

# CQI in Social Service and Public Health Settings

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The CQI process is a management process that seeks to improve the products, services and processes of an organization

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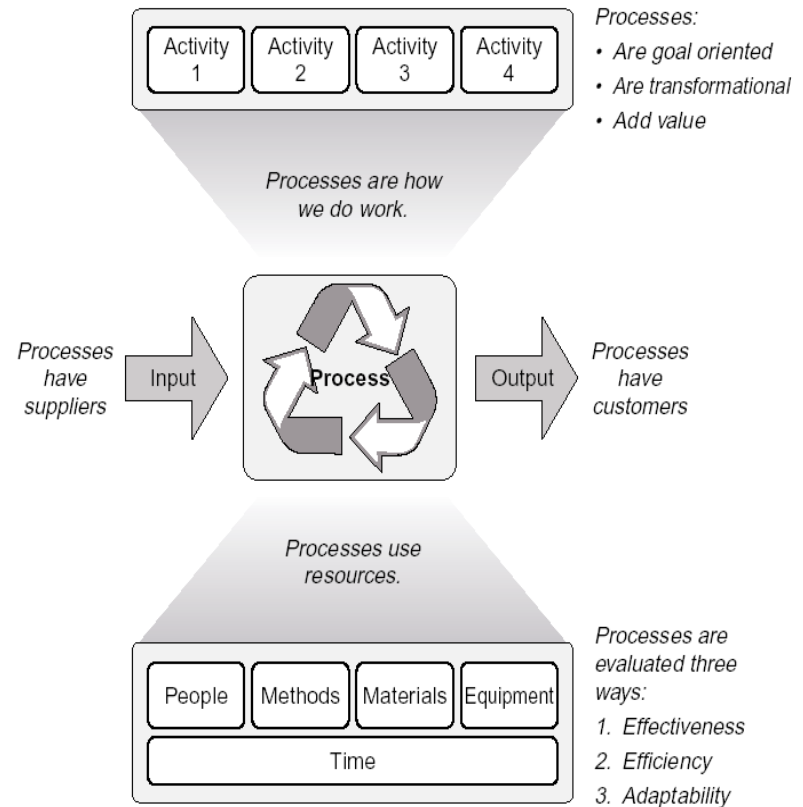
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- **Core Concepts of the CQI Process**
  - Quality is defined as meeting or exceeding the customer's expectations
  - Most problems are the result of processes not people
  - CQI is a way of doing business

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## ● Process

- Inputs come into an organization
- Outputs are products of process activities
- Outcomes are the combined results of the process activities; what the organization does, its mission



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- Focus on the Customer
  - Who are the organization's customers?
    - External and internal
  - What will it take to make the customer happy?

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- **Guiding Principles of CQI**
  - Understanding the customer
  - Address key organizational goals
  - Identify a CQI champion in the organization
  - Allocate resources for CQI activities

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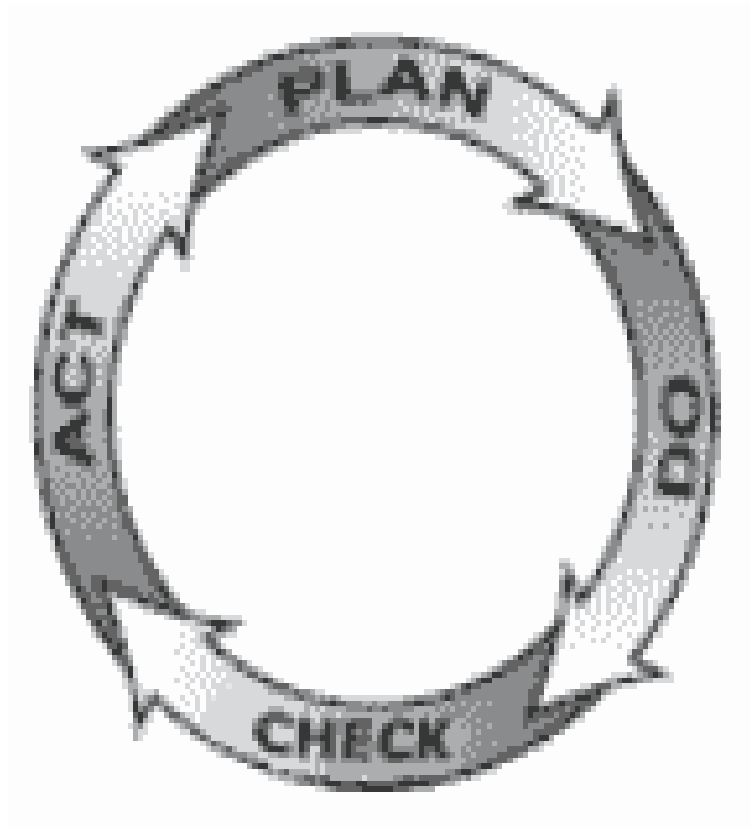
- **Guiding Principles of CQI**
  - Think outside the box
  - Use rapid cycle testing
  - Define success in measurable terms
  - Collect and use objective data
  - Focus on the process

