EMS Quality Improvement Workbook

JEWISH HEALTHCARE FOUNDATION

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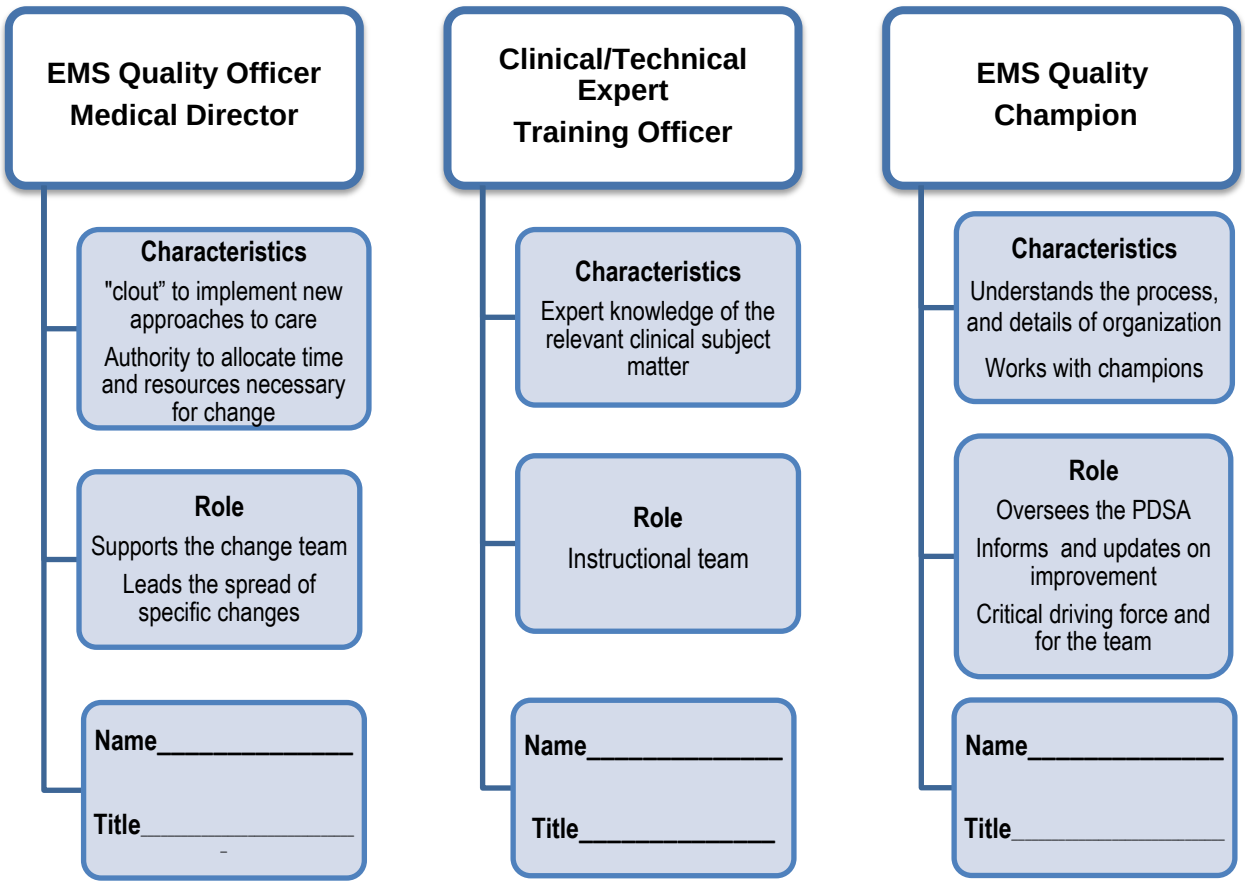
This packet is designed to help you work through an improvement opportunity from beginning to end. Getting started begins with defining the problem and forming the team. The workbook provides you with tools to guide you on your improvement journey for your Plan-Do-Study-Act cycles.

Picking Your Team: *The improvement help chain for your EMS Service*



Other Change Team Members: **Name (Staff Position)** ***Crew Chief, supervisors, medics, EMTs etc..***	

Problem Solving Toolkit:
Getting started in outlining your quality improvement efforts in EMS

Define the Problem, Challenge, or Opportunity for Improvement Worksheet

Objective: *To specifically state the problem, challenge, or opportunity for improvement that will be targeted and identify the involved process. What specifically do you want to "fix" or improve?*
Note: When the word "problem" is used, it broadly refers to any challenges you choose to tackle or opportunities for improvement that would most likely be positively impacted by a quality initiative

Identify the target problem: (Background)

What is the clinical /process during which the problem occurs?

