

CITY OF PORTLAND, PUBLIC HEALTH DIVISION

INCREASE PATIENT SHOW RATE AT THE INDIA STREET PUBLIC HEALTH CLINIC

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**EXECUTIVE SUMMARY**

The City of Portland Public Health Division (PHD) is located in Portland, ME, and serves a unique mix of urban and rural populations, providing services to Cumberland County, which has approximately 279,000 residents. Using the Public Health Accreditation Board (PHAB) Self Assessment and a quality improvement (QI) project, PHD streamlined filing of patient update forms at the India Street Clinic for HIV positive healthcare patients. This project was chosen due to low patient show rates and difficulty contacting patients as a result of outdated contact information in their records. As a result, the no-show rate decreased by 45 percent two months after the improvement intervention was implemented.

**BACKGROUND**

PHD applied to become a beta test site to highlight Maine's unique public health infrastructure, which consists of the state health department and two local health departments (LHDs). PHD hoped that the self assessment and site visit would clarify some of the complexities of PHD's infrastructure. The beta test would also give PHD the opportunity to provide feedback on how well PHAB's tool captures the nuances of an LHD like PHD.

PHD also wanted to be at the forefront of the accreditation process, knowing that beta test sites would have an advantage once formal accreditation begins in the near future. By having undergone the beta test process, PHD would have a clearer vision of the gaps that remain in order to achieve accreditation.

Finally, becoming a beta test site would also allow PHD to network with other health departments from around the country. The inclusion of training sessions presented an invaluable opportunity to share ideas, strengths, and challenges with others.

**BETA TEST SELF ASSESSMENT**

The self assessment team was composed of five individuals:

- Toho Soma, Research and Data Program Manager, Accreditation Coordinator
- Julie Sullivan, Public Health Division Director
- Judy Johnson, Operations Program Manager
- Shane Gallagher, Research and Data Community Health Promotion Specialist
- Becca Matusovich, Cumberland District Public Health Liaison, Maine Center for Disease Control and Prevention

The self assessment process took three months to complete (January to March 2010) and was led by Toho Soma and Shane Gallagher. Soma and Gallagher went through each section and discussed who would contact the relevant partners to obtain the necessary documentation. They also scored each section until consensus was reached. The scoring was reviewed by the other workgroup members.

One challenge experienced during the self assessment was finding the proper documentation requested, as different parties were responsible for maintaining different documents.

### Highlights from Self Assessment Results

Standard/Measure	Standard and Significance
A2.4	<p>Seek resources to support agency infrastructure and processes, programs, and interventions.</p> <ul style="list-style-type: none"> <li>This was an area of strength for the PHD, as identified through the self assessment. PHD was pleased to find a newspaper editorial that argued how tobacco taxes are a proven strategy to reduce smoking rates and healthcare costs.</li> </ul>
1.1.3	<p>Collect additional primary and secondary data on population health status.</p> <ul style="list-style-type: none"> <li>This was an area of strength for PHD, as identified through the self assessment. PHD submitted the Portland Fact Sheet, which provides health indicators at the town level, including statistical comparisons to state rates and prior years. These town fact sheets were created for 26 municipalities in Cumberland County.</li> </ul>
7.1.3 B	<p>Identify gaps in access to healthcare services.</p> <ul style="list-style-type: none"> <li>This was an area of weakness for PHD, as identified through the self assessment. After brainstorming and prioritization matrices, PHD felt this standard would be the best candidate for a QI process.</li> </ul>
8.2.3 B	<p>Make provisions for leaders and management development activities.</p> <ul style="list-style-type: none"> <li>This was also an area of weakness for PHD, as identified through the self assessment. PHD has identified this as an area to focus future QI resources.</li> </ul>

## QUALITY IMPROVEMENT PROCESS

### PLAN

Toho Soma was the lead on the beta test process. Along with members of the Core Accreditation Team, Soma prioritized possible QI initiatives within the PHD. The Public Health Clinic on India Street was identified as the highest priority for a QI initiative. Caroline Teschke, the Program Manager of the clinic, was brought into the process upon the decision of the QI focus. Alexandra Kanakis has a background in QI and joined PHD in July 2010. Amy Li, an undergraduate summer intern from Tufts University, was brought onto the project to assist with QI planning. Judy Hayes, front desk clerk at the India Street Clinic, was added to the team because the QI project directly affected her work flow.

