



Introduction to Quality Improvement Methods





Learning objective

- To describe the principles of quality improvement.
- To introduce the basic methods and tools for improving the quality of health care.
- To understand the benefits of using quality improvement methods.
- To apply the principles and use the tools to undertake their own improvement project

The purpose of Quality improvement methods



- X Identify a problem;
- X Measure the problem;
- X Develop a range of interventions designed to fix the problem;
- X Test whether the interventions worked



The science of improvement



The role of measurement in improvement

- X Measurement (collect and analyze data)is an essential component of quality Improvement.
- X There is strong evidence to show that when people use the appropriate measures to measure change, significant improvements can be made.
- X All quality improvement methods rely on measurement

The science of improvement

Three main types of measures



Structure Measures:

Measures of infrastructures, capacity and system •

Example: Nursing to patient ratio in the ICU •

Processes Measures:

They measure if parts of steps in the system • are performing as planned

Example: Bed occupancy rate •

Outcomes Measures

Are results of overall process or system • performance , reflect the impact of the health care service

Example: The 30-day mortality rate •

Picturing the Data

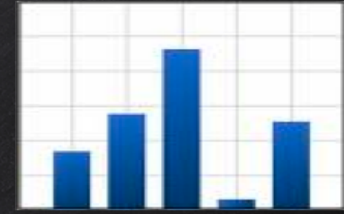


X There are many valuable tools for interpreting and presenting data
eg. pie chart, bar chart ,line chart

X **Type of graph :**

1. Bar chart
2. Pie chart
3. Line chart

Bar chart

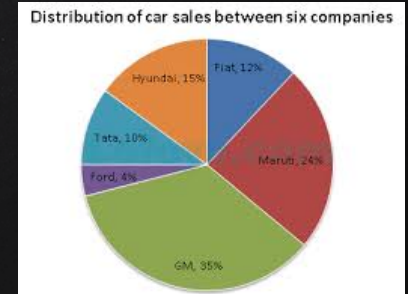


Bar Graph

- X Bar charts are one of the most commonly used types of graph.
- X The bar chart displays data using a number of bars, each representing a particular category
- X useful for looking at a set of data and making comparisons

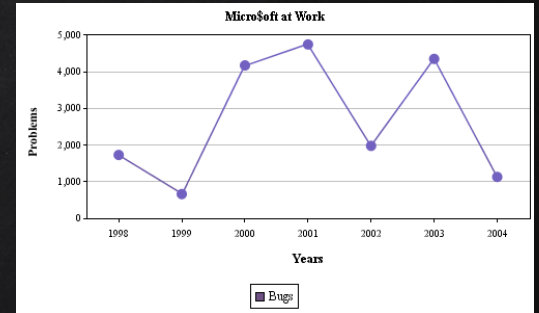
Pie chart

X A pie chart is a circular graph that shows the relative contribution that different categories contribute to an overall total.