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## CQI Models

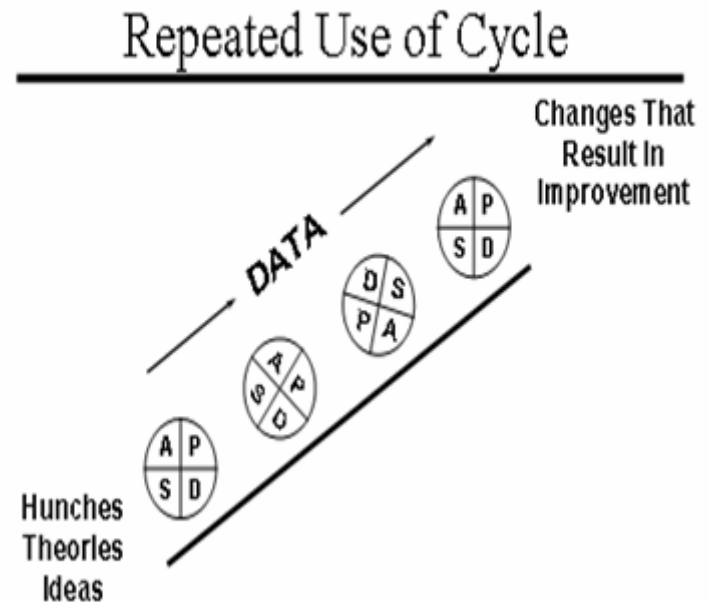
- P-D-C-A
  - PLAN- plan for changes
  - DO- implement small-scale studies
  - CHECK- analyze results and identify lessons learned
  - ACT- use what has been learned to implement change



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“Process is an organized group of related activities that work together to transform one or more kinds of inputs in to outputs (*outcomes*) that are of value to the customer.” (Michael Hammer 2001)



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## CQI Models

- **DMAIC**
  - **D**efine the problem
  - **M**easure the problem
  - **A**nalyze the data
  - **I**mprove the process
  - **C**ontrol the improvement
- $y = f(x)$
- $x$  are the required inputs
- $y$  are the outputs or outcomes
- $f$  is the control or improvement process

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## CQI Models

- **FOCUS**
  - **F**ind a process to change
  - **O**rganize to improve the process
  - **C**larify what is know and not know about the process
  - **U**nderstand the variation in the process
  - **S**elect an improvement process

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## CQI Models

- A Problem Solving Approach
  - Define the problem
  - Generate alternatives
  - Evaluated and select an alternative
  - Implement the alternative
  - Evaluate the results

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## CQI: Data Collection and Analysis

- One of the important features of the CQI process is the use of the scientific method in solving business problems. The process is objective and data driven.

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## CQI: Data Collection and Analysis

- The scientific method is expressed in the gathering, analysis, and interpretation of data.
- Data is gathered initially to understand the problems.
- Data is gathered after an intervention to evaluate the results.
- And data regularly gathered to assess on going quality

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## CQI: Data Collection and Analysis

- Hypotheses about how processes can be improved are generated.
- These hypotheses are stated in an 'if-then' logic that allows them to be testing.
- These if-then hypotheses are then tested empirically.

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## CQI Tools

- Checklists
  - Categorical level data that indicates if an event occurred or not. Frequency data can be tabulated and displayed