One initial barrier to participation was that the clinic was short staffed and had experienced high turnover among the front desk staff. Planning to implement a systematic change that would allow front desk staff follow protocol helped overcome this barrier. The overall goal was to create a change that any employee could incorporate into their routine -- even someone who was not familiar with operations. Another barrier was that the clinic is not in the same building as Soma and Kanakis. Frequent visits to the clinic helped Soma and Kanakis overcome this barrier.

During PHD's QI process, there was a change to the composition of the team. Amy Li's internship ended September 2010. Amy had helped with examining the current approach, conducting the root cause

analysis, identification of possible improvements, and data entry. Alexandra Kanakis did data entry after the improvements were implemented.

The Core Accreditation Team brainstormed specific target areas within PHD that could benefit from a QI initiative. Five potential problems emerged: the Health Alert Network call-down tree, tobacco referrals, client satisfaction and attendance at the India Street Public Health Clinic, accuracy in the computer program used to track HIV/STD prevention services, and the management of city-issued credit cards by staff. A prioritization matrix was completed to select which of the five potential problems would be chosen for a QI initiative. Working with the front desk to improve client satisfaction and appointment attendance rate at the India Street Public Health Clinic emerged as the highest priority. The four other initiatives considered may be taken on as QI initiatives at a later date. The prioritization matrix can be found in Appendix B. Additional factors that led to the selection of this QI initiative focused around staffing. Caroline Teschke was excited and on board with a QI initiative. The clinic also had some baseline data available that tracked the HIV positive patients (if they received a reminder call before their appointment and if they showed up for their appointment).

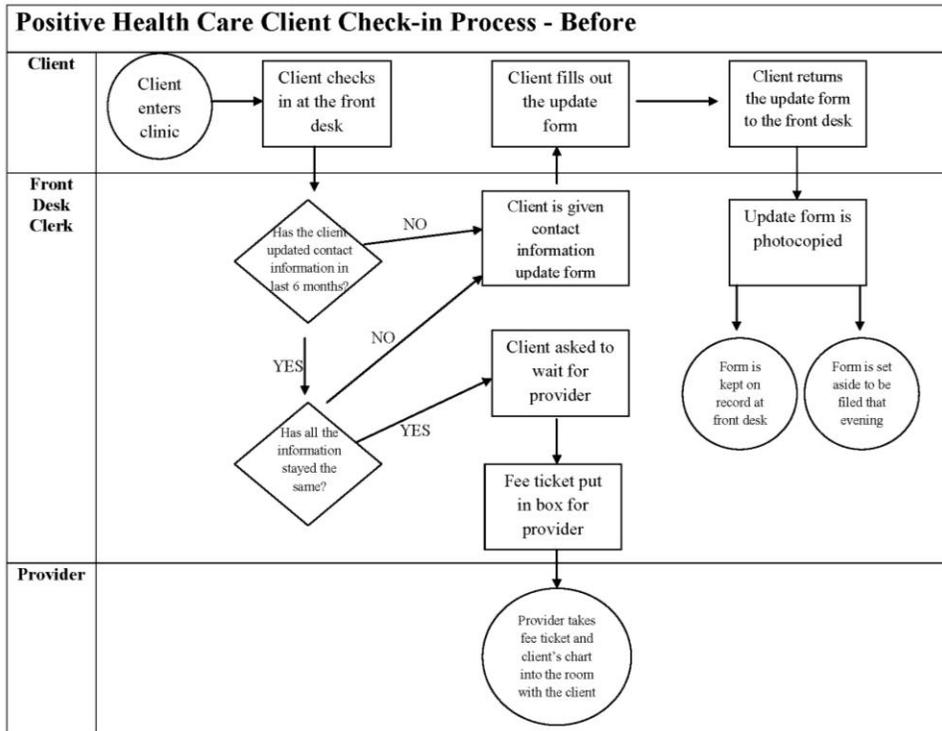
The final aim statement identified Sept. 7, 2010, was, “By Dec. 1, the no-show rate among HIV positive healthcare patients will be reduced by 50 percent, from 22 percent to 11 percent.”

**AIM Statement Revisions:**

<b>Date</b>	<b>AIM Statement</b>
Aug. 3, 2010: Initial AIM statement	By Nov. 30, 85 percent of HIV positive healthcare patients will be able to be reached by phone for their appointment reminder call.
Aug. 24, 2010	By Oct. 8, the percent of HIV positive healthcare patients who will be able to be reached by phone for their appointment will increase from 65 percent to 85 percent.