What team/discipline is involved in the "problem" process? (List by roles not individuals' names. Consider include patients.)

When does the "problem" occur? (e.g., day shift, night shift, shift changes, certain days or clinical circumstances)

Where does it occur? (e.g., clinical setting or site)

NOTES:

Identifying the Types of Waste			
Waste	**Definition**	**Examples**	**Examples of Waste in Your Improvement Opportunity**
Waiting	Idle time created when people, information, equipment or materials are not at hand	Waiting for other workers at meetings, surgeries, procedures, reports; Patients waiting for appointments, MD visits, procedures	
Defects	Work that contains errors or lacks something of value	Medication errors, Rework, Variation in outcomes, Incorrect charges/billing, Surgical errors	
Unnecessary Motion	Movement of people that does not add value	Looking for information, Looking for materials and people	
Unnecessary Conveyance	Unnecessary transport of materials, supplies and equipment	Taking unneeded linens from central supply to a unit, Materials/tools located far from the work	
Over Production	Redundant work	Duplicate charting, Multiple forms with same information, Copies of reports sent automatically	
Over Processing	Activities that do not add value from the patient/customers' perspective	Clarifying orders, Redundant information gathering/charting, Regulatory paperwork	
Excess Inventory	More materials on hand than are required to do the work	Overstocked medications on units, Overstocked supplies on units and in warehouses	
Unused Employee Creativity	Losing ideas and opportunities by not engaging or listening to your employees	Employee is not used to skill level, Not taking seriously employee suggestions for improvement	

Rules of Work Design

Rule 1: Activities (all activities of work in a process)

- content (what the work is)
- sequence (in what order should it occur)
- timing (about how long should it take?)
- location (where it will occur)
- expected outcome (what result is clearly expected)

Rule 2: Connections between customer and supplier are direct (direct communication between two people…think of making a request)

- Direct (no middle person in the request)
- Yes/No answer (no "maybes")

Rule 3: Pathway: The steps in delivering the requested product or service

- Simple (involving as few steps and people as necessary)
- Pathways are predefined, simple, and direct, no forks or loops

Rule 4: **Improvement** is highly specified, in direct response to a problem, using the scientific method, under guidance of a teacher, completed at the place where work is done, and aiming toward the ideal

How are any of the first 3 rules of work design violated in the current condition of your improvement opportunity? How will applying each rule make a positive impact?

Activities
Connections
Pathways

Spear, Steven, and Bowen, Kent H. "Decoding the DNA of the Toyota Production System," Harvard Business Review, 77 (1999): 97-106
Jimmerson, Cindy. "A3 Problem Solving for Healthcare", Healthcare Performance Press, (2007): 15

Current Condition Observation Guide

Observe:

- Steps in the process for completing the activity
- Roles—who is completing the activities
- Problems or improvement opportunities
- Waste

Observation Site: _____
Type: _____

Observation Preparation

Focus on What you want to observe
Keep it simple-Equipment
Observation Record: paper and pencil
Digital watch or stopwatch

Establish a comfortable rapport

Go and See

Assess the current condition of the issue
Record the observation, Collect times for activities as it is happening
Limit questions during the observation; ask for clarification at the end if needed

Analyze Observation Data

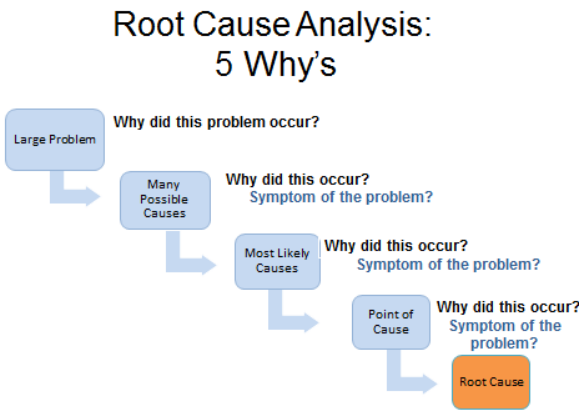
So now what?
Define the process being observed—the major "buckets" of activity
Identify strengths of the existing process—value added work
Identify opportunities for improvement—non-value added work (waste)

Identify the Reason for the Problem (Root Cause):

Ask Why? Why? Why? Why? Why is this problem occurring?

