

Orange County Health Department STD Quality Improvement Project Storyboard (October 2005 – July 2006)

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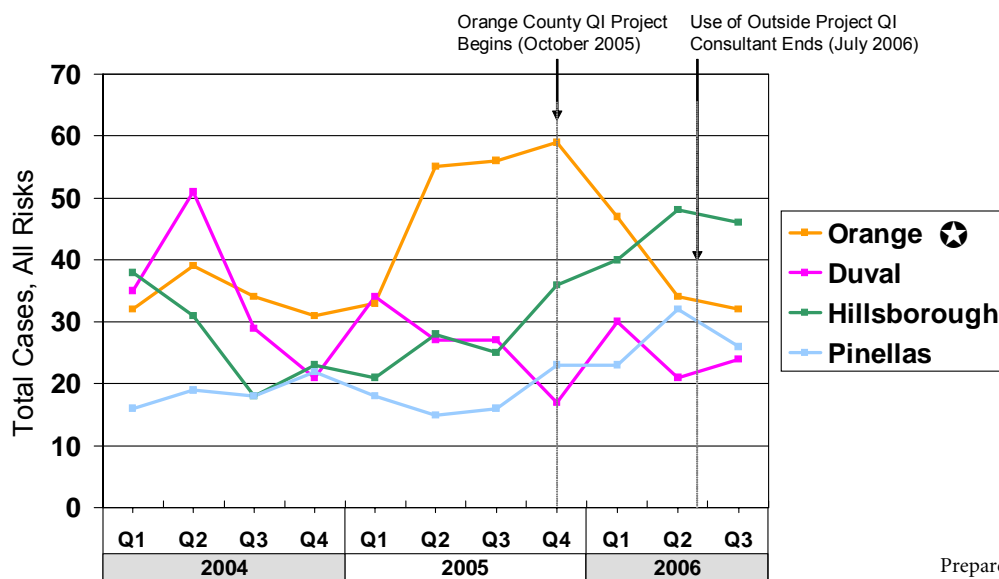
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Snapshot results of this quality improvement project:

**Total Reported Early Syphilis Cases by Quarter, 2004-2006:
Orange County Compared to Peer Counties* in Florida**



Syphilis Data Source: Florida Department of Health, STD MIS System. 2006 data for all four counties provided as of 10/13/2006.

*Peer county designation created by Community Health Status Indicators (CHSI) Project, HRSA, 2000, based on population density, size, and poverty levels. CHSI data notes are available at <http://www.communityphind.net/CHSI-CompanionView.pdf>.

Prepared by



The Situation

Between 2004 and 2005, the Orange County Health Department (OCHD) saw a sharp increase (45%) in new early syphilis cases in its jurisdiction, from 136 cases per year to 195 cases per year. Following a trend that was seen nationwide, these new syphilis cases were mostly seen in the MSM (men who have sex with men) population. Based on the accelerating rate of increase per year since 2001, the STD team knew that syphilis would grow into a larger epidemic if not rapidly controlled.

Short on staff and already feeling stretched to the limit, the STD team was not sure what more they could do to stop the spread of the disease in their community. Within the unit, turnover was high, resources were scarce, and employee satisfaction was low according to a recent department-wide employee survey.

Because of the urgency of the problem and need for new solutions, the local health department leaders considered the STD unit ideal for piloting a new quality improvement (QI) project. In years past, OCHD had tried to bring QI to the entire department, by training upper managers in QI methods. However, QI never really “trickled down” to the rest of department. Trying a more “bottom up” approach for the STD QI project, the department formed a QI team that consisted mainly of the frontline workers. Ultimately, if this model proved successful in solving the syphilis problem, the health department hoped to expand it to the entire agency.

To assist the STD QI team, OCHD provided a one-day, hands-on training and hired a consultant to coach the team in applying QI methods in regular team meetings. To free up time for the STD team to focus on improving syphilis, the unit director temporarily suspended follow-up on Chlamydia and gonorrhea reports from private practices.

At the PHF led kick-off meeting the STD team was introduced to QI tools such as the Why Tree, Affinity Diagram, and Fishbone Diagram. In this initial exploration reasons for the rising syphilis rates, they came up with several potential root causes, including constant turnover of skilled DIS workers, lack of training for DIS workers, and OCHD’s poor reputation in the MSM community.

Step 1: Describe the Problem

Problem Statement: Early syphilis is increasing in Orange County.