Kanakis and Li spent time in the clinic observing front desk activity and speaking with staff to gain knowledge of the process involved in filing patient updates. Judy Hayes, the front desk clerk walked them through the process. Li and Kanakis drafted a flowchart of the process indicating the roles of front desk clerk, patient, and physician in the steps of the process (Figure 1).

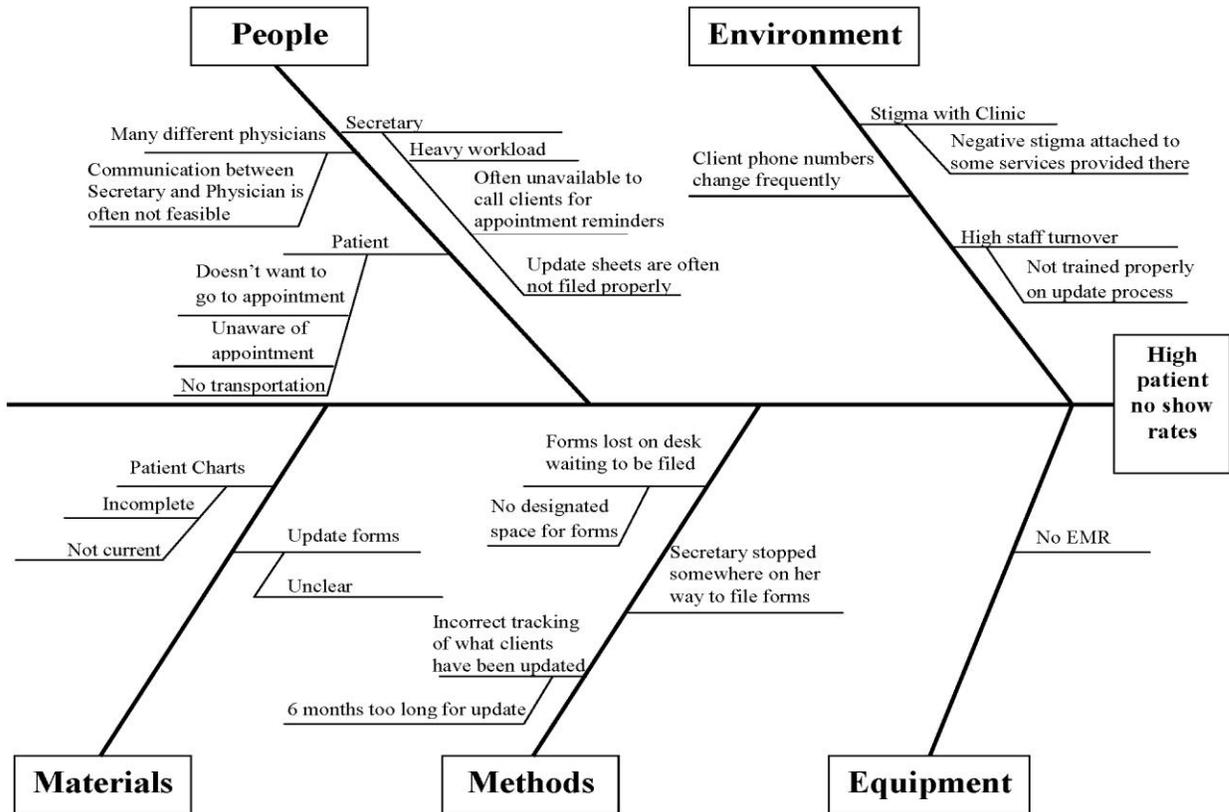
**Figure 1: Flowchart of HIV Positive Healthcare Client Check-in Process before implementation of Improvement**



A cause-and-effect diagram was constructed to determine root cause. The cause-and-effect diagram can be seen in Figure 2.

