

Accreditation Beta Test Quality Improvement Project

CENTRAL VALLEY HEALTH DISTRICT

ENVIRONMENTAL HEALTH SERVICES IMPROVEMENT

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EXECUTIVE SUMMARY

Central Valley Health District (CVHD) is a two-county health department located in Southeast Central North Dakota. CVHD serves a primarily rural population of about 22,000 people. The central office is located in Jamestown, which is the largest city with a population of 14,826. Using the Public Health Accreditation Board (PHAB) self assessment process as a guide, CVHD decided to look at the current process of data collection in environmental health services as a quality improvement (QI) project. CVHD wanted to address deficiencies found during the accreditation process especially those outlined in Domain 2 and 6 of the self-assessment. Data that was missing during this process from Domain 2 included an example of a completed investigation and completed after action reports for events; data missing from Domain 6 included an example of a regulation/ordinance or enforcement activity, documentation of consistent application of Public Health laws—audit of case files, documentation of distribution logs of violations and or complaints, and a list of training sessions with attendance.

BACKGROUND/INTRODUCTION

In 2009, CVHD submitted an application for the PHAB beta test. CVHD has always been interested in understanding the needs of the population and providing the best care possible to the population they serve.

CVHD has always been a leader of public health services in North Dakota. For example, the administrator serves as the chairperson for the local public health administrators and the director of nurses (DON) is also the lead for DON in North Dakota. CVHD's leaders have also been involved in the legislative process and working to increase funding to the local health departments (LHDs). CVHD has also been instrumental in helping to establish a recent state association of county and city health officials in North Dakota.

As a public health leader, CVHD felt that this opportunity of testing public health accreditation would provide the best way to improve its statewide public health system for the future. In addition, CVHD considers themselves a small to medium health department and with the majority of LHDs in North Dakota fitting into this category, CVHD wanted to make sure that LHDs of this size could successfully navigate through the accreditation process.

BETA TEST SELF- ASSESSMENT

CVHD employs approximately 25 employees. Many CVHD programs exist with funding from federal sources like the Women, Infant, and Children (WIC) program, family planning, tobacco control, and emergency preparedness. Staff working in various departments wear numerous hats as they go about their daily operations. Staff time would be a concern when it came joining the accreditation team. The unit administrator understood the lack of time and wanted to make sure that preparing for accreditation would not disrupt the daily operations of the health department.

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The accreditation coordinator was the unit administrator, who was also a registered nurse. The accreditation coordinator had more than 20 years of experience working at CVHD and has held various positions within the agency. The accreditation coordinator's understanding of the various programs was a benefit to the process of accreditation for CVHD. The accreditation coordinator's knowledge of the documentation available at the health unit came from working with all the programs and being an active team player with many CVHD programs and services.

The accreditation coordinator began the process of accreditation and working through the self assessment domains independently without a team. There was no unified group formed for the process of the self assessment due to the availability of staff and the organizational structure of CVHD. The process of collecting the required documentation took approximately 40 days. The ability to review each section, make notes regarding the documents that was needed, and then work with various staff members who would provide the documents back to the accreditation coordinator was very helpful. Having someone knowledgeable about the programs and services of the health department and the documents that would meet the measure or standard required for the accreditation process worked well during the self assessment. During the process, the accreditation coordinator talked with many of the department directors, discussed various measures, and received input regarding documentation they thought would meet the standard. Another important asset to the accreditation coordinator was an assistant who helped scan and name documents so they could be uploaded.

Domain 1.1.B, in particular, was one area that caused concern for the agency. Some functions, as outlined in this domain, were difficult to measure because the function was not handled by the LHD but was a state health department responsibility. Unfortunately, there was no formal agreement that outlined the relationship between the LHD and state health department, and this led to deficiencies in documentation. To improve this area, the accreditation coordinator will work with state partners to establish a memorandum of understanding so clear lines of authority can be established and documented.

