Where Do Flowcharts Fit in the QI Process?

- **Issue to Consider**
  - Brainstorm & Consolidate Data
  - Document Current Process
  - Identify Areas of Greatest Concern

- **Brainstorming**
  - Flowchart

- **Document New Process**
  - Analyze Information & Develop Solutions
  - Translate Data into Information
  - Gather Data on Pain Points

- **Monitor New Process & Hold the Gains**
  - Run Charts & Control Charts
  - 5 Whys & Root Cause Analysis

- **Flowchart**
  - Solution & Effect Diagrams
  - Pie Charts, Pareto Charts, Histograms, & Scatter Plots
  - Run Chart & Checksheet

*Source: Public Health Quality Improvement Encyclopedia, Public Health Foundation*
What is a Flowchart?

- A flowchart depicts all of the steps in a process in sequential order from START to FINISH.
- Uses shapes/symbols to depict steps:
  - Ovals: Starting and Ending Points
  - Diamonds: Decision Points
  - Squares: Activities
  - Arrows: Sequence of Actions
- Possible elements may include:
  - Sequence of Actions
  - Inputs and Outputs
  - Decisions
  - Time or People Involved at each Step
When to Use a Flowchart

- Use a flowchart to depict and understand the steps in a process or design a new process
  - Show connecting processes
  - Identify wasteful steps
  - Uncover sources of variation
  - Identify areas for improvement
- Document the current process when planning and the new process after you’ve tested improvements
- Use a flowchart as a training tool
How to Construct a Flowchart #1

• Collect information on the process
  – Experience
  – Observation
  – Conversation
  – Interviews
  – Research
• Gather people who understand the process to develop the flowchart
  – Include people who do the work
• Decide how detailed to make the diagram
How to Construct a Flowchart #2

• Define the process’ starting and end points
• List each step in the process
  – Recognize that staff may use different processes
  – Be accurate and honest
  – Use post-it notes, to easily adjust steps
• Use the following prompts:
  – How does the process begin?
  – What happens first? What happens next?
  – What are the decision points?
  – Where do inputs and outputs come into play?

Flowchart Template:
How to Construct a Flowchart #3

• Write each step in the appropriate shape
  – Start with an oval symbol labeled START
  – Finish with an oval symbol labeled END
• Draw arrows between shapes to indicate the process flow
  – Shapes with more than one arrow should be diamonds (decision)
  – All arrows should lead back to an earlier step or toward the end of the process

Common Flowchart Symbols

- Start or End Point
- Activity
- Decision
- Input/Output
- Document
- Forms
- Wait/Delay
- Storage
- Transport
- Input
- Output
- Connector
- Preparation
How to Analyze a Flowchart

• Review the flowchart with people involved in the process
• Walk through the process to verify that steps are in the correct order
• Amend if needed
• Identify areas for potential improvement
  – Time lags or delays
  – Steps that don’t add value
  – Unnecessary decision points
  – Illogical sequencing
  – Chances for error
  – Duplication of effort
  – Unclear lines of responsibility
Potential Pitfalls

• Did participants understand the flowcharting process?

• Was the flowchart drawn the way participants envision the process or the way it actually works?
  – Were participants reluctant to depict illogical parts of the process?

• Do you have buy-in to use the flowchart?
Flowchart Example

Source: The Air University, Basic Tools for Process Improvement
Group Activity:
Design a Flowchart
Where do Gantt Charts Fit in the QI Process?

Large Issue, Problem, Sensitive Situation
- Brainstorming & Affinity Diagram

Explore
- Inter-relationship Diagraph & Prioritization Matrix

Sort & Prioritize
- Control Chart & SWOT Analysis

Understand & Baseline

Develop Actions & Steps
- Tree Diagram

Monitor
- SMART Chart

Problem Prevention
- Process Decision & Program Chart

Develop Project Plans
- Gantt Chart & Critical Path Analysis

Prioritize Actions & Tasks
- Control/Influence Matrix, Prioritization Matrix, & Know/Don’t Know Matrix

Source: Public Health Quality Improvement Encyclopedia, Public Health Foundation
What is a Gantt Chart?