**Figure 2: Cause-and-Effect Diagram of Low Positive Healthcare Patient Show Rate at the India Street Clinic.**

**Cause and Effect Diagram – High Patient No Show Rate for Positive Health Care Patients at India Street Public Health Clinic**

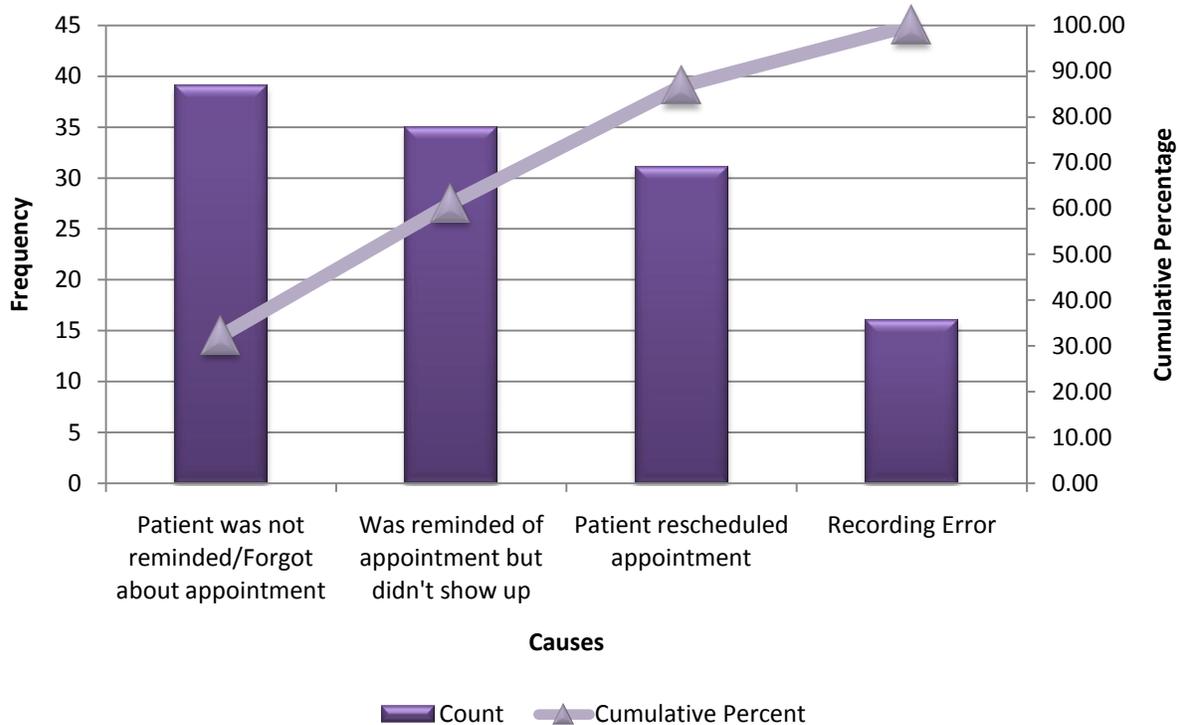


Three possible improvements were explored. The first option was to update client information more frequently than every six months. However, the front desk clerk asks the client at check-in whether their information has stayed the same. The second option was to attach the contact update forms to the fee ticket and put it in the office for physicians to pick up. However, the physicians do not always enter the office before an appointment and may not pick up the ticket with the update. The third option was to put a black box in the hallway outside of the front office and place the fee ticket with the update form attached in the box. This way the physician will see the box every time they see a patient and remember to take the ticket and form with them into the appointment with the patient charts. One difficulty with this option is that patient confidentiality can be compromised since other patients will be walking in the hallway.

The team chose the third option. To address the issue of patient confidentiality, PHD decided to install an opaque black box that is high enough off the ground so a patient could not see down into it. The patient could also not see through the box.

Figure 3: A Pareto Chart Constructed based on Baseline Data to Determine Improvements to Test

## Positive Health Care: Reasons for No Show at Appointment



The HIV positive healthcare patients at the India Street Public Health Clinic have a no-show rate of 22 percent. Baseline data show that 65 percent of patients were able to be reached by phone, and of those, 83 percent of them came to their appointment. Conversely, 35 percent of patients were unable to be contacted by phone for an appointment reminder. Of the patients who were unable to be contacted, only 72 percent of patients showed up for their appointment. The Chi-square test for independence showed a significant positive relationship between being given a reminder call and showing up for one’s appointment. Data collection will be continued post-improvement implementation. PHD hoped to see an increase in the number of patients able to be reached by phone for a reminder call from 65 percent to 85 percent. PHD can infer that if more clients are able to be reached by phone, the show rate will increase.