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

PLAN

In order to address deficiencies in Domain 2 (a completed investigation) and Domain 6 (a regulation/ordinance or enforcement activity), the accreditation coordinator formed a team (including administrative, financial, nursing, and environmental staff) and asked them to participate in a QI process to explore ways to improve documentation of environmental health data. The team was limited to 10 staff members.

Team members were selected based on program, roles, and interest. The team was informed to address the deficiencies in Domains 2 and 6. One example that the accreditation coordinator shared with the group was how activities/events in the environmental health program like the event of the Barnes County train derailment, would have been an example of the data needed to meet a measure, but the documentation of the train derailment was lacking and the agency did not meet the measure.

Everyone selected was excited about being part of the project, but being able to make the time commitment to the project was the most difficult barrier to overcome. The team decided to meet monthly. Everyone was asked to schedule the process in advance to ensure that time was set aside for

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the project. The team also communicated by e-mail throughout the process. Management support helped the team to make the effort a priority.

Identify the Problem

At the first meeting, the accreditation coordinator used the affinity diagram process to understand the essence of the problem and gather ideas. The group began writing down ideas and comments about the environmental health program on sticky notes. During this meeting, some common themes emerged regarding environmental health services including action, investigation, follow up, intake, and staff/public education. Under each heading, team members grouped the notes into the category they most likely fit under. As this process was happening, staff also discussed how the notes fit under the headings. Duplicate questions were eliminated.

The problems that emerged centered on the main headings. The headings led the group to discuss many areas of environmental health that needed clarification. The overarching theme to the problem centered on data collection. There seemed to be little data collection of environmental health reports, actions, investigation, follow-up, intake, or education. CVHD had reports or forms that were being completed, but these forms did not always tie to data. In most situations, in order to obtain environmental health data, staff would need to count forms in order to determine a number or action that was done. In some instances, there was no form to count so data collection was difficult to process. One area of concern was that the environmental health director writes information in a yellow notebook and uses it to count the services he has completed. This led to a subjective interpretation of the data to outside observers of his notebook. This yellow notebook often times did not correspond to paper reports or narrative reports that were written. Data is shared on the computer billing system when permits are issues, but this system does not correspond to the number of permits issued.

One theme that surprised the group during the QI process was that staff who did not work in environmental health services did not have a clear understanding or even knowledge about the environmental health program and the work that was being done. The team decided to provide information at staff meetings in the future as a way to improve staff's knowledge about environmental health. This change was not part of what the QI process that was worked on, but was an added benefit to the agency.

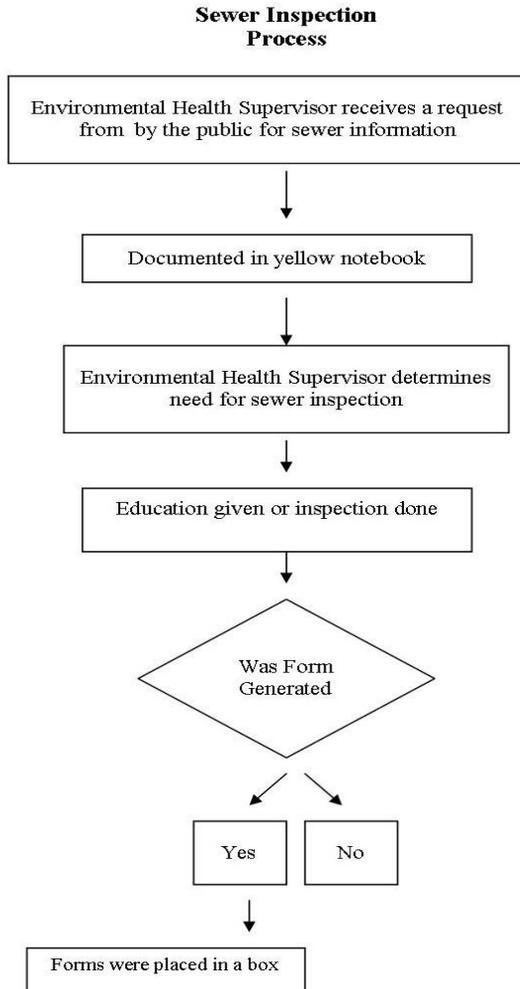
The team determined that the initial aim statement would be, "By Dec. 15, 2010, improve collection methods for environmental health services so data can be generated on the numbers of environmental health services and actions provided to the community." However, during the process the team determined that they needed to narrow down the focus. Because the sewer inspection process seemed to be the biggest area where there was a lack of consistency in data collection, the team revise the aim statement to read, "By Dec. 4, 2010, increase documentation on sewer inspections from 14 percent of the inspections documented to 100 percent of the inspections being documented."