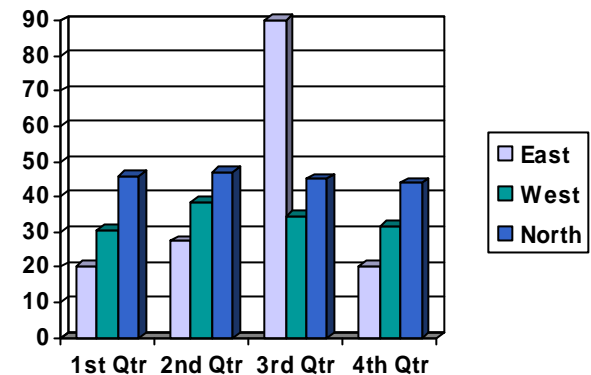
Appointment made



Appointment kept



Eligibility form completed

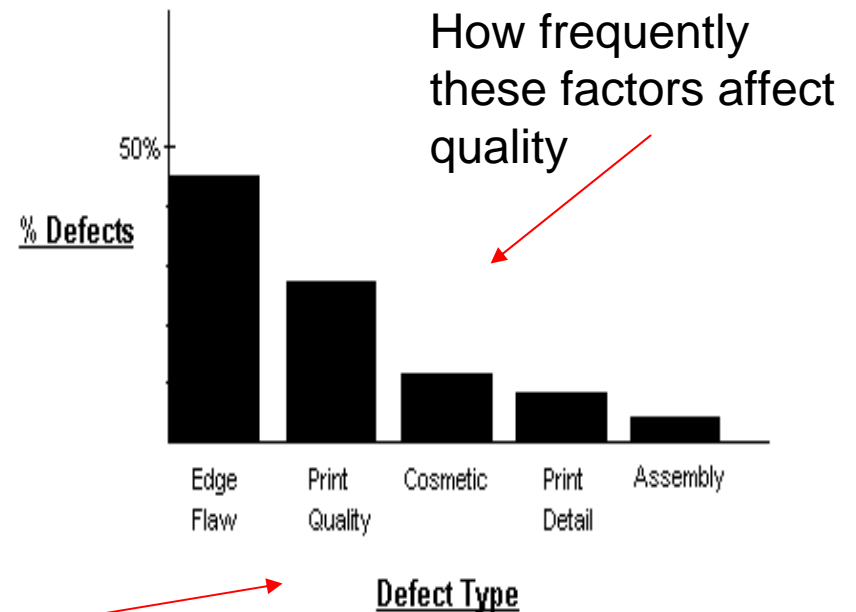


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## CQI Tools

- The Pareto Chart
  - Presents cumulative data
  - Identifies important factors that affect process

### Pareto Chart



Factors affecting process

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## CQI Tools

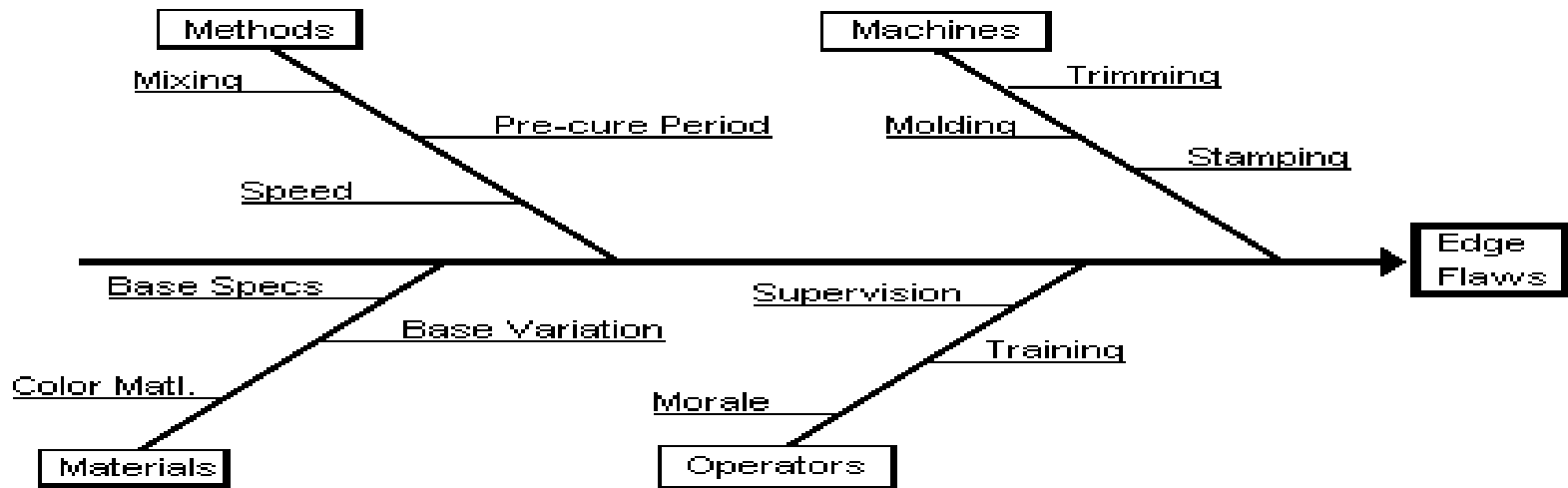
- Cause-and-Effect Diagrams or Fishbone Charts
  - Identify a single problem
  - Organize a range of possible causes for the problem