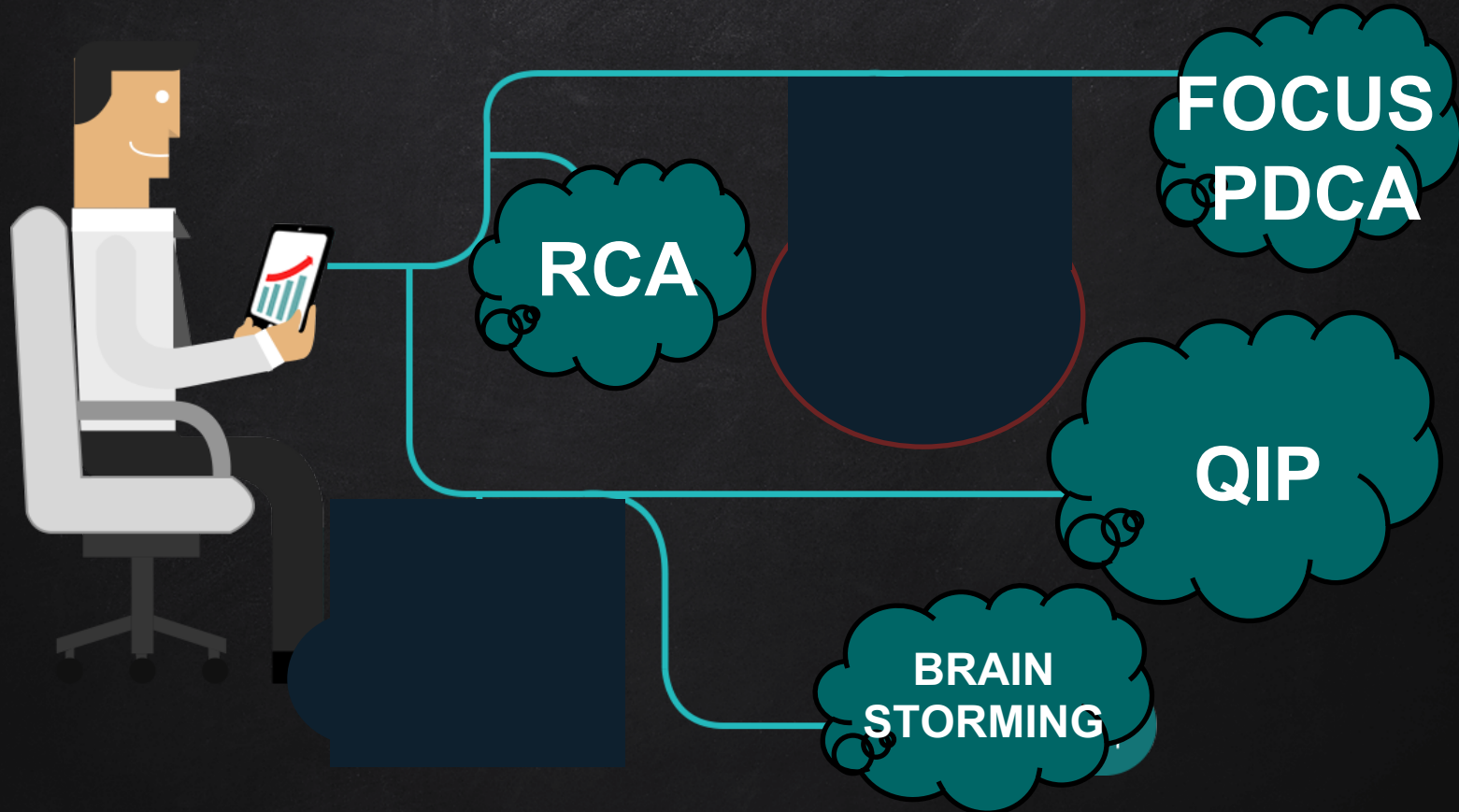


Line chart

X A line graph, also known as a line chart, is a type of chart used to visualize the value of something over time



Performance Improvement methods



improvement model- (Plan-do-study-act cycle)



X The IHI model has two parts:

- Three fundamental questions, which can be addressed in any order
- The PDSA cycle to test and implement changes in real work settings—the PDSA cycle guides the test of a change to determine if the change is an improvement.

PDSA

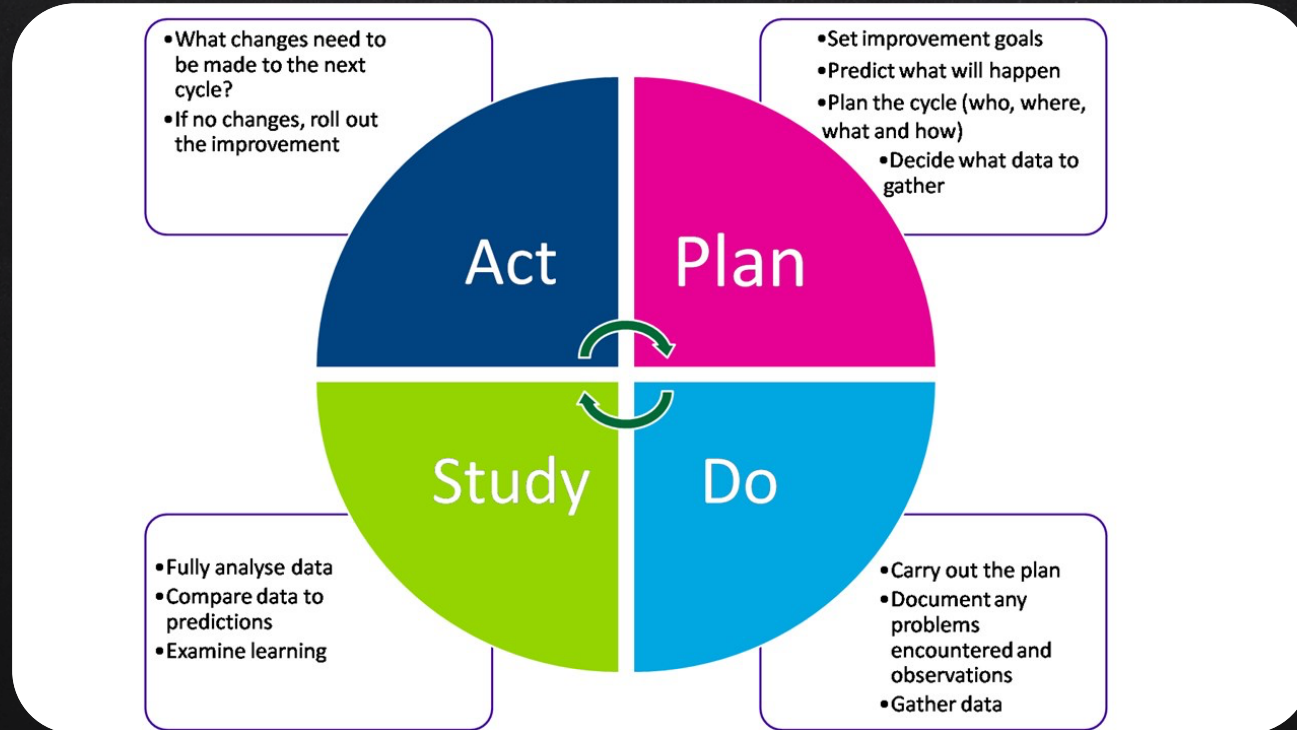
Plan: Define the problem to be addressed, collect relevant data, and ascertain the problem's root cause.

