

Quality Improvement in Healthcare “Tools of the Trade”

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Tools for Collecting and Displaying Data

- Focus groups
- Surveys
- Check sheets
- Logs
- Histograms
- Pareto charts
- Trend charts and run charts

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Focus Group

- Small-group discussion led by a facilitator
- Uses open-ended questions
- Allows for probing and follow-up
- Interaction generates additional information

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Surveys

- Written questionnaires that elicit perceptions at a point in time
- Effective for collecting quantitative data from large numbers of people
- Useful to measure both perception of performance and importance to respondent of attribute being measured

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Check Sheet

- A form designed for easy and immediate data collection
- Allows individuals to count the frequency of an event or action within a specified time frame
- Facts may be recorded as they happen and be summarized and analyzed at a later time

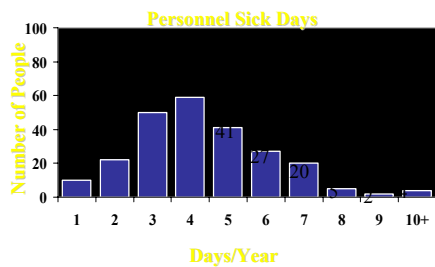
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Histogram

- A bar graph that organizes and summarizes data for visual analysis
- Useful when dealing with a mass of data
- Allows rapid identification of the “shape” of data
- To be effective, histograms must be derived from stable processes

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Example of Histogram



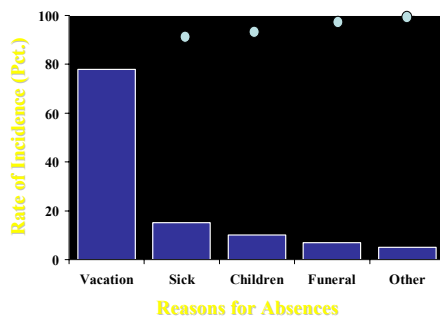
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Pareto Chart

- Based on the premise that 80% of the adverse effects in a process come from 20% of the causes
- A cumulative percentage histogram
- Shows individual causes as a percentage of the total in declining order

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Example of a Pareto Chart



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Run Chart

- An easy-to-construct plot of data recorded in time sequence
- Monitors the performance of a process over time to detect trends, shifts, or cycles
- Helps to describe the “voice of the process”

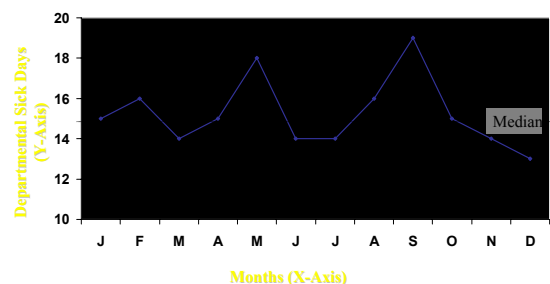
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Value of Run Charts

- Assists in identifying unstable processes
- Signals the presence of “special cause” in a process
- Visualizes the extent of variation in a process
- Helps to make better decisions

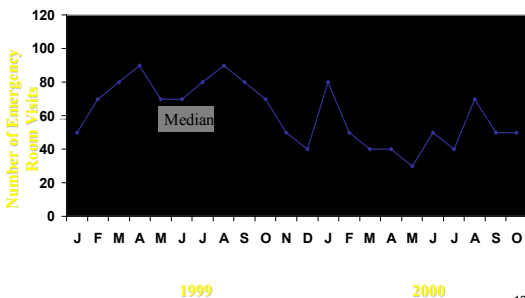
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Example of Run Chart



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Example of Run Chart



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Tools for Making Improvements

- Flowcharts
- Brainstorming
- Affinity charts
- Relationship diagrams
- Cause-and-effect diagrams
- Force-field analysis
- Nominal Group Technique (NGT)
- Tree diagrams

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Brainstorming

- An idea generating technique used by teams to generate many ideas in a short period of time.
- May be *structured* where everyone takes a turn or *unstructured* where group members speak whenever they have an idea.
- May be verbal or written format

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Benefits of Brainstorming

- Rapidly produces a large number of ideas
- Encourages creativity and innovation
- Encourages involvement by all members
- Fosters a sense of ownership
- Provides input to other tools