The improvement theory that guided PHD’s test was that if the clinic maintains updated phone numbers, then the show rate will improve. In order to determine if an improvement is being made, PHD will track the ability to contact clients via phone the day before their appointment for a reminder call. Currently, 65 percent of clients are able to be reached for their reminder. If that percentage of patients increases, PHD will assume an improvement in the system of filing update forms.

The front desk clerk records data daily as part of her routine. When the reminder calls are made the day before, a note is made of the patient’s name, appointment date, and whether they were able to be reached by phone (spoke to them on the phone, left a message, no answer, or unable to contact). The same standardized form is used the next day when the clerk indicates whether the patient showed up for their appointment, they rescheduled, or they did not call to reschedule and did not show up. The

data will be collected post-improvement implementation. The de-identified data will be entered into an spreadsheet for analysis and will include the date, first three letters of the patient's first and last name, whether they were able to be contacted or not, and whether they showed for their appointment or not. The data will be converted into the percentage able to be reached and the percentage that showed up for their appointment.

Each team member in the test had a distinct role and responsibilities, and PHD's team worked well together. Soma managed the process. He oversaw work related to the QI Process and had a direct hand in improvement identification and prioritization. Teschke functioned as a liaison between the Research and Data Program and the Clinic, coordinating meetings and interviews at the India Street Clinic and welcoming the opportunity to have a QI process run in the Clinic. Kanakis took the lead on ensuring proper QI process and documentation. She worked on implementing QI tools, analyzed baseline and improvement data, and worked directly on submissions to NACCHO. Li aided in the QI process by providing feedback for flowcharts and root cause analysis from her own observations. She also did data entry pre-implementation of improvement.

Staff's perception of the no-show issue at the clinic in the HIV positive patient population was that the patients were not being reminded of the appointment and therefore either forgetting about the appointment or not being able to use that opportunity to reschedule their appointments. The perception about the issue chosen for PHD's QI project did not change during the course of the project. Perception of the issue at the completion of the improvement project was the same as the perception of the issue at the inception of the improvement project. The plan phase of PHD's project went smoothly and as expected. There were no unexpected results that occurred during this phase.

## **DO**

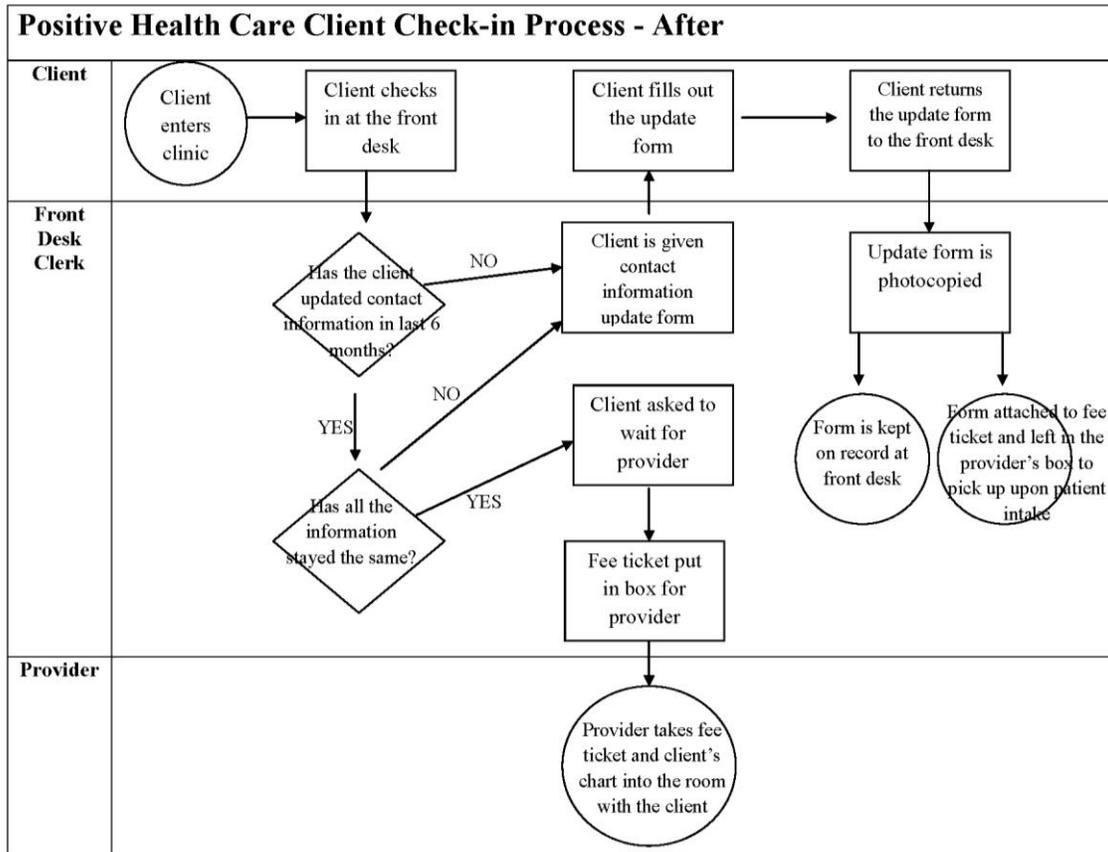
The process was set for implementation on September 1, and the first step was to ensure that the folders were mounted in the proper location at the India Street Clinic, with each provider having their own folder (Image 1).