Do: Develop and implement a solution; decide upon a measurement to gauge its effectiveness.

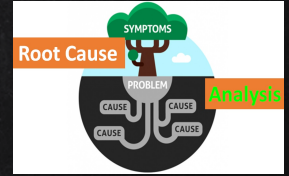
Study: Confirm the results through before-and-after data comparison.

Act: Document the results, inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle.

improvement model-(Plan-do-study-act cycle)



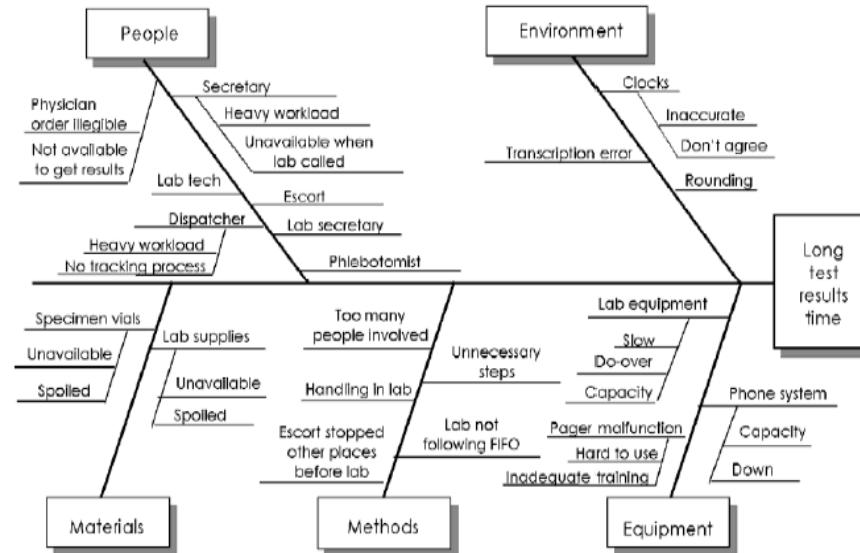
Root cause analysis (RCA) (ishikawa/fishbone)



- X Is a defined process that seeks **to explore all of the possible factors associated with an incident** by asking what happened, why it occurred and what can be done to prevent it from happening again.
- X A tool for solving problems. The diagram is used to explore and display the possible causes of a certain effect

Root cause analysis (RCA) (ishikawa/fishbone)

Cause and Effect Diagram: "Fishbone"



An effective root cause analysis requires the following components



Multidisciplin
ary team

The team
develops a
problem
statement

Root cause
analysis effort
is directed
towards finding
out what
happened



Documentation and review (medical records, incident forms, hospitals guidelines, literature review)

Site visit—to examine the equipment, the surroundings and observe the relationships of the relevant staff

improvement model- Root cause analysis (RCA)

X

Establishing the contributing factors or root causes are accomplished through A brainstorming process of all possible factors:

- **Environmental factors:** e.g. The work environment; medico-legal issues
- **Organizational factors:** e.g. Staffing levels; policies; workload and fatigue
- **Team staff factors:** e.g. Supervision of junior staff; availability of senior doctors
- **Individual staff factors:** e.g. Level of knowledge or experience
- **Task factors:** e.g. Existence of clear protocols and guidelines
- **Patient factors:** e.g. Distressed patients; communication and cultural barriers between patients and staff; multiple co-morbidities.

QUALITY IMPROVEMENT PLAN (QIP)

- X A Quality Improvement Plan is a detailed work plan intended to enhance an organization's quality in a specific area
- X Quality Improvement Plan includes essential information about how your organization will design, implement, manage, and assess quality.

Brain storming

- X Brainstorming is a technique by which a group attempts to find a solution(s) to a specific problem by amassing ideas spontaneously
- X It is a highly effective technique for maximizing group creative potential





thanks!

Any questions?