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Rules for Brainstorming

- Quantity not quality is important
- No discussion, judgement, or criticism during the idea generating process
- “Piggybacking” is encouraged
- Creativity, not practicality, is the goal
- Idea statements should be from three to six or seven words long

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Flow Chart

- A diagram that uses graphic symbols to depict the nature and flow of the steps in a process
- A picture or a road map of a process

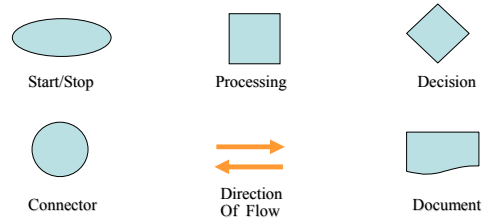
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Benefits of Flowcharting

- Visualizes the entire process from beginning to end
- Illustrates the sequence of events
- Highlights any duplications
- Highlights potentially unnecessary tasks
- Establishes the relative complexity of the process

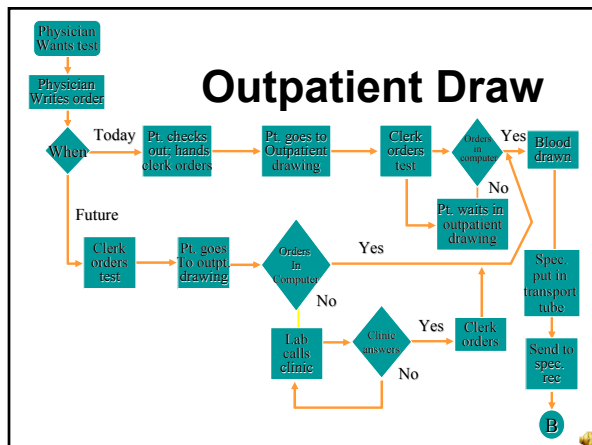
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Symbols Used in Flowcharts



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Outpatient Draw

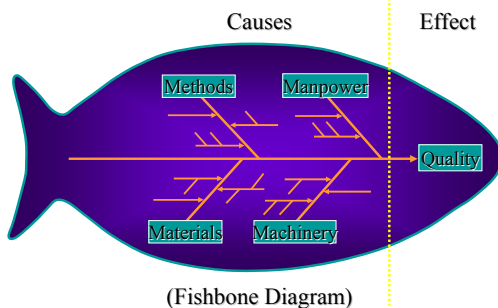


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Cause and Effect Diagram (Fishbone)

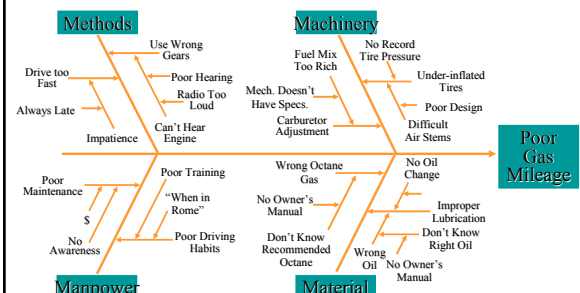
- A graphic tool that helps identify, sort, and display possible causes of a problem or quality characteristic

Cause and Effect Diagram



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Cause & Effect Diagram - Example



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Benefits of Cause & Effect Diagram

- Uses an orderly, easy-to-read format
- Increases knowledge of the process
- Indicates possible causes of variation
- Identifies areas for collecting data

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Nominal Group Technique (NGT)

- A weighted ranking method that allows a group to generate and prioritize a large number of issues within a structure that gives everyone an equal voice

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How to Use the NGT

- Generate the list of items to be prioritized
- Write statements on a flipchart or board
- Eliminate duplicates &/or clarify meanings
- Record final list on a flipchart or board using letters rather than numbers to identify each statement

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How to Use the NGT

- Each team member records the corresponding letters on a piece of paper and rank orders the statements using the highest number as the most important and the lowest number as least important
- Combine the rankings of all team members for each item.
- Highest ranking becomes highest priority

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Summary

- Tools that aid the CQI process
 - Tools for collection and display of data
 - Tools to help guide the decision process
- Good luck with your projects!

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