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## CQI Tools

- Cause-and-Effect Diagrams or Fishbone Charts



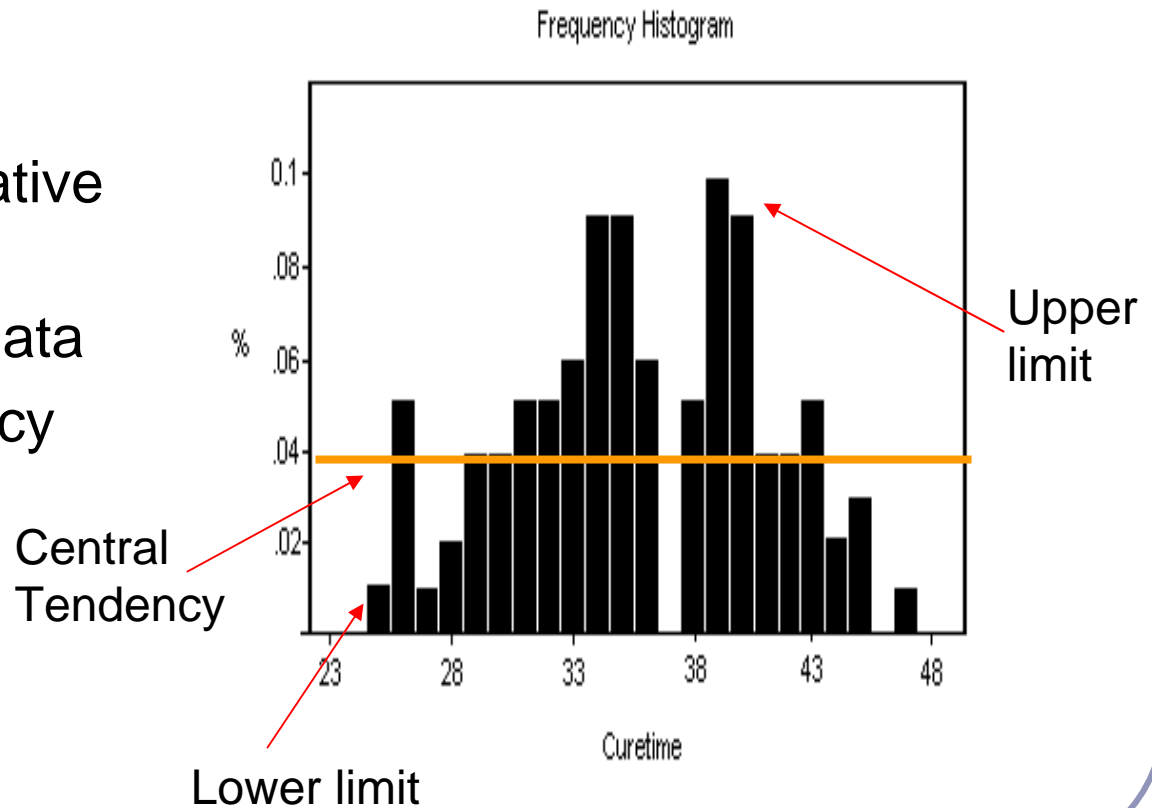
**Cause and Effect Diagram for Edge Flaws**

