

**Accreditation Preparation &
Quality Improvement
Demonstration Sites Project**

Final Report

**Prepared for NACCHO by the
Bethlehem Health Bureau, PA**

November 2008



Brief Summary Statement

The Bethlehem Health Bureau is located in Bethlehem, Pennsylvania and serves a population of approximately 73,000. An initial team of four individuals utilized the NACCHO Self-Assessment Tool to identify the Health Bureau's strengths and areas for improvement related to the operational indicators for each essential public health service. The area of data collection, processing, and maintenance was selected as an area to target for improvement. Interviews were then conducted with staff to determine areas of weakness in regard to data collection, processing, and maintenance for each program area. Issues identified during the interview phase were then examined further by utilizing a prioritization matrix and root cause analysis. A process for data collection, processing, and maintenance was developed during a three-day mapping event. The process was piloted, modified based on recommendations from the pilot, and then implemented Bureau-wide. The Health Bureau now has a consistent, accurate process to collect data.

Background

The City of Bethlehem, Pennsylvania is a diverse urban area with 73,000 residents. The Bethlehem Health Bureau (BHB) operates as an independent Municipal Health Department in Pennsylvania. The mission of the BHB is to preserve, protect and promote the health and well-being and improve the quality of life for all City of Bethlehem residents. In accordance with the mission, BHB recognizes its responsibility to the community by actively participating in National and State Health Improvement Plans. Many of the program objectives take into account the Healthy People 2010 target goals to improve the health status and eliminate the health disparities among City of Bethlehem residents. The major divisions within the Bureau that exist are the Division of Community and Personal Health Services and the Division of Environmental Health. Within the Community and Personal Health Division there are four subdivisions; the Communicable Disease Program, including the programs of STDs, HIV/AIDS, Tuberculosis, Immunization and Disease Surveillance; the Maternal and Child Health Program, including the programs of lead, prenatal home visits, and well and sick child care; the Bioterrorism Program and the Chronic Disease and Health Education Program, including programs of cancer, tobacco control, diabetes, osteoporosis, physical activity, obesity, nutrition, heart disease, injury prevention, and highway safety.

The City of Bethlehem is currently involved in a continuous improvement initiative to improve quality and efficiency within all of the City's departments and bureaus. This quality improvement project provided the ideal opportunity for the Health Bureau to conduct an internal assessment of key public health indicators and standards. The assessment provided the foundation to continue to implement quality improvement initiatives and prepare for future accreditation.

Project Goal:

To:	Improve accurate collection, maintenance and analysis of health data and utilize the results to monitor the health status and identify the health issues facing the community.
For:	Community Members, Community Partners, Employees
By:	<ul style="list-style-type: none"> • Identifying the most important data to collect and establishing definitions • Establishing a reliable process for data collection, evaluation, and reporting • Selecting a user friendly database • Training employees to collect accurate, reliable data and establish accountability • Installing measures, targets and tracking performance of data analysis • Identifying and reporting out on key health issues • Establishing a quality assurance process • Extracting lessons learned
So That:	<ul style="list-style-type: none"> • More progress on improving community health is achieved via better focus on critical issues and use of data to establish gaps and actions for improvement • Residents are provided appropriate and necessary health services • Accurate data entry is ensured • Baseline health data and statistics for community planning is available • Collaboration among community partners is improved
Conditions:	<ul style="list-style-type: none"> • Central data collection person identified and assigned responsibility • Staff will attend training on data collection • Program managers will be held accountable • Data reports are provided on a monthly basis
Standards:	<ul style="list-style-type: none"> ➤ 100% of employees involved with health programming are trained on data collection techniques ➤ 100% of program areas have an adequate data collection system in place ➤ Annual report card will be implemented for all program areas.

Objectives:

- Complete the NACCHO self-assessment tool by May 15, 2008.
- Calculate scores, analyze results, develop goal statements for areas of improvement and identify priority areas to address through a QI process by June 15, 2008.
- Implement a QI process and plan by September 30, 2008.
- Submit a Model Practices application by October 30, 2008.
- Provide final report to NACCHO by November 30, 2008.
- Participate in bi-monthly conference calls during the duration of the project.

The Health Bureau did modify some of the timelines in order to allow enough time to pilot the new process. The process was piloted during the month of October, thus some reports were not submitted until November.