Reason Selected: Surveillance data showed significant increases in early syphilis over the previous four years. If not rapidly controlled, early syphilis could become a larger epidemic, costing the community hundreds of thousands of dollars in health related costs for early, late, and congenital syphilis cases, in addition to potential costs resulting from syphilis-associated HIV transmission.

Measures of project success:

1. Reduce new early syphilis cases by 25 percent compared to the previous year.
(Outcome measure)
2. 100% of Disease Intervention Specialists (DIS) will test a minimum of 4 associates per month for syphilis through DIS-initiated field work.
3. Increase the quarterly cluster index to 1.0 on early syphilis cases among MSM.
4. Increase the quarterly contact index on all early syphilis cases, including MSM cases, to 1.41.

The team identified four measures of its success: one outcome measure and three performance measures for processes important to reaching the outcome goal. Two process measures — the contact index and cluster index (process measures related to eliciting partner names and testing at-risk individuals) — were identified as areas for improvement because the team performed below the state average and CDC goals. The third process measure was a new internal standard for “field blood draws,” which could be tracked monthly.

Measure	Team Baseline (previous 6 mos.)	State Average (previous 6 mos.)	CDC Goal
Cluster Index	0.51	0.66	1.0*
Contact Index	0.84	1.41*	2.0

*team target

STD QI Team Members:

- ☐ Jim Hinson – Team Leader
- ☐ Earl Boney – QI Lead
- ☐ Anne Marie Strickland – QI Support
- ☐ Donna Bouton
- ☐ Preston Boyce – DIS staff
- ☐ Barbara Carroll – STD supervisor
- ☐ Shonda Mitchell – STD Supervisor
- ☐ Rajendra Hiralal – DIS staff
- ☐ Scott Fryberger – DIS staff
- ☐ Isabel Hudson – DIS staff

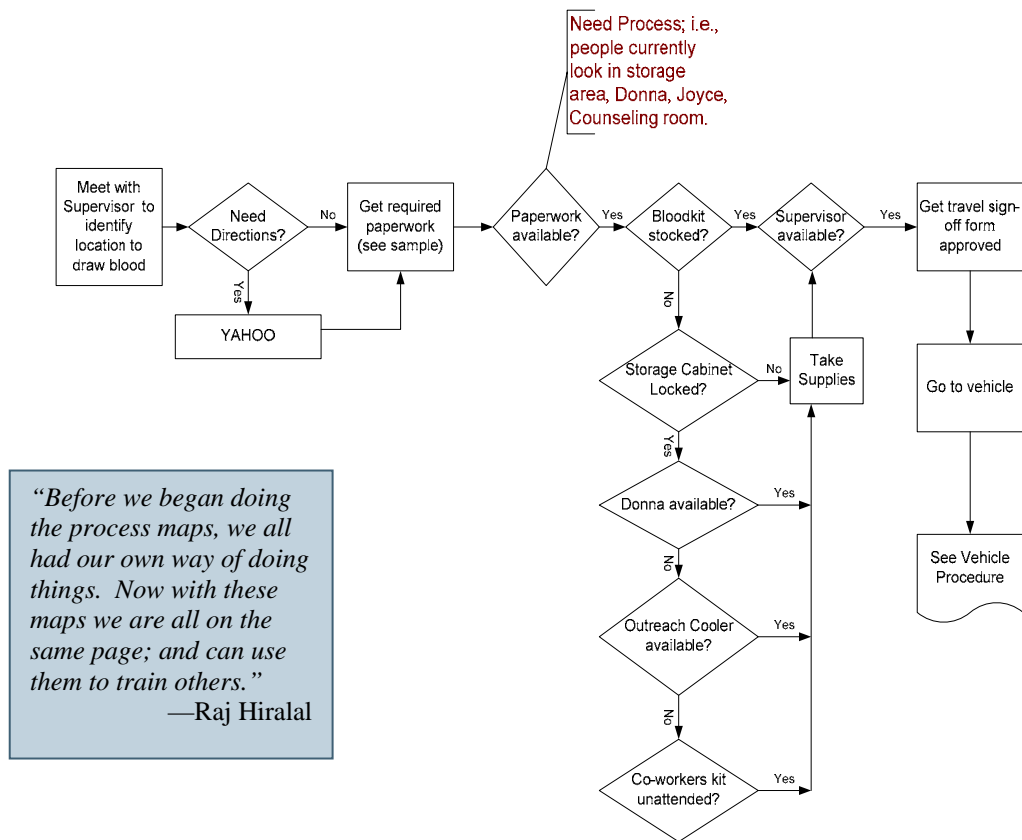
Milestones:

- Team committed to problem statement
- Identified national and state standards
- Defined measures and targets
- Completed first working/learning session
- Drafted expectations for members on QI team

Step 2: Describe the Current Process

There are 6 major processes involved in field blood draws: preparation, acquiring vehicle, field work, field recording, blood handling, and post-test procedures.