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## CQI Tools

- Histograms

- Depicts cumulative data
- Dispersion of data
- Central tendency



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## CQI Tools

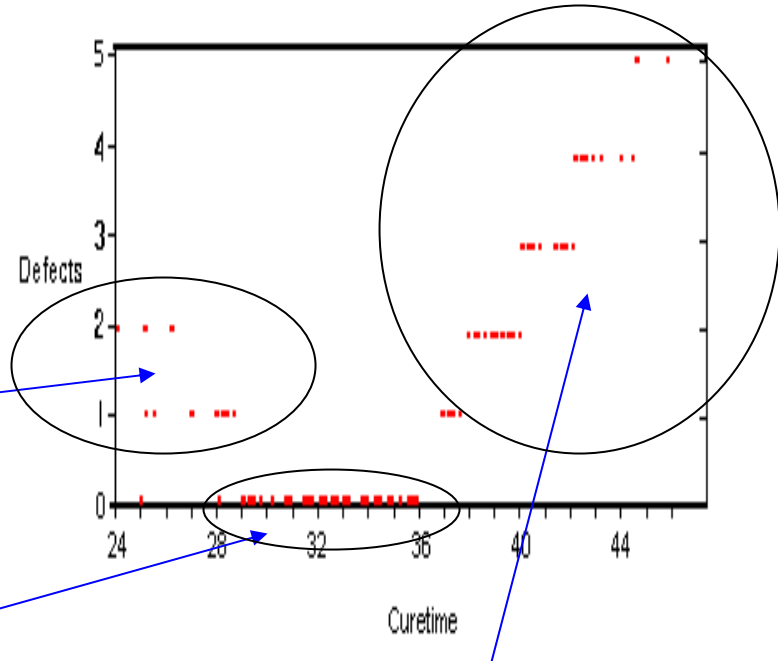
- Scatter Diagrams

- Provides a picture of the influence one factor has on another

Crew times of less than 28 had the second highest defect rate

The fewest defect occur between crew times of 30 through 36.