Self-Assessment

The Bethlehem Health Bureau's management team, representing each program area (chronic disease, communicable disease, environmental health, and maternal and child health), conducted the assessment in a group format during five half-day sessions in the month of May. A group format was selected in order to maximize efficiency and to ensure that the standards and the scoring were interpreted consistently across all program areas. Each assessment standard was first defined using the Operational Definitions standards, corresponding definition indicators, and illustrative evidence. Each standard was then discussed in an open format and each team member scored the standard, consensus was reached and the score was documented. If the team could not reach consensus, a majority vote was the deciding factor. All of the scores were entered into the NACCHO database and indicators with scores of less than 2.5 were filtered and entered into an excel spreadsheet. It is important to note that one difficulty that arose during the assessment phase was the fact that capacity varied greatly by program areas. It was important to keep reiterating that the entire Health Bureau's capacity was being assessed not individual program areas.

Highlights from Self-Assessment Results

Standard/ Indicator #	Standard and Significance
<i>Standard I-A Indicators 1-7</i>	<i>Data collection, processing, and maintenance</i> <ul style="list-style-type: none"><i>This was an area of weakness for Bethlehem Health Bureau, as identified through the self-assessment. After discussion, the management team felt this standard would be the best one to address through our QI process. The entire standard was selected because the indicators associated with the standard are all inter-related.</i>
<i>Standard IX-C</i>	<i>Evaluate LHD programs</i> <ul style="list-style-type: none"><i>This was also an area of lower scoring and is related to the area of improvement that was selected for this project. The first step of this initiative is to establish a reliable data collection, processing, and maintenance process and the next logical step would involve conducting a QI project on evaluating the data/programs.</i>
<i>Standards II A-E</i>	<i>Protect People from Health Problems and Hazards</i> <ul style="list-style-type: none"><i>The Bethlehem Health Bureau's capacity level was very high for all of the standards within this focus area.</i>

Quality Improvement Process

AIM Statement: To improve accurate collection, processing, maintenance, and preliminary analysis of health data by establishing a reliable process for data collection, processing, and reporting for 100% of the Bethlehem Health Bureau's program areas.

PLAN: Management staff met during the month of May to complete the LHD Capacity Assessment Tool. Once all of the focus areas were scored, they were entered into the NACCHO database. The managers reconvened to discuss the 22 low-scoring indicators (≤ 2.5). The QI facilitator utilized a prioritization matrix to assess each low-scoring indicator, which resulted in 12 high priority areas. To further narrow down the scope of the project, a project selection database was developed to select the indicator that would be identified for

improvement. The following criteria were utilized to score the indicators that were given the highest priority: people, feasibility, cost, measurable, time, and impact on health. The scores were analyzed in the project selection database and the highest scoring focus area, data collection, processing, and maintenance, was selected for improvement. The team of managers decided to improve the entire focus area since many of the indicators were inter-related. Once the area of data collection was selected, the QI facilitator developed an A-3 project plan. The A-3 document provides a format for structured problem solving that captures issues such as, background information, current condition, target condition, root cause analysis, requirements, constraints, an implementation plan, and a follow-up plan.

Current Organization: The Bethlehem Health Bureau does not have an agreed upon approach for data collection and analysis. Data is collected from all programs but there is no consistency and the data is not utilized in an effective manner. Everyone is using a different method and different databases to collect data. Staff who are collecting the data do not have a clear understanding of what they are collecting and why they are collecting it. The data collected does not drive program priority areas.

Future Organization: A reliable process for data collection has been created and documented. All employees involved with health programming are trained in the process and on data collection techniques. Roles and responsibilities for use are clear. The system is in active use in all program areas.

A data assessment tool was created to determine the current status of data collection for all 26 program areas within the Health Bureau. Interviews were conducted with staff to examine data selection methods, data collection methods, data entry, data analysis, and reporting for each program area. Each interview question was scored and analyzed for each program area. Training needs related to data collection were also documented during the interviews. The interviews provided valuable information on the various strengths and weaknesses within each program area.

After the baseline survey was conducted with Health Bureau staff, a half-day root cause analysis event was conducted to examine issues identified through the interviews that had a high impact and weak scores. Comments captured during the interviews were also grouped together using an affinity diagram. Together, these issues were prioritized according to impact and frequency of occurrence. The issues that had the highest impact and happened most frequently were then displayed on a fishbone diagram and a root cause analysis was conducted. Once the root cause analysis was complete, the group brainstormed possible solutions. Since there was no process established prior to the event, a three-day QI event was held with a team of ten Health Bureau staff to establish a standard data collection process. The information obtained during the root cause analysis event provided valuable information that was utilized during the three-day QI mapping event. At the conclusion of the mapping event, a data collection process was developed and job aids were created to assist with implementing the process Bureau-wide. Job aids such as, a standard demographic template, quality assurance documents, a cheat sheet for various statistical tests, information regarding sampling techniques, and information on piloting surveys were tools developed by the quality improvement team for the entire Health Bureau staff to utilize when following the new process. Job aids are especially useful when implementing a new process because they serve as a guide that staff can refer back to for clarity and better understanding. The job aids are located on a shared network that can be accessed at any time by the Health Bureau staff.