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Examine the Current Approach

The first step to improve data collection for sewer inspections was to create a flowchart of the current way data for sewer inspections was being collected:



Once the team reviewed the flowchart, they asked the five whys to determine what they needed to improve and what the root cause of the problem surrounding data collection for sewer inspections.

Five Whys

1. Why is there no consistent sewer documentation on an inspection or education?
Forms are sometimes completed depends on the situation.
2. Why was there no form?
There was no need to fill out the form.
3. Why would we not want it to be documented and counted?
Count only new permits. What is the difference between new and existing?
4. Why do you only count new permits?
No one has asked for data broken out for new vs. existing sewer inspections.
5. Why do we need data on new or existing sewer systems?

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Data collected provides information for accreditation process, county commissioners, other area health departments and the Unit administrator. Need data to accessible to the unit administrator when she does reports or is asked for information. There are two types of sewer inspections those for new systems and those for existing systems. Each one has a different process but the end result should be a form generated so that it can be counted.

Once the determined that there are two types of sewer inspections, they talked about how data would be collected based on the type of inspection that is being requested.

Identify Potential Improvements

In the past, onsite sewer systems in the region were approved to be installed after the permit application was returned to environmental health director. Then he decided if he needed to inspect or help in the installation process. Afterwards, the form was usually filed in a box in no particular order.

The environmental health director was open to changes in the process of data collection and record keeping in his department. The main reason for his openness was that he was thinking about the future of the department. These changes included increasing the number of staff in the environmental health department from one person to three and succession planning for the retirement of the current environmental health director. Finally, the agency was also expanding the environmental health department and taking on additional counties to provide inspections and services, which would mean more accountability was necessary. The group identified that it was an ideal time to make changes in environmental health data collection so that everyone was recording data in the same manner. Some of the potential improvements discussed:

1. Purchase a computer program to log data for environmental health services.
2. Organize environmental health forms and records so data is accessible.
3. More staff understanding environmental health documentation.
4. Assign a secretary to capture environmental health data.
5. If staff understand if an inspection is new or existing, the correct documentation will happen.
6. Monthly reports will be generated to show what data is being collected.