**Image 1: Photograph of Hanging Folders**



Mounting these folders resulted in a new check-in process being implemented. The new check-in process has been charted in Figure 4.

**Figure 4: Flowchart of HIV Positive Healthcare Client Check-in Process after implementation of Improvement**



Finally, clinic staff were trained in the new procedure. The front desk staff were on board and aware of the new procedure before the folders were mounted. Staff also received an e-mail with details on the improvement and whom to contact if they had any questions or suggestions.

Data were collected on a daily basis and involved information such as if the patient received a reminder call and if the patient showed up for their appointment or not (see Appendix C). Data were able to be collected every day and were initially analyzed for September and October. The do phase ran as expected with no major surprises.

**CHECK**

There were two data analyses. The first data analysis (Data Analysis A) was performed on the data collected from September and October to preliminarily determine the effectiveness of the intervention. The second data analysis (Data Analysis B) was performed on data collected from September, October, and November. These final data were picked up from the clinic on Nov. 30.

*Results from Data Analysis A*

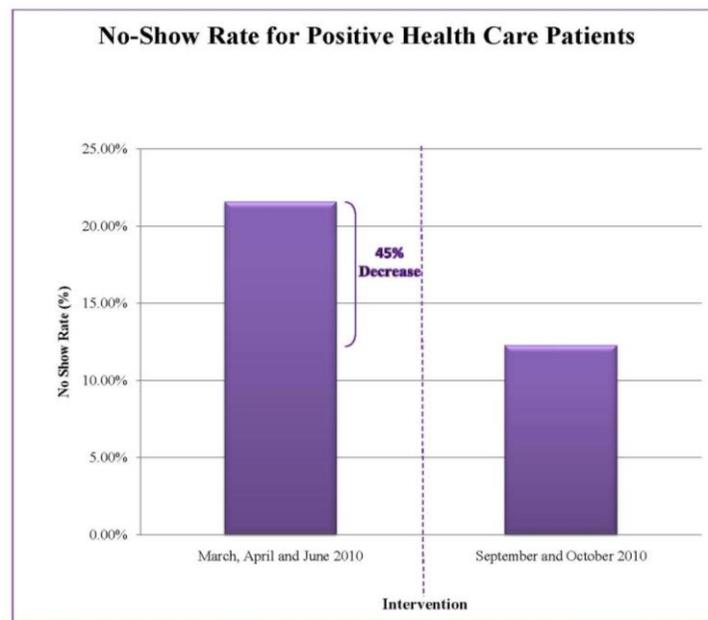
The baseline data analysis resulted in a no-show rate of HIV-positive patients at the India Street Clinic of 22 percent.

When the data from September and October were analyzed, the no-show rate was 12 percent. This is a 45 percent decrease from the no-show rate seen prior to implementation (see Figure 5). While PHD credits much of this decrease to the new flow of update forms, PHD also acknowledges that an improvement in data collection may have contributed. The data collection tool used to collect baseline data did not include options for “rescheduled” or “cancelled” appointment. Rather, the clerk would check “no-show” and hand write “rescheduled” or “cancelled.” The data collection tool used post-implementation (see Appendix C) contains boxes that one could circle for “rescheduled” or “cancelled.”