- Identify the true (root) cause of the problem not the symptom(s)
- Addressing symptoms will allow continued *recurrence* of the problem
- Addressing the root cause will *eliminate* the problem
- Dig deeper by asking *why* the problem occurred

Three basic types:
- Physical (Patient)
- Human (Caregiver)
- Organizational (System)



Problem: High rate of complications with field intubation
Why? Equipment is not prepared
Why? Because we forget
Why? The scene is disorganized
Why? Lack of formalized process

Grouping the reasons in common causes:

- Man/Woman – people in the process
- Method – way in which the process is completed
- Material – supplies used in the process
- Machine – equipment used in the process
- Mother Nature – environment in which the process occurs
- Metrics – data which is important

What do we know about a process?

- *What role* completes each activity in the process
- *When* each step happens in the process
- *Where* each step takes place
- *What* activities are done in the process
- *What* problems are occurring
- Do we know *Why* the problems are occurring?

Make the Process Visual:

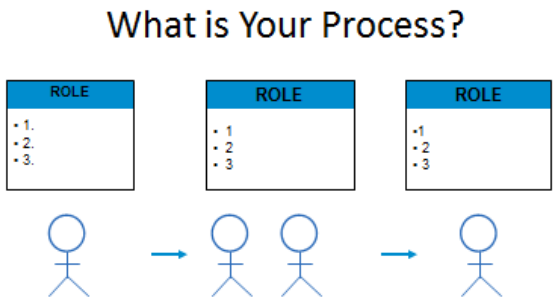
- *Process Mapping:*
  The activity of capturing information that graphically represents a process or pathway

  Why?
  - Explore a process across departments
  - Identify opportunities to reduce waste
  - Recognize problems or breakdowns in a process
  - Guide you closer to the ideal

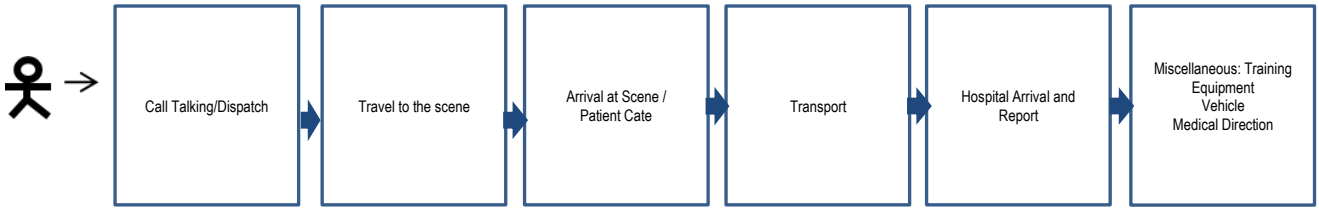
  How?
  - Analyze observations
  - Interview and talk to groups of staff – those that do the work
  - Validate the process or pathway

- *Flowchart:*
  A graphic representation, using symbols interconnected with lines, of the successive steps in a procedure or system
  - Flow of services, people and/or information
  - Demonstrates when decisions have to be made in a process