Develop an Improvement Theory

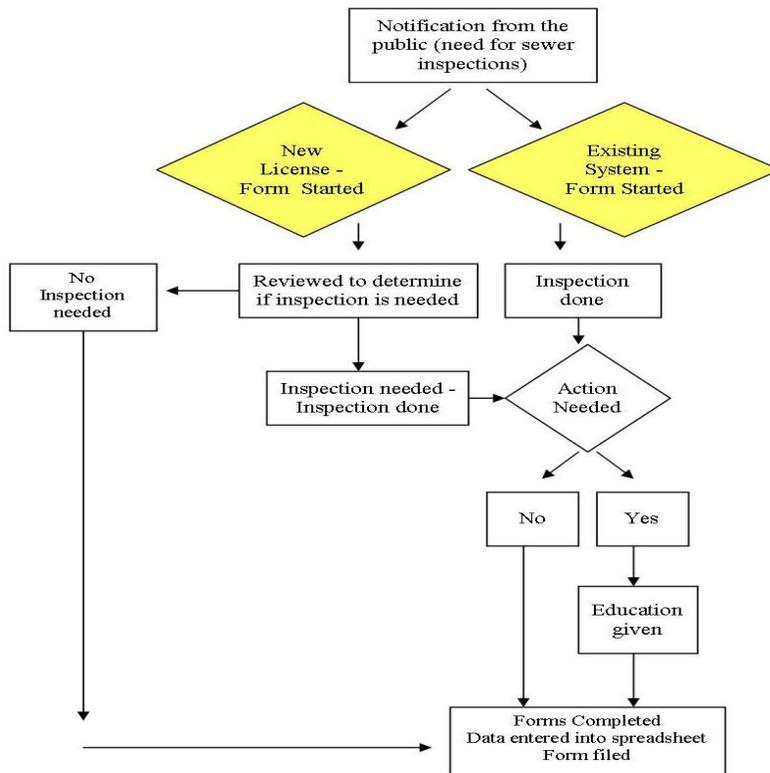
If a form is started when a call is received regarding a sewer inspection and the forms are filled out during the process of the sewer inspection, the number of documented sewer inspections will improve from 14 percent of documented inspections to 100 percent of inspections being documented.

The new staff in environmental health took on the project of improving data collection. New file cabinets were purchased. Old data was organized and filed in color coded charts. In addition, a database was developed by taking a system from another LHD and adopting the system to work for CVHD. The following flowchart was created on Aug. 1, 2010, to determine the new process for sewer inspection data collection:

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Sewer Inspection Data Collection



DO

Test the Theory

Initially, the team's approach was to integrate a new record-keeping system for all environmental health services in the region (eight counties). After much thought the team decided to focus its implementation on the area of environmental health services that has the largest base in the region, which would mean sewer inspections for one county. First, the team decided to integrate its paper filing method into a hybrid system that included both paper filing and electronic file keeping. Forms would be completed when calls come into the office for a sewer inspection. Once the inspection is completed, the form would be entered into the computer system and the form would be filed. The computer system can be sorted and shared providing for a fast data tracking system. Filing forms would improve access to the actual inspection process and documentation for Domain 2—completed inspection. Second, the team completed the process by organizing the files by year and county, both electronically and physically. Third, new forms and collection methods were developed so that as much information could be captured as necessary to improve the implementation and record-keeping process. This will help streamline future work and allow for more consistent record keeping.

The new system was tested and reviewed monthly to monitor progress from Aug. 1 through Nov. 20, 2010.

CHECK

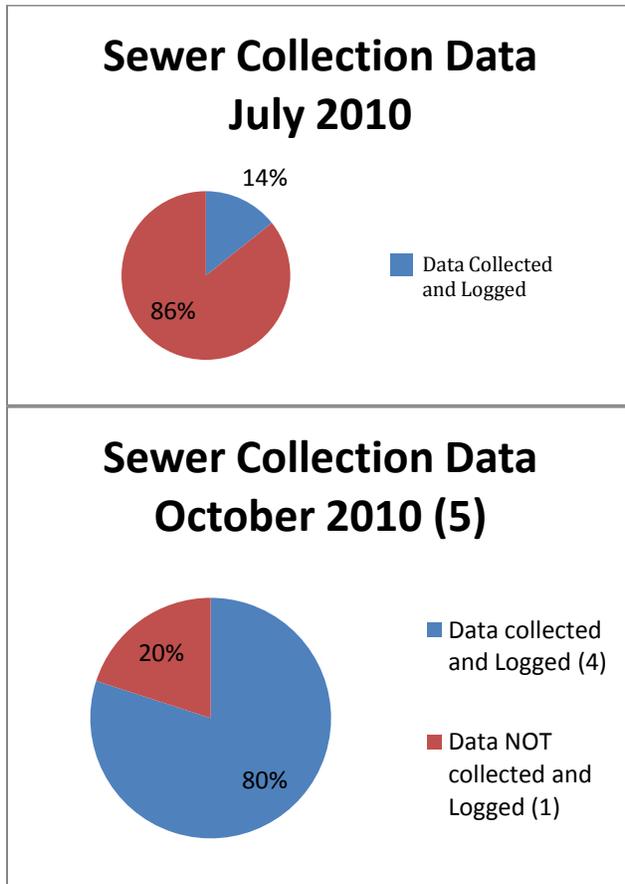
Overall, the data collection and integration went well and is currently working well at CVHD. In order to test the productivity and the success of the program, graphical pie charts were developed. The pie

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charts illustrate the improvement that was made by implementing this process. The charts show that from the onset of the project, very few records were kept pertaining to the installation and inspection of on-site sewer systems. At the conclusion of the project, 80–100 percent of on-site installation and inspections were recorded.

The accreditation coordinator is now able to go to the environmental health department and ask for the number of sewer inspections. The staff are able to provide both numbers and paper forms of the sewer inspections that were completed during the requested time frame.



ACT

Standardize the Improvement

- Continue to refine current computer program.
- Standardize the program, so that all team members are educated on how it works.
- Update both the electronic and physical files weekly so that a backlog of files is not created.

The process of improving data collection was greatly improved through the QI project. The team went from small amounts of data being collected and logged to a majority of data being logged and collected. This was accomplished through the development of a complaint log in Microsoft Excel. Overall,

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environmental health services have been vastly improved through the process and a greater magnitude of environmental health visibility is apparent.

The full team is no longer meeting monthly to discuss environmental health data collection. Only the members directly involved in the data collection continue meet to discuss the progress. One final meeting will be held by the team to discuss the successes and failures of the project.

Establish Future Plans

The improvement of data collection in environmental health continues to evolve. Because of the QI process, staff have been working to make improvements in collection of all data generated by the program. New files cabinets were purchased so that paper data could be filed correctly in a timely manner and the computer program continues to be updated and revised for data collection. The environmental health department plans to expand into food inspection (previously a state responsibility), and the data collection method is a top priority with this new program. The staff will report data monthly to the unit administrator so that the data can be shared with other staff and also with the board of health.

In the future, the team plans to include other environmental services in the complaint log (computer system). By doing so, any inspection that requires field work will be logged and available for the environmental health staff to view for situational awareness. This information will be provided to county administrators and other necessary entities (as needed) in development of future needs in the area.

RESULTS, NEXT STEPS, AND ACCREDITATION

As a result of the QI process at CVHD, documentation collection of environmental health data has improved. This improvement will assist the agency as they move forward to applying for accreditation. In addition, the agency staff gained knowledge regarding environmental health services through reports at staff meetings, which will increase the accountability of the program and provide for more continuity of the agency.

QI processes will be expanded into other areas of CVHD and also will be expanded into partnerships with the state health department. For example the agency is involved in a state project looking at QI of immunizations and also the next step is a QI project with the statewide breast and cervical cancer program.

LESSONS LEARNED

For the most part, the collection and integration of the data went as planned. However, some roadblocks included missing information, missing files, and the duplication of files. The most difficult and time consuming task was the development of the computer filing method and the actual input of information.

The biggest lesson in QI is do not wait to start your improvement process. The data collection in environmental health has been lost for many years by not completing the improvement the process sooner. Additionally, some of the data that the unit administrator recalled for documentation examples during the self assessment process that were not available did turn up as the improvements in the department were being made through this project. Lost documentation was found as the improvement theory was being adopted.

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Finally, continuous QI is a valuable tool for any agency to use and a way for public health to improve systems and health outcomes. CVHD looks forward to developing an agency plan for continuous improvement.

APPENDICES

[Appendix 1: Storyboard](#)