Scatterplot of Defects vs Curetime

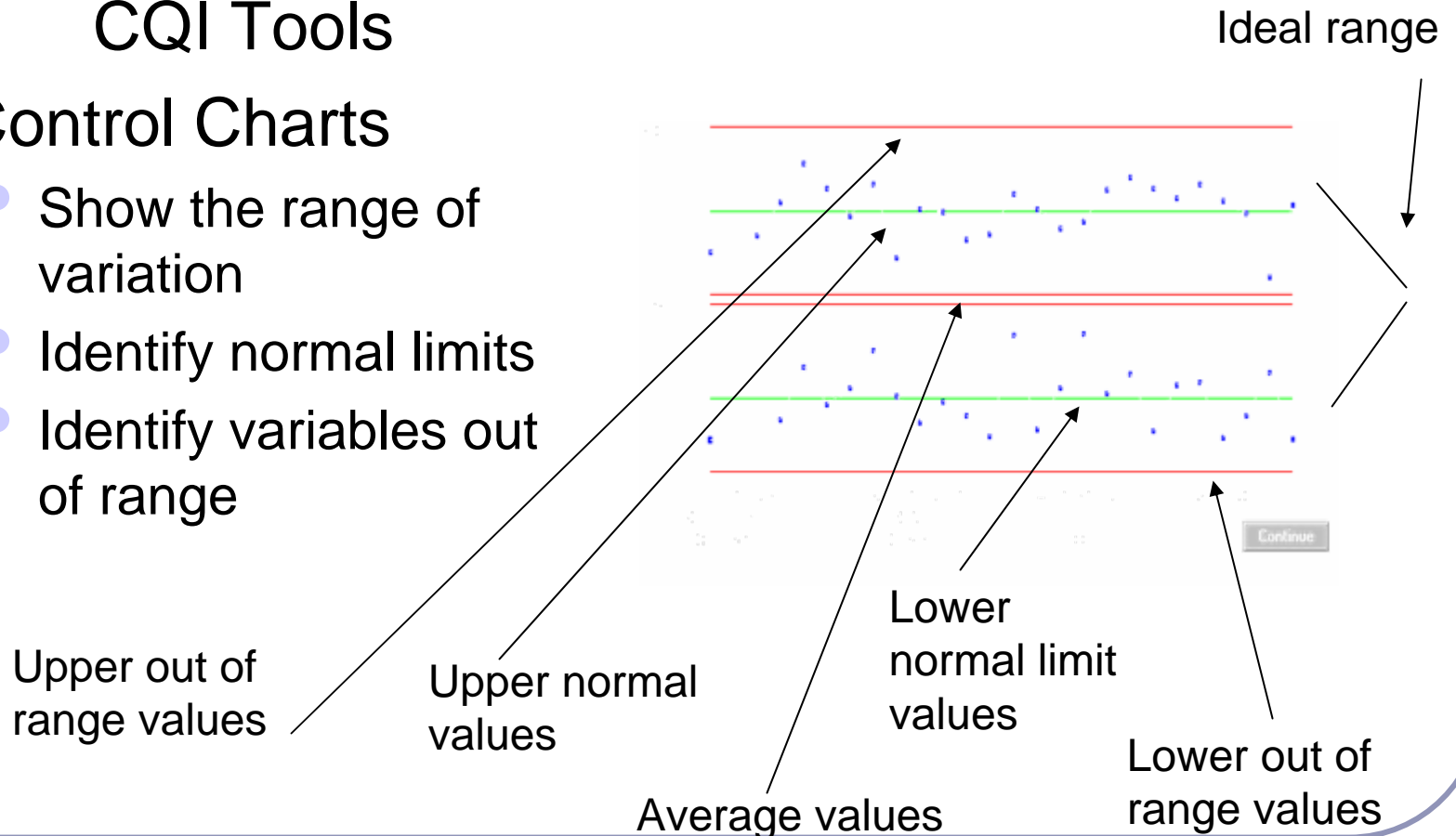


Crew times of more than 36 had the greatest rate of defect

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## CQI Tools

- Control Charts
  - Show the range of variation
  - Identify normal limits
  - Identify variables out of range



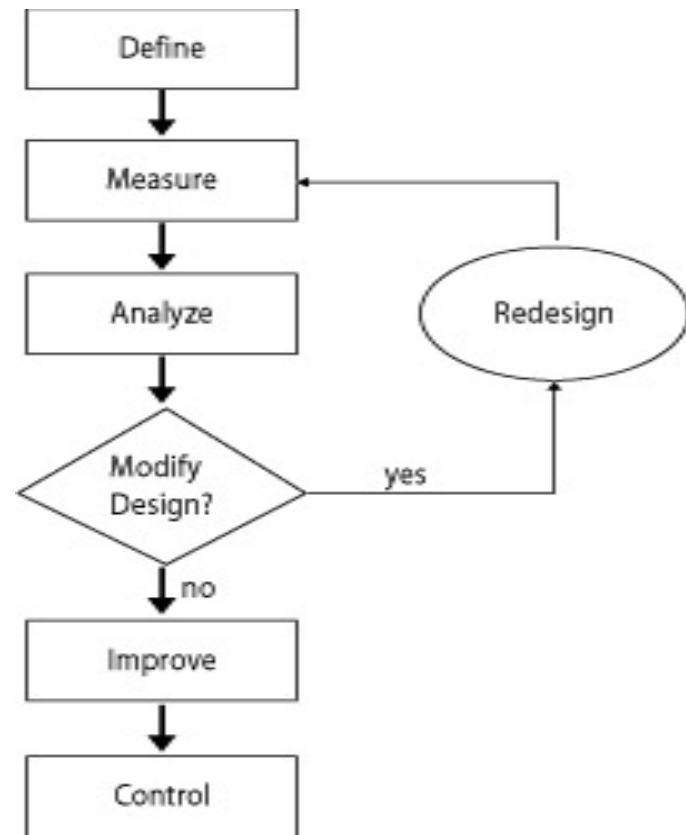
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## CQI Tools

- Flow Charts

- Identify each step in the process
- Identify boundaries between processes



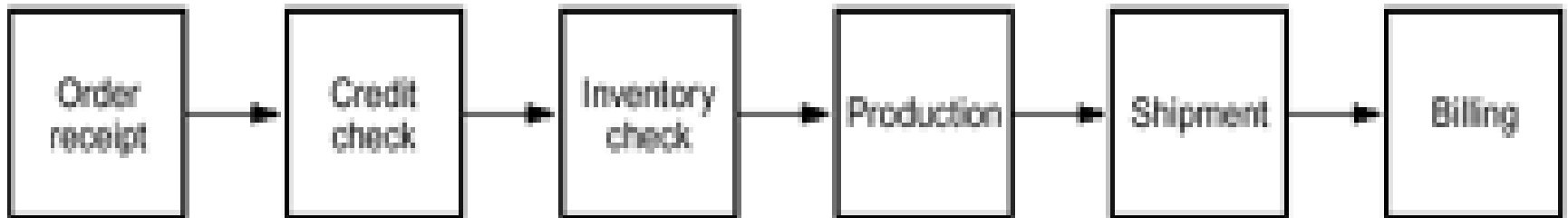
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## CQI Tools

- Flow Charts

- Arrange the steps in a logical sequence
- Draw arrows to indicate the flow



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## CQI Tools

- Failure Effects Models and Analysis (FEMA)
  - FEMA is a step-by-step process for identifying process and service failures
  - FEMA allows managers to calculate criticality of failure estimates and
  - Risk priority estimates



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- This PowerPoint presentation has reviewed some of the important points and provided examples of some of the various CQI tools discussed in the narrative that accompanies this material.
- The examples used in this presentation have been taken from the American Society for Quality and the Network for the Improvement of Addiction Treatment websites.