Sample Process Map for Field Blood Draws: Preparation



1. Examination of the current process for doing blood draws revealed areas of inconsistent DIS practices and inefficiencies in the way the process was currently carried out.
2. The DIS field preparation process took too much time—estimated as much as two hours each time.
3. The two areas that consumed the most time for field preparation were getting the key to unlock the supply cabinet and getting permission to use a vehicle (involving several permission steps).

Milestones:

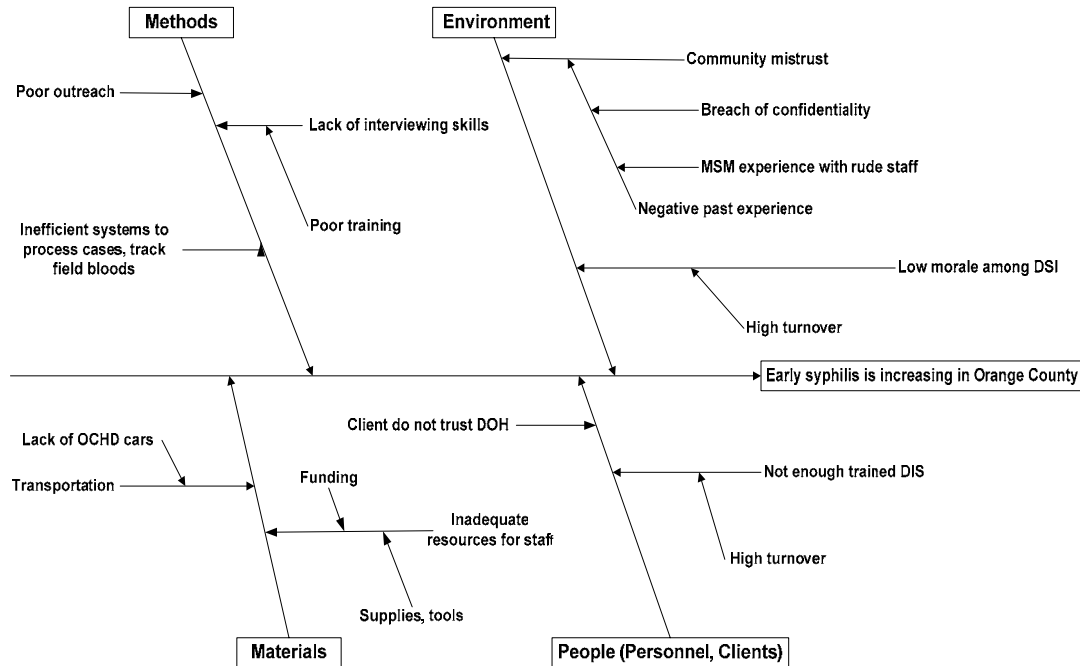
- Completed 7 process maps (1 overall, 6 detailed) related to carrying out blood draws
- Identified opportunities for cutting down time in 2 major areas of field preparation, as well as improving other processes

QI tools used in this step: Process Mapping, Brainstorming, Discussion

Step 3: Identify Root Cause(s) of the Problem

Problem: Early syphilis is increasing in Orange County.

Cause and Effect (“Fishbone”) Diagram: Root Causes for Rising Syphilis Cases



Additional causes were identified in actual diagram.

1. After conducting an initial root causes analysis examining the possible reasons for the increasing rate of early syphilis in Orange County, the DIS saw that an overlapping issue in various categories was high staff turnover.
2. By delving deeper into the issue, the team concluded that staff turnover affected their performance indicators.
3. The rate of turnover for DIS workers was high at OCHD, where the average length of stay for DIS new employees was six months or less.

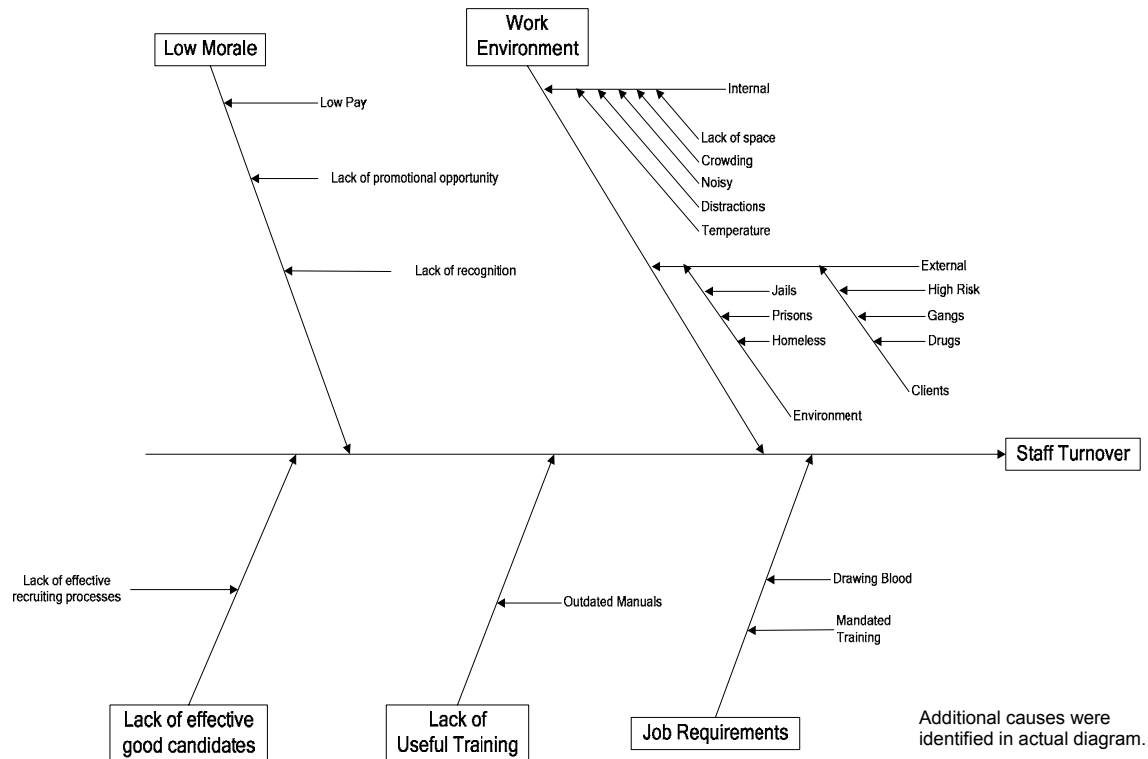
“The contact index relies on information provided from clients, and this is where the experience of DIS workers helps in pushing the contact index up...It takes some time and exposure to develop these relations [with clients].”

—Scott Fryberger

Step 3: Continued on next page.

Step 3: Continued from previous page

Initial Fishbone Diagram for Staff Turnover



The STD QI Team located most of their turnover problems in four main areas:

1. Lack of training
2. Low morale
3. Office environment (including space and interpersonal issues)
4. Lack of good candidates

Milestones:

- Completed initial Fishbone Diagram showing major causes of the syphilis problem, and identified that staff turnover was underlying most of these causes
- Created detailed Fishbone and Affinity Diagrams on staff turnover with co-worker input
- Decided to focus on staff turnover and programmatic processes that are within departmental control
- Repeated a department SWOT (Strengths, Weaknesses, Opportunities, & Threats) Analysis to take stock in what they had accomplished since the last analysis and identify strengths they could use to address future STD unit needs

QI tools used in this step: Brainstorming, Affinity Diagram, Management Survey, SWOT Analysis, Fishbone Diagram, Process Maps/Drill Downs, Priority Setting Matrix

Step 4: Develop a Solution and Action Plan

To tackle staff turnover, the team found that there were multiple areas members could work on. Because of this, they had to focus their attention first on the areas they felt were most important. Through multi-voting, the team determined that the three most important areas to address were the following (from most to least important): training, finding good candidates, and addressing low morale.

- Training
- Finding good candidates
- Low morale

In addition, the team set aside time in weekly meetings to improve the processes that were hindering the unit's success.