• A chart that represents the project timeline

• Lists all activities required to complete a project
  – Identifies the start and end date of each activity
  – Shows the duration of planned activities
  – Displays overlap between activities
  – May identify people assigned to the tasks

• Can be used to plan activities and show progress
  – Builds accountability
When to Use a Gantt Chart

• Develop a Gantt Chart when planning a project
  – Identify major tasks, resource needs, and timing
  – Establish the order of project activities
  – Identify possible implementation barriers
  – Communicate the project timeline

• Use the Gantt Chart to monitor progress
  – Alerts you to problem areas
  – Identifies milestones
How to Construct a Gantt Chart #1

• Brainstorm tasks that need to be completed to make the project a success

• Identify the first and last tasks and the project’s start and end dates

• Sequentially order the tasks. Which tasks:
  – Can be completed in tandem?
  – Must be completed consecutively?
How to Construct a Gantt Chart #2

- Design the Gantt Chart
  - Columns: Timeframe (i.e., Days, Weeks, Months)
  - Rows: Tasks
  - Use an unshaded diamond to denote tasks that happen in a point in time, such as a presentation
  - Use unshaded bars to denote tasks that occur over a period of time, such as publicizing a training

Gantt Chart Template:
http://asq.org/sixsigma/tools-exchange/docs/gantt-chart.xls
Use the Gantt Chart to Monitor Progress

• Display progress on the Gantt Chart
  – Partially shade bars to represent progress
  – Shade diamonds and bars when tasks are complete
• Monitor the overall progress of the project and make adjustments if needed
  – Identify deviations and use QI tools to address
  – Prioritize tasks, reassign team members and/or secure additional resources
• Report on the project’s status

NEXT STEP
# Gantt Chart Examples

## Gantt Chart

**Livingston County Department of Health - Accreditation Preparation Process**

### Overview

<table>
<thead>
<tr>
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<td>Educate Staff: Essential Services Operational Definition Voluntary National Accreditation Process</td>
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<td>Apply Operational Definition/ES to LCDOH</td>
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<td>Complete QI Process for Grant</td>
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<td>Continue with QI process for DOH</td>
<td>Accreditation Team</td>
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<td>Select another QI project from matrix</td>
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<td>Apply for Accreditation</td>
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<td>Celebrate Accreditation</td>
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**Source:** Livingston County Department of Health
Storyboard
Central Michigan District Health Department Planning Flowchart

Source: Central Michigan Health Department
Central Michigan District Health Department Updated Flowchart

Source: Central Michigan Health Department
## Central Michigan District Health Department Gantt Chart

### MLC-3 Central Michigan District Health Department Timeline

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Date</th>
<th>Q3 '09</th>
<th>Q4 '09</th>
<th>Q1 '09</th>
<th>Q2 '10</th>
<th>Done?</th>
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<tr>
<td>Step 1: Getting Started- Meet with MPHI</td>
<td>04/01/09</td>
<td>X</td>
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<td>Step 2: Assemble the team- Initial team meeting</td>
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<td>Learning Sessions</td>
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<td>Step 3: Examine the current approach, Planning tools, &amp; AIM statement</td>
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<td>Look at current survey data</td>
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<td>Review survey distribution</td>
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<td>Step 4: Identify possible solutions</td>
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<td>Decide on QI plan</td>
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<td>Step 5: Develop an improvement plan</td>
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<tr>
<td>Develop proposed tool &amp; proposed policy</td>
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<td>Pilot new survey (one county)</td>
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<td>Implement new survey</td>
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<td>Step 6: Test the theory</td>
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<td>Track surveys given out and received</td>
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<td>X</td>
<td>X</td>
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<td>Increase data analysis efforts</td>
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<td>Meet with MPHI</td>
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<td>Step 7: Study the results</td>
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<td>Step 9: Establish future plans</td>
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</table>

**Source:** Central Michigan Health Department
QUESTIONS?