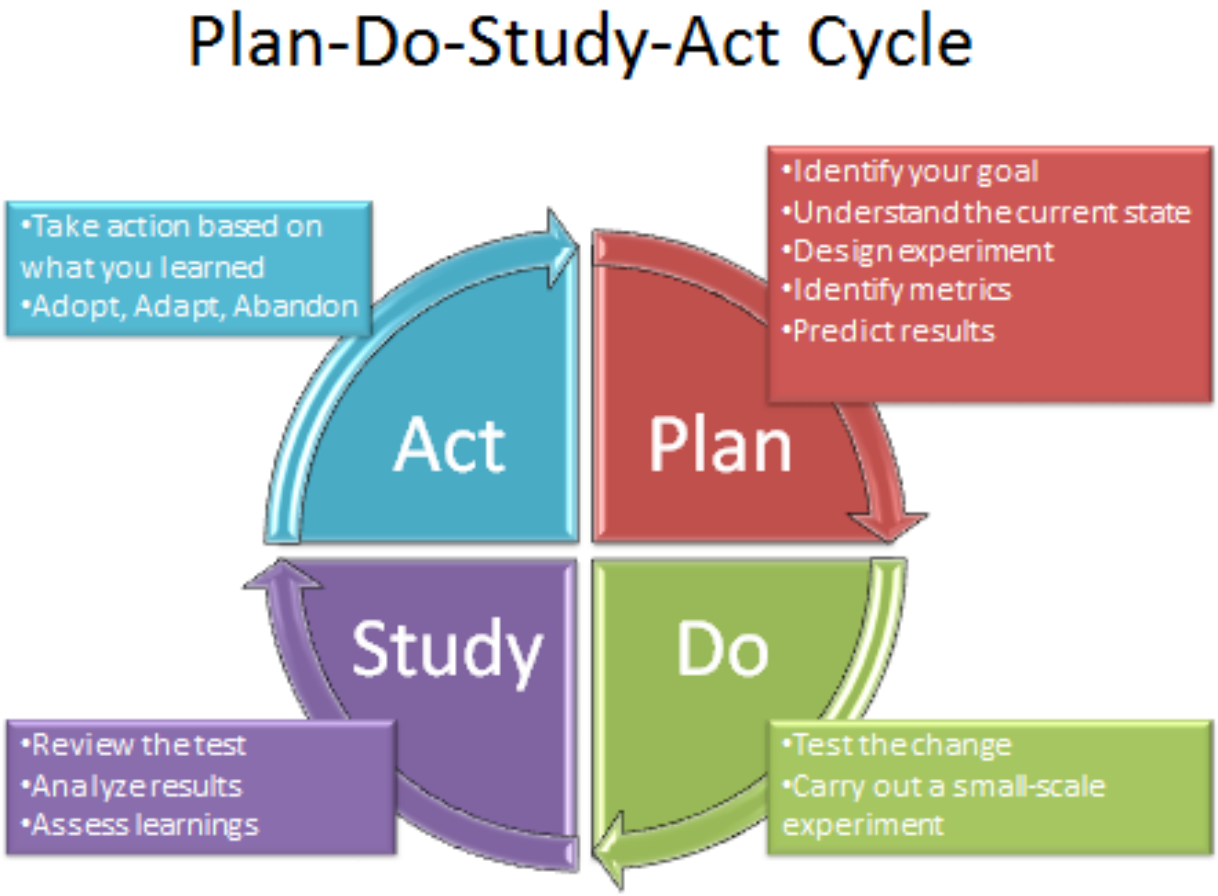
  Benefits:
  - Unites a team in improvement
  - Explores work across departments
  - Generates a deeper understanding of work
  - Identifies opportunities for improvement



Stages of an EMS Call



Quality Improvement Strategy: Problem Solving Using the Scientific Method



Quality Improvement Report using the Scientific Method

PLAN

Briefly state the problem, challenge, or opportunity for improvement
(What is it that you will fix or improve? What baseline information is necessary to fully understand the issue?)

Current Condition
How does the current process work?
What are the major issues? What does the data show?
Making it visual –Draw the steps of the process, graphical representations of the issue

Root Cause Analysis
Identify the Reason for the Problem (Root Cause): Ask Why? Why? Why? Why? Why is this problem occurring?

Cause	Answer
1. What causes the problem?	
2. What contributes to that cause?	
3. What deeper issues contribute to that cause?	
4. What deeper issues contribute to that cause?	
5. What deeper issues contribute to that cause?	

Target Condition
How will this improve the problem?
Create a graphical display of the proposed process as it will look with labels
Identify the actions that can be taken to address the root cause(s)

Implementation Plan

DO – STUDY - ACT

Identify tasks, responsible parties, who is responsible, when it is due, how often will progress be measured?

Task	Responsible Party	Estimated Date for Completion	Progress / Status

Measurements

Select metrics to be collected and tracked in order to measure progress toward your goal.

Follow-up Actions

Create a plan to following up on the process in order to ensure the gains have been sustained.
If the project is successful, create a plan for sharing what you have learned with others in your organization.

PLAN						DO	STUDY	ACT
Date	**Data Source** For problem identification or improvement project	**Goal/Target**	**What** How will the goal be accomplished ?	**Who** Team members who will help in reaching the goal	**By When**	**Status:** Complete In progress Not started	**How Did it Go?** What did we learn from the test of change?	**What's Next?** Adopt, Adapt, or Abandon

Action Items	Assigned To:	Target completion date:	Status: