

Accreditation Beta Test Quality Improvement Project: Final Report

MAHONING COUNTY DISTRICT BOARD OF HEALTH

TIME REDUCTION IN CONDUCTING POINT OF SALE REAL ESTATE SEPTIC AND WELL INSPECTIONS

This report was completed by:
Nicholas Cascarelli, Accreditation Coordinator
Matthew Stefanak, Health Commissioner

EXECUTIVE SUMMARY

The Mahoning County District Board of Health is located in Northeast Ohio and serves a mix of urban, suburban, and rural population of about 175,000. Using the Public Health Accreditation Board (PHAB) self assessment and a quality improvement project, the Mahoning County District Board of Health (MCDBH) looked to reduce the time it takes for conducting septic and well inspections as a result of real estate transactions. This process was chosen because MCDBH wanted to maintain good customer relations with a key external stakeholder group and to use the results as documentation applicable to the measures addressing quality improvement in Domain 9 as they plan to apply for accreditation in 2011.

BACKGROUND

The MCDBH's interest in serving as a beta test site was threefold. First, MCDBH believed that a dry run of accreditation review will help guide the organizational strategic planning. In the last three years, MCDBH has lost 15 percent of its workforce and the potential for a reduction in the ability to provide some essential public health services. MCDBH felt the beta test would identify their weaknesses (and strengths and opportunities) and show planners where to focus their work in organizational redevelopment in the next two to three years. Second, participation as a test site with the offer of technical and financial assistance for MCDBH 's ongoing quality improvement efforts was an added attraction. Third, the board of health and management were and are committed to eventually seeking accreditation for the health department, and MCDBH's participation as a beta test site would jumpstart that multi-year process.

BETA TEST SELF ASSESSMENT

The first step in conducting the self assessment was to appoint an accreditation coordinator to serve as the key contact person for communication between PHAB and the beta site. The health commissioner appointed the accreditation coordinator. The rest of the team was chosen by the health commissioner and accreditation coordinator after attending the initial training conducted by PHAB in November 2009. The team consisted of department managers and an assistant to aid in collection of documentation. The team members agreed to meet as a group to through the measures. As a result, the team met six times and covered approximately two domains for each meeting, which lasted approximately two hours each. Once the team agreed which support documentation they would submit to, team members forwarded the documentation to the accreditation coordinator. Throughout the process, the team did not have difficulty reaching consensus on scoring. If members were unclear on a measure, they would refer to Interpretation Guide. The guide proved invaluable for many of the measures where there was some uncertainty or difficulty reaching consensus.

This process in its entirety worked well because MCDBH is a medium-sized health department and the logistics of having team meetings was not that difficult. Having the assistant keeping track of which

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documents were to be submitted (and who was responsible for their submission) in between meetings was also very helpful. Second, meeting together also helped increase the collective institutional knowledge and history. Consequently, there were instances when a team member would help remind other team members of an event that could be used for documentation.

HIGHLIGHTS FROM SELF ASSESSMENT RESULTS

Standard/ Measure	Standard and Significance
Domain 5.3L	Conduct a comprehensive planning process resulting in a community health improvement plan (CHIP) <ul style="list-style-type: none"> • This is one of the cornerstones for accreditation and MCDBH did not have a current CHIP during the self assessment. • Developing a CHIP will also satisfy an objective from the agency’s most recent strategic plan.
Domain 9.2.1 B	Establish a quality improvement plan based on organizational policies and direction <ul style="list-style-type: none"> • Although as an agency, MCDBH has continually conducted QI projects, it has been fragmented because there was no plan during the self assessment. • Developing a QI plan will also satisfy an objective from the agency’s most recent strategic plan.
Domain 1.2.2 L	At least annually, provide public health data to the community in the form of reports on a variety of public health issues <ul style="list-style-type: none"> • The team submitted two examples (Child Fatality Review Board Annual Report and A List of Toxic Houses) as required by PHAB to fully demonstrate this measure. This is one measure MCBDH could have submitted other evidence for because they provide reports to various stakeholders in the community.
Domain 6.3.4	Conduct analysis of complaints, violations and enforcement activities to determine patterns, trends, compliance and effectiveness <ul style="list-style-type: none"> • Domain 6 in general was perhaps MCBDH’s strongest domain because they had fully demonstrated all the measures. For this particular measure, the team has tracked nuisance complaint data year after year to guide objectives related to nuisances.

QUALITY IMPROVEMENT PROCESS (PLAN- DO-CHECK-ACT)

PLAN

Assemble the Team

The team members who were Board of Health employees were chosen because they specifically work in or frequently with the Septic and Well Inspection Program, with the exception of the facilitator who was chosen to because he is the accreditation coordinator and has experience facilitating quality improvement teams. MCBDH also wanted to involve realtors because they are key external stakeholders to this process. As a result, the team invited members from the local Board of Realtors Association to be a part of the QI team.

Team members had some difficulty getting members of the Realtors Association attend due to scheduling conflicts. This was one of the major barriers in getting the process started. The team overcame this barrier by meeting at the realtors’ location early in the process to engage them and express the value of their input to the QI process. The team also reduced the requirement to attend all

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meetings, and since meeting at the realtors' office, they are fully engaged. There were no changes to the composition of the quality improvement team during the course of the project.

Identify the Problem

The Health Commissioner solicited suggestions for small QI projects from the accreditation team. Because only two projects were suggested, QI tools were not used to decide which project to choose. The selected project was chosen by the management team because it of its external stakeholder customer focus and the timeframe for this project and the chosen project had clear measurable outcomes.

The team chose to analyze and improve the process of real estate sale septic and well inspections. Mahoning County requires an inspection of the septic system and well prior to the sale of a home. Although not frequent, there have been some realtors complaining that the process takes too long and that they have lost sales. There was also some uncertainty and difference of opinion regarding the process among program staff. In addition to reducing the time for the completion of a real estate inspection, the team also would clarify the process for the program staff.

The project that was not selected was combining the filing system of charts of patients that attend MCBDH health clinics into one system. Currently they are filed according to the funding source of the program. If a patient receives clinic services from multiple MCBDH programs, that patient could conceivably have multiple charts. One additional reason this project was not chosen is because of staff shortages in the nursing division. The team hopes to conduct a QI process around this issue at a later date.

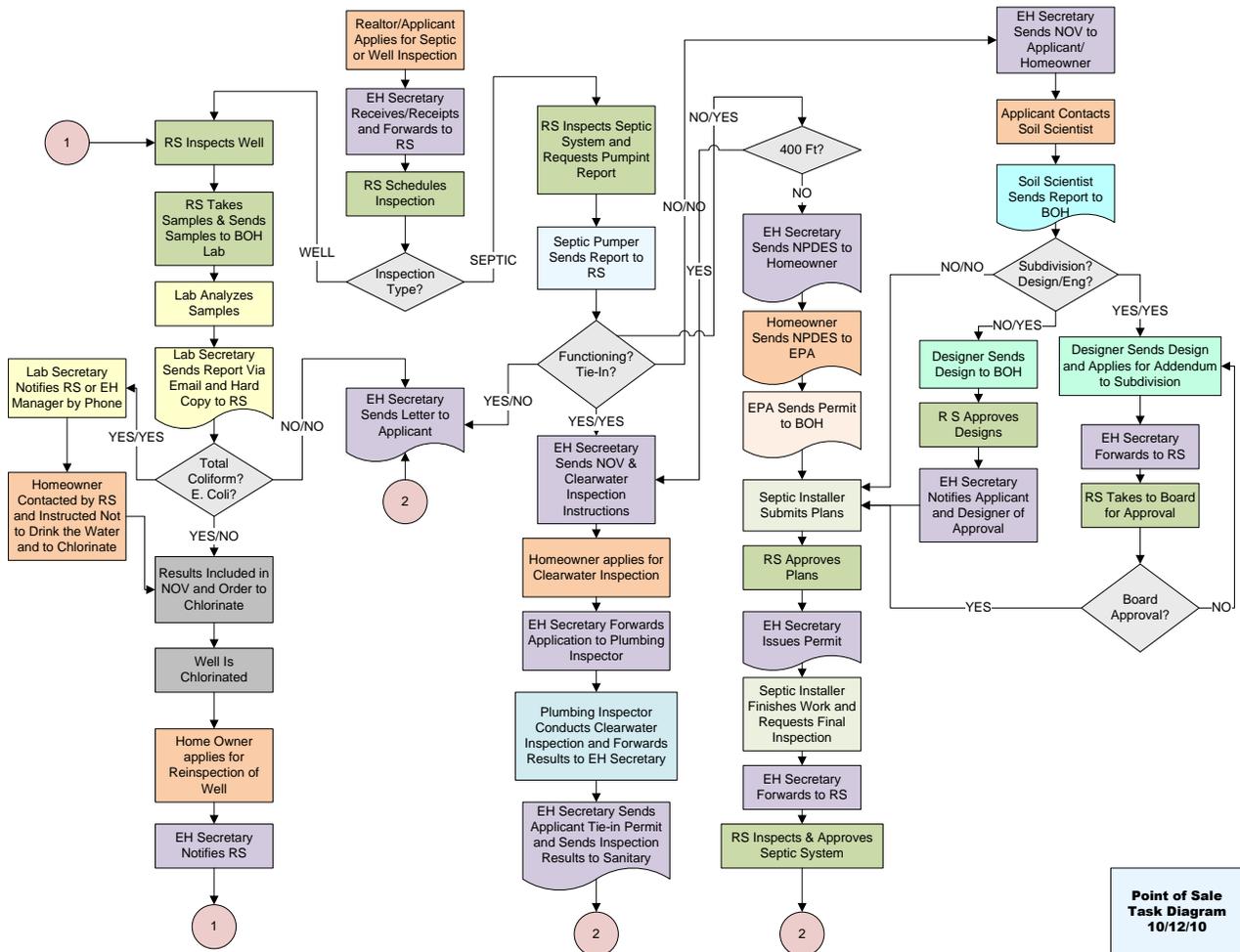
For the selected project, the initial aim statement developed July 1, 2010 was "To reduce the time it takes to process and conduct septic and well evaluations for real estate transactions." This aim statement was vague until the team had a chance to look at the data.

The revised aim statement was developed Oct. 15, 2010, was, "Between Oct. 18 and Nov. 30, we will reduce the average time it takes to conduct septic and well evaluations for real estate transactions by 15 percent (from 11.8 to 10 calendar days)."

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Examine the Current Approach



The flowchart above is a representation of the current process for septic and well inspections as a result of real estate transactions. Each inspector is assigned different part of the county to conduct inspections using this process.

The team chose to complete a force field analysis to look at where the process tends to slow down and may be cause the process to unnecessarily take longer. Below is a list of the restraining forces identified in the force field analysis:

- The step in the process whereby the lab assistant is supposed to notify the inspector the results of the well test sometimes takes longer than expected
- The time it takes for the inspector to schedule the inspection
- The time it takes for the septic pumper to send the report to the Board of Health
- No system in place to follow up on the Clearwater Inspection Report for those properties who are required to tie in to the sanitary sewer and cease using their septic system
- Realtors wait too long to apply for inspections
- Waiting on external parties when the case dictates—the involvement of the Environmental Protection Agency, a soil scientist, Board of Health approval, or engineers

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- The lack of follow through on part of the homeowner
- The inspector forwards hand written notes to be typed by assistant
- Each inspector may do this process a little differently
- We require the septic system pumped even if it is functioning properly
- Variance in inspector workloads.

Identify Potential Improvements

The team evaluated whether or not some of the items indicated as restraining forces were changes within the team's control and could be changed in a short timeframe so that they could be tested. The team decided the change to test using this criterion. In examining the baseline data below, the team would test a more equitable redistribution of the workload among the three inspectors to reduce the time it takes to conduct the inspection.

The team looked at two sets of baseline data. The first set of data was to collect the time it took for various critical points in the process from the time it takes for the applicant to apply for the septic and well inspection to the time the process was complete. The team collected baseline data on 55 properties on three particular time frames beginning at the end of July through beginning of October where the processes have been completed.

- The average time it takes from application to scheduling is 7.4 days.
- The average time it takes from application to inspection is 11.8 days.
- The average time it takes from application to completion is 22.3 days.

The time calculated from application to scheduling is the timeframe from when the customer applies for the septic and well inspection to the time the inspector contacts the homeowner to schedule the inspection. The time calculated from application to inspection is the time frame from when the customer applies for the septic and well inspection to the time the inspector actually conducts the inspection. The time calculated from application to completion is the timeframe from when the customer applies for the septic and well inspection to the time lab reports and any follow up inspections needed after the homeowner makes corrections or has the septic system or well serviced.

The second set of baseline data was to examine the variance in workloads. One thing in looking at the data was that many of the areas where these timeframes took longer to inspect were the townships furthest from the health department. The team then analyzed the workload data of the three inspectors who worked in that program. Many of these inspections were conducted by the same inspector and when looking at the total workload (this includes other types of inspections beyond this process), this inspector had completed more inspections than any other in the program.

- Inspector 1 conducted 41 percent of the inspection activities. Many of this inspector's real estate evaluations took longer than the other two.
- Inspector 2 conducted 29.5 percent of the inspection activities.
- Inspector 3 conducted 29.5 percent of the inspection activities.

Through redistributing the workload, the team believes they can reduce the time it takes from when the realtor or homeowner applies for an inspection to when the inspection is conducted by reducing the mean time from 11.8 to 10 days. The redistribution was done by reassigning different parts of the county using baseline data set two hypothetically so that

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- Inspector 1 would have conducted 33.2 percent of the inspection activities with the new territory.
- Inspector 2 would have conducted 33.8 percent of the inspection activities with the new territory.
- Inspector 3 would have conducted 33 percent of the inspection activities with the new territory.

Develop an Improvement Theory

If the workload is redistributed among the inspectors more equitably, then the team can reduce the average time it takes to conduct the septic and well inspection from 11.8 to 10 days. The team are collecting the times it takes for the critical points in the process (the same items that the team collected in baseline data set one) starting when the work redistribution took place on Oct.18 through the end of November. The team will calculate the mean on those cases to determine if the redistribution of workload had the desired effect.

The environmental health secretary, the inspector, and office manager team members will help with data collection. The members of the team who are from the Realtors Association will continue to provide input. The environmental health director will redistribute the workload. The team facilitator will analyze the data. Because the process is a timely one and the team will be collecting data at multiple points for each case, they will analyze the data at the end of the project. The team as a whole will decide whether to adopt, adapt, or abandon the change.

DO

The improvements were run according to plan. The redistribution of the workload began on Oct. 18, 2010, as proposed in the plan stage. The team collected the dates of various critical incidents in the process. The date the applicant applied for a septic and well inspection, the date they were contacted by an inspector to schedule the inspection, the date the initial inspection was conducted, and the date the process was completed with the approval/disapproval letter being mailed out to the applicant. Appendix B contains the data sheet used before and after the intervention.

CHECK

The data collected were sufficient to conclude that the improvement tested was effective. The team was able to collect all the information needed on 24 properties in the six-week timeframe after the improvement was put into place. The time it takes from application for a septic and well real estate evaluation to when the inspection was conducted was reduced from 11.8 to 7.1 calendar days, a 40 percent decrease in time. This far exceeded the team's final aim statement goal of 10 days or a 15 percent decrease. The team decided to move to the act phase.

ACT

As a result of the success with reassigning the more equitable distribution of the workload, it was appropriate to adopt the workloads changes among staff during the test of the improvement theory. There were no major challenges or obstacles with the change because the redistribution was actually decided and agreed upon among the three inspectors doing the work. The team will continue to monitor this improvement theory because home sales tend to be higher in the warmer months. It is during the spring and summer when this program is the busiest. The team will

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continue to monitor the gains for this program through the summer of 2011 to see if there any seasonal fluctuations.

RESULTS, NEXT STEPS, AND ACCREDITATION

Undertaking this QI project will undoubtedly be used for documentation on those measures related to QI and community engagement as the team involved external stakeholders in the process. MCBDH hopes that this QI project will serve as a spring board for other QI projects. MCBDH is going to use this project as a template for incorporating the PDCA cycle into their culture and quality improvement plan, which the team is working on at the time of this report.

LESSONS LEARNED

Self Assessment

With regard to conducting the self assessment, it was very advantageous to have the accreditation coordinator attend the PHAB training beforehand. The accreditation team may not always consist of manager, but those who have a lot of knowledge about the many processes and services the health department provides. The process the team used in conducting meetings to conduct the assessment as a group worked out well. It may not be as easy to use this process for large or state health departments. The team also found that there were times that they did conduct certain activities, but had little or no documentation to prove that they demonstrated the measure. The team had file folders set up on the network to the measure level. They found this worked out very well to help keep all of the documentation organized and it made it easy when attaching documentation to PHAB's online self assessment documentation utility.

Site Visit

Preparation is important for the site visit. Ensure that you acquire the further documentation the site visitors request in advance and be prepared to address any questions on clarification of documentation that was submitted. MCBDH very prepared and the site visitors were very appreciative as such. The team's self assessment score proved to be lower than the score the site visitors gave MCBDH. Much of that was a result of having the further documentation the site visitors were asking for.

QI Project

With regard to the QI project, one of the things that benefitted the process was that many of the team members were familiar with the QI cycle. That cut down on the time needed to teach about PDCA specifically. If you are involving external stakeholders, be clear on what your purpose is for having them as a part of the team and your expectations of them as part of the team. One other item of recommendation is having a facilitator who knows and understands team dynamics is crucial to keep the process moving and on target.

APPENDICES

[Appendix A: Storyboard](#)

[Appendix B: Point of sale pre- and post-test data](#)