Improvement Theory: If the Bethlehem Health Bureau develops a reliable data collection process then data will be used to improve programming, direct programming needs, and develop a health report card.

DO: Each QI team member was assigned roles and responsibilities after the event, mainly completing the job aids and developing staff trainings. Tasks, persons responsible for completing the tasks, and deadlines were assigned to each team member. In order to assure that the newly developed data collection process was accurate and reliable, four program areas within the Health Bureau were selected to pilot the process prior to Bureau-wide implementation. The Lead Program in the Maternal and Child Health Program, the Lead Program in the Environmental Program, the Cancer Program, and the Public Health Preparedness Program all participated in piloting the new process. Defect logs were created to document issues/defects at each step in the process, the timeframe to complete each step, if the process was followed at each step, if the process was easy to follow for each step, if the job aids were useful, and any other additional comments and/or suggestions.

CHECK: In the beginning of November, the areas that conducted the pilot test reconvened to discuss the new process. The defect logs were reviewed and each step of the process was analyzed to determine if modifications should be made. Several steps of the process were modified or more clearly defined based on the feedback from the pilot study group. All of the participants agreed that this process was easy to follow and it emphasized the importance of having a standard data collection process. Lastly, the group revisited the initial nineteen issues prioritized during the root cause analysis event to determine if the process will impact each of the high priority issues identified during the staff interview phase.

ACT: The process was modified based on feedback from the pilot study team. The next step is to provide trainings on the process, the job aids, and the use of various statistical databases. An assessment of training needs was captured during the interviews and trainings are scheduled for December to meet those needs. Once trainings are conducted, the process will be implemented for the entire Health Bureau. A follow-up survey will be conducted to measure change from the initial data collection assessment. The QI team also created a health report card template for the City of Bethlehem. The Bethlehem Health Bureau will now have the capacity to publish an annual health report card because a data collection process is now in place.

Results

A standard process was created for data collection. This process eliminated various forms of waste and increased the quality the Bethlehem Health Bureau's data collection system. A standard data collection system, utilized by all Health Bureau programs, will allow the Health Bureau to utilize data to improve programs, to better respond to the needs of the community, and ultimately publish a health report card for residents and community partners. Nineteen issues originally identified in the program interview phase were again revisited after the pilot to determine if the process will improve or address each item. All but one of the issues was able to be resolved through this new process. This project will continue to be evaluated once the process is fully implemented Health Bureau wide.

Lessons Learned

Completing the assessment in a group format, rather than individual, was beneficial because some indicators were interpreted differently by the team members. Defining each indicator to ensure that each team member interpreted the information consistently was necessary prior to scoring. All BHB staff were involved in at least one phase of this project and were able to provide input into the newly developed process. Staff participation is essential when creating a new process because people are more likely to support a process that they contributed to developing. It was also valuable to conduct a root cause analysis prior to mapping out the new process for data collection. The issues identified in the root cause analysis session were

addressed in the mapping event. Establishing ground rules and conducting a brief communication training as part of a QI event was essential to ensure that everyone is respectful of other's opinions and all voices are heard.

Next Steps

The Health Bureau is planning training sessions to address some of the deficiencies identified during the interview phase. Trainings will be provided on the job aids that were created, the new data collection process, and various statistical databases. Once the trainings are complete, the process will be officially implemented. Once the data collection process is in place, a follow-up survey will be conducted with all program areas to measure the changes from pre to post implementation. The Bethlehem Health Bureau is planning on releasing a health report card in recognition of National Public Health Week in April. The Health Bureau is committed to continuing to work on other areas identified as having little or no capacity.

Conclusions

The quality improvement project gave the Bethlehem Health Bureau the opportunity to conduct an internal assessment of the Health Bureau's capacity in various areas and empowered the Health Bureau to create change. The Bethlehem Health Bureau has incorporated quality improvement into its core operations and culture. Although this project has concluded, the Health Bureau will continue to target other areas for improvement.

Appendices

Appendix A: Storyboard Template