Root Cause Analysis

Welcome!
Objectives

- Constructing & Analyzing Fishbone Diagrams
- Using a Root Cause Selection Matrix
- Q & A
PDSA: A Four-Stage Approach to QI
PLAN

☐ Last week we discussed:
  ■ Step One: Getting Started
    ☐ Identifying areas for improvement
  ■ Step Two: Assemble the team
    ☐ Identify team members
    ☐ Develop AIM statement

☐ This week we are looking at:
  ■ Step Three: Examine the Current Approach
    ☐ Determine root cause(s) of problem
Problem Solving – What we usually see is the tip of iceberg – “The Symptom”

The Symptom →

The Root Causes →

Invisible

Hidden
Fishbone Diagrams

- **Why Use It?**
  - To allow a team to identify, explore and graphically display, in increasing detail, all of the possible causes related to a problem or condition to discover its root cause(s).

- **What Does it Do?**
  - Enable a team to focus on the content of the problem versus the history of the problem or personal interests of team.
  - Creates a snapshot of the collective knowledge and consensus of a team around a problem.
  - Focuses the team on causes, not symptoms.
Also known as…

- Ishikawa Diagrams
- Cause and Effect Diagrams
Additional Benefits of Fishbone Diagrams

- Identifies & categorizes issues
- Organizes ideas
- Shows relationships
- Reveals potential problems
- Facilitates process understanding
- Easy to use
- Useful reporting tool
How to Construct

- Clearly define the problem
- Write a short description of problem at box on right
- Decide on major areas/headers and write these in boxes at the end of each “spine”
- Brainstorm for possible causes
- Drill down for each cause to think more about “Why does it happen?”
- Check for Completeness
Determine the problem statement
(a.k.a.—your “fish head”)

Late pizza deliveries on Friday & Saturday nights
Determine major cause/header categories

Examples of headers:

- People, Plant, Procedures, Policies
- Manpower, Machinery, Materials, Methods
- Admin, HR, Finance, Operations, Procurement
- Lifestyle, Environment, Forms
- Etc.
Major causes/Fish spines

Late pizza deliveries on Friday & Saturday nights
Brainstorming—Filet the fish

Machinery/Equipment
- Unreliable cars
- Ovens too small
- Poor handling of large orders

People
- People don’t show up
- Drivers get lost

Methods
- Poor dispatching

Materials
- Run out of ingredients

Late pizza deliveries on Friday & Saturday nights
Fleshing out your fishbone

Late pizza deliveries on Fri & Sat nights

Machinery/Equipment
- Unreliable cars
- Low Pay
- Ovens too small
- Kids own junk
- Poor handling of large orders
- High turnover
- Lack of experience
- Methods

People
- Drivers get lost
- Don’t know town
- Rushed
- No teamwork
- No training
- People don’t show up
- High turnover
- Low pay
- High turnover
- Lack of training

Materials
- Run out of ingredients
- Inaccurate ordering
- Many new streets
- Poor dispatching
- Poor handling of large orders

Methods
- Unreliable cars
- Low Pay
- Ovens too small
- Kids own junk
- Poor handling of large orders
- High turnover
- Lack of experience
- Methods
Analyzing Fishbone Diagrams

Selecting items to investigate further:

- Look for causes that appear repeatedly within or across major categories
- Determine which are inside versus outside of team’s control
- Select through consensus
- May need to gather data using other tools (e.g., check sheet, Pareto diagram, surveys)
# Root Cause Analysis Rating Form

<table>
<thead>
<tr>
<th>Potential Root Cause</th>
<th>Improved Quality</th>
<th>Reduced Costs</th>
<th>Improved Customer Satisfaction</th>
<th>Others</th>
<th>Total Score</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
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Impact Scoring Scale: Low = 1, Medium = 3, High = 5
# Root Cause Analysis Rating Form

## Impact on the Problem

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### Impact Scoring Scale
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Minority members' satisfaction is not factored into the calculation of Total Score and Ranking.
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QUESTIONS?