show these possible causes as shorter lines coming off the "bones" of the diagram. Where a cause is large or complex, then it may be best to break it down into sub-causes, working from proximal to distal causes. Show these as lines coming off each cause line.

From here, the team should be able to develop actionable solutions. There may be many problems and solutions that can be explored, but teams may choose to focus on solutions that are actionable within their sphere of influence in the short term, while advocating for more long-term systemic change

7. The next tool that we will discuss is the 5 why's .

"Five whys" is a tool for identifying the root-cause

Doing five whys involves asking 'why' a problem exists and then continuing to ask 'why' after each answer until you identify a possible way of fixing the problem

Illustrating with the example: A hospital is trying to increase the number of women who start early breastfeeding within the first hour of birth. Using the five whys analysis the

team was able to understand that the type of gowns that they are giving the women in labour make it difficult for the women to breastfeed. The design of the gowns is such that the women have to take them off completely to breastfeed – they are not

comfortable doing this and so do not breastfeed. Continuing to ask 'why' helps the team identify why they have that type of gown (because no one had ever asked for a different type of gown) and to come

up with a solution (ask the store keeper to order another type of gown for breastfeeding mothers)
There is no one perfect answer to a why's analysis. It is not necessary to ask Why 5 times. It can be less or more.

8. The next tool I would be talking about is the Pareto's principal which says that 80% of the problem is due to 20% of causes. The vital few Vs the trivial many. This principle helps you to look for the causes that account for most of the problem and to prioritize the ones that you can address efficiently.

9. In this problem of medication errors, there are 10 reasons for the error but only three causes account for 80% of the errors. Working on these three causes will be more efficient than working on the other, less frequent causes

10. The last tool that we will discuss today is the □ Process Flow Map

The process flow chart is a tool for describing all the steps in a process. For example, how essential newborn care is provided immediately after the delivery. Flow charts can help identify problems in the process, for example:

Steps that are being done in the wrong order

Redundant steps

Steps that are contributing the most to the problem

Creating a flow chart involves

Deciding on the beginning and end of the process you are trying

to explain. For example, delivery of a baby (start) to baby leaving the labour room (end).

All the steps between those points. For example, baby being dried, skin-to- skin care, starting breast-feeding etc.

Linking the steps together with arrows

Reviewing the whole sequence to check if this is really what happens

How to develop a process flow chart

1. Decide the beginning and end points of the process to be flow charted
2. Identify the steps of the process as these are practiced at present
3. Link the steps with arrows showing direction
4. 4. Review the chart to see whether the steps are in their logical order to achieve the end point efficiently: Is the order wrong, are some steps unnecessary?

11. Different shapes are used to visualize the steps of a process (process mapping) in a flow chart: start and finish (oval)

routine actions that always happen (rectangles)

option points (diamonds) – these are steps that lead to different options:

Either someone makes a decision about what

happens next (e.g. a triage step)

Or the care in that step does not always happen (e.g. only 50% of women get oxytocin in the first minute after delivery)

unclear steps (clouds) these are used when you are not sure what happens

12. the tools of analysis help to find out the root cause of problems Try to find few barriers that account for most of the problem Help the teams think about how re-organization can help with fixing the problem