Sorting activity: "Lack of Useful Training"

Identified Cause from Fishbone Spine	What is to be done first?*	What do we control?
Can't do job = Skill	2	Y
Accountability	3	Y
Gossip	4	Y
Logical Decision Making	5	Skills needed = Y (learned)
Internal Customer Service	1	Y

*Result of multi-voting on priority to address
Lowest number = Highest priority

C/I/C Chart: Staff Turnover

Things within our:		
Control	Influence	(Have) Concern
<ul style="list-style-type: none"> • Gossip • Training • Recognition • Process 	<ul style="list-style-type: none"> • Hiring • Inter-departmental relations 	<ul style="list-style-type: none"> • Salary

Control and influence was an important concept introduced to the team by the team's consultant, which helped the team prioritize what causes they could most directly affect.

Milestones:

- Analyzed maps of current processes to pinpoint areas for improvement
- Identified 3 priority areas for action plan to address root causes for turnover: lack of useful training, lack of good candidates, and low morale
- Analyzed each area of the fishbone and categorized potential solutions within the team's control or influence
- Selected strategies the team could easily control that would affect programmatic processes or environment
- Submitted proposal for additional vehicles
- Requested help from HR and outside organizations on behavioral interviewing
- Submitted proposal to human resources to increase salary grade
- Collected information on strategies effective in other jurisdictions
- Reviewed evidence and recommendations for controlling syphilis in MSM populations

QI tools used in this step: Multi-voting, Sorting tool, Control/Influence/Concern Chart

Step 5: Implement the Solution

The team implemented changes by dealing with easily addressed problems first. Among their first successes, they reorganized space and made supplies more readily available to decrease preparation time for field blood draws.

Next, the team implemented several other solutions, such as enhanced DIS training and coaching, recognition of staff accomplishments, obtaining vehicles for the unit, and creating a consistent process for data gathering.

Action registers helped the team track progress.

Sample from Action Register: “Lack of Good Candidates”

ACTION	OWNER	DUE DATE	COMMENTS
1. Improve Interview/ Hiring Process	Jim/ Barbara	2/16	To include: review people, first information/job specific description/requirements/ etc., qualifying questions, interview questions
2. Conduct informal survey of current field staff	Scott	3/2	Ask how DIS found out about job, what would make you stay

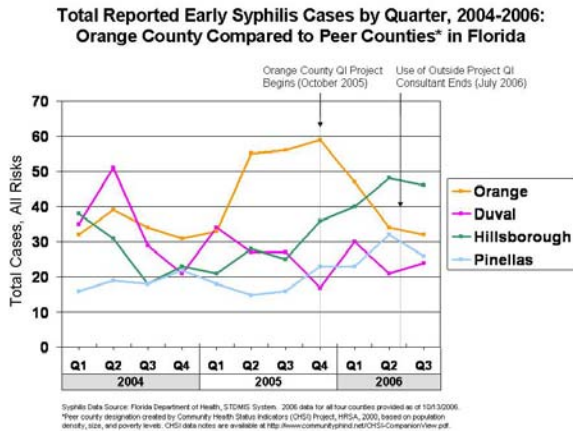
Milestones:

- Changed assignments for orientation training and initiated regular case review sessions for continuous on-the-job learning
- Health department approved unit request for 3 new vehicles
- DIS workers sent to national STD meeting for training
- Implemented new interviewing process for DIS candidates
- Trained newly hired people using improved process maps
- Clarified and eliminated unnecessary steps in procedures:
 - Centralized location of forms
 - Made supply cabinet unlocked for all DIS
 - Eliminated use of certain forms in the preparation process
- Reorganized space for better work environment
- Started recognizing DIS workers for their work and contributions

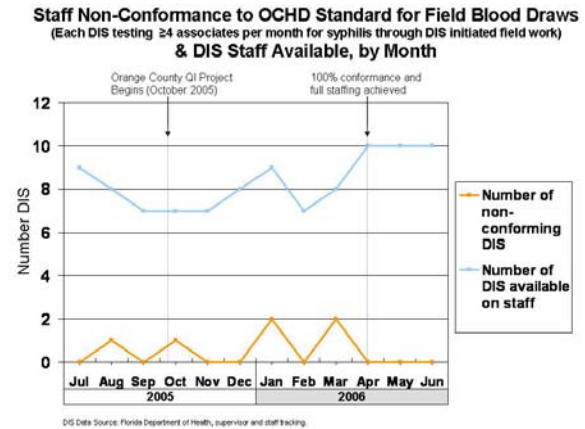
QI tools used in this step: Action Register