#### *Results from Data Analysis B*

In analyzing the data from September, October, and November, an increase from 12 percent to 18 percent was recorded. Trying to figure out what had gone wrong, PHD decided to separate the data from November and analyze it separately. In just the data from November, the no-show rate had jumped dramatically to 25 percent. This could have been due to the holidays and people being busy or out of town. PHD would like to continue with the improvement for a bit longer and continue gathering data and monitoring it to see if the no-show rate goes back down after the holiday season. PHD decided to repeat the test to gather additional data because staff feel that the time of year has had a direct impact on increasing the no-show rate in the clinic due to the fact that at the time of data analysis for September and October PHD saw a dramatic reduction of 45 percent in the no-show rate.

**Figure 5: Pre- and Post-Implementation Data for No-Show Rate of HIV Positive Healthcare Patients**



#### **ACT**

PHD is continuing to use hanging file folders as a way to facilitate filing patient update forms. PHD will continue to gather data on a daily basis on the no-show and call rates of the HIV positive healthcare patients at the clinic. PHD will analyze this data on a monthly basis to determine if the no-show rate falls back to the rate of 12 percent. If PHD sees that the rate is increasing or is staying the same at 18 percent, PHD will revisit the act phase and determine what PHD’s next steps should be.

## **RESULTS, NEXT STEPS, AND ACCREDITATION**

As reflected in the self assessment, before going through the beta test process, PHD had no formal QI processes in place. After implementing the QI initiative required for the beta test, PHD has become much more interested in the prospect of incorporating QI into PHD's organization, thus building a culture of QI.

PHD staff have an increased awareness of public health QI. This is both in the practical sense of what it is and why it is important, and in the larger sense of the need for formal QI at an organizational level for the accreditation process. Key staff members have developed and refined skills needed to perform QI initiatives and have been contacted by other staff concerning QI questions that they face in their programs.

Staff have expressed an increased interest to implement QI initiatives. Since the implementation of PHD's QI process, three programs have approached the Research and Data Program and asked for help implementing QI in their specific areas. Two of these are programs other than the program in which the mandatory QI was performed.

Within the Research and Data Program, work has been directed toward the development of an agency-wide QI plan. This plan will contain goals for the agency and help build the culture of QI within the organization. PHD hopes to have an agency-wide QI plan completed and reviewed by the management of the organization before application for voluntary accreditation.

## **LESSONS LEARNED**

Before applying to be a beta test site, the leadership of the Portland PHD showed its commitment to the QI process. If they had not, the amount and breadth of work involved in conducting the self assessment and QI project would not have been completed successfully. It was also helpful to let other staff know that the accreditation process was underway and that their assistance may be needed.

In order to account for Maine's unique public health infrastructure, such that many essential public health services are carried out by the state, the accreditation workgroup included a representative from the state health department. This was advantageous because she served as a liaison between the local and state health departments.

During the self assessment period, Portland's accreditation workgroup found it most helpful to designate one person to upload all the documentation to the website and one central location on the server to store copies of documentation. Because only a few examples of documentation were required for each domain, the team gave its best effort to ensure that all the different programs within PHD were represented.

A successful site visit hinged on requesting people's presence as far in advance as possible, especially senior leadership and members of the governing entity. It also helped to brief staff about the accreditation process in general. Because the site visitors were peers from LHDs, it put the accreditation team at ease because the mood was very collegial. Because the site visitors had already reviewed the documents submitted, their questions were pertinent and focused, making it easy to adhere to the schedule. Overall, the site visit was a very pleasant experience.

When identifying an area to focus a QI project on, take into consideration a program manager's drive to achieve a QI initiative (especially if it is your first one.) It will make it easier on the QI team if the

program manager is actively engaged and reinforcing to their staff the importance of incorporating QI into their daily work roles.

Ensuring that goals are SMART (specific, measurable, attainable, relevant, time-bound) is an important part of the process; in a QI project a goal is intended to be achievable. The goal should also be achievable in the time frame that is allotted before the act phase is implemented.

Staff should be approached with the assumption that they have little to no understanding of what QI is. It is essential to reinforce that this is a fairly new idea to public health and will be important to future accreditation. Stress staff roles in ensuring successful QI cycles and the need for them to be active participants in the process.

Make sure that the variables collected post-implementation are the same ones collected at baseline. The only way to make a before-after data comparison is to compare the same variables before and after the implementation of the improvement.

## **APPENDICES**

[Appendix A: Storyboard](#)

[Additional Appendices:](#)

Appendix B: Prioritization Matrix of Potential Problems to focus Quality Improvement Process On

Appendix C: Data Collection Tool