Step 6: Review and Evaluate Results of the Change

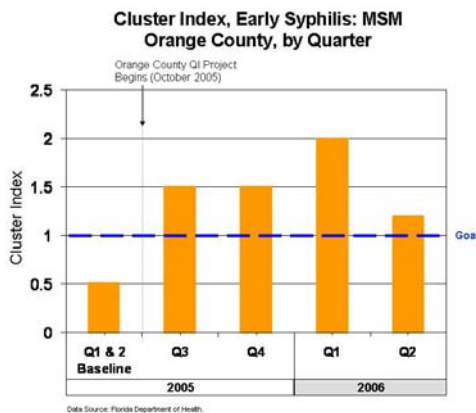
Indicator #1: Trend is Optimistic
Early Syphilis Cases



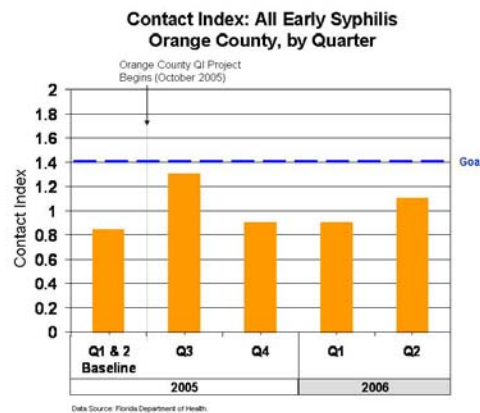
Indicator #2: Non-conformance Eliminated
DIS Field Blood Draws



Indicator #3: Met, but Inconsistent
Quarterly Cluster Index



Indicator #4: Not Met, but Improved
Quarterly Contact Index



1. By the end of the nine month project, new early syphilis cases leveled off and began to decline. During the same period, syphilis increased in Florida peer counties.
2. 100% of DIS conformed to minimum blood draws standards for the last two months.
3. Achieved cluster index above CDC standard for four consecutive quarters: attributed by team members to better interviewing skills.
4. Contact index target was improved but target not met—needs additional action.

Milestones:

- Gathered data and charted progress on the indicators
- Revisited Fishbone Diagram on turnover, and identified that most causes had been addressed, or were being addressed, by the team

QI tools used in this step: Control Charts, Fishbone Diagram

Step 7: Reflect and Act on Learnings

Secondary Effects of QI Effort: In addition to advances made in their indicators the team also reported the following successes, which grew out of the QI initiative:

- **Stopped DIS staff turnover (a root cause)**
 - Zero DIS left the unit in the first half of 2006; 6 left in 2005
 - Fully staffed for the first time in group memory
- **Improved morale and teamwork**
 - Increased job satisfaction: STD employee satisfaction surveys show an 18% increase in 2006 compared to the last survey in 2004 (significant at the $p=.05$ level)
 - More cohesiveness and trust in team
 - Better morale and teamwork translated into a better ability to work with the community
- **Team success strengthened OCHD ability to request other project funds.**

"The community is more accepting and receptive to our team because of the improvements we've made within our unit."
—Jim Hinson

Implementing QI: Since this was the health department's first QI initiative using this approach, the team learned what support needed to be in place for a successful project. While some team members had previous QI training, most learned new methods by carrying out the project. One of the most important assets was having a consultant who could be neutral, provide expertise from other fields, and help keep the team focused. The team also identified other practices and expectations they saw as necessary to successfully carrying out the QI process; however, they also found that establishing these practices and expectations proved to be a challenge.

Some **challenges** identified by the team:

- Dedicating staff to full attendance at team meetings
- Staying focused on priority issues
- Scheduling subject matter experts for process drill down documentation
- Using quality tools effectively

Other Team Lessons: The project gave the team many other insights, such as:

- Most useful tools: Affinity Diagram, Fishbone Diagram, Process Mapping
- Biggest surprise: The problem is not necessarily what you think it is
- Maintaining focus on quantitative measures requires discipline and time commitment
- Barriers and gaps must be documented for action

Milestones:

- Completed evaluation using interviews, quarterly questionnaires, and data review
- Recognized team members with letters of commendation from the local health officer, certificates of accomplishment, and a placard with team members' photos in the lobby
- Shared successes through agency presentations, newsletters, and milestone meetings
- Other units became interested in QI, and requested project participation