Name: Erica Perry

Team Members: Erica Perry and Ramon Cancino, MD, MSc

Project Title: Decreasing Immunization Wait Times at Mattapan Community Health Center

University/Organization Name: Boston University School of Medicine, Mattapan Community Health Center

Health System Sponsor Name: Ramon Cancino, MD, MSc

Aim of project (1-2 sentences)
The aim is to decrease the time pediatric patients and their parents wait to receive vaccines by 10% by September 1, 2014.

Planned changes tested (2-3 sentences)
Ideas for initial changes include the introduction of a new process for immunization administration with the following components:

- The MA prints the immunization form the day prior to the visit.
- The nurse records which vaccines are needed.
- The doctor reviews the form completed by the nurse in the pre-session huddle.
- When the patient arrives, the MA brings the form to the patient’s room.
- The doctor notifies the nurse that it is ok to prepare the vaccines that were agreed upon in the huddle after examining the patient for contraindications and getting consent from the parents.
- The nurse prepares the vaccines while the provider is completing the visit.
- The doctor notifies the nurse when it is okay to come into the room to give the vaccines.

It was predicted that implementing this process would decrease the wait times for immunizations during well child visits from an average of 6.5 minutes to fewer than 4 minutes. We also predicted that one challenge we would face is determining the best method of communication between the providers and nurses because the nurses are frequently busy and away from the phone.

Results
Present your results with a graph(s).
**Immunization Wait Times**

- **Sibling visit with one sibling with unexpected vaccines**
  - 26 min

- **Nurse was busy when notified to prepare the vaccines, and did not do it right away.**
  - 5 min 30 sec, 40 sec, 3 min

- **Huddle did not take place, and nurse was not notified to prepare vaccines**

- **Nurse was occupied when she was**
  - 6 min

**Visit Type**

- **Pre intervention average = 6 min 27 sec**
- **Goal = 5 min 48 sec**
Total waiting time for immunizations & total visit time

Visit Type

Pre intervention average= 6 min 27 sec
Goal=5 min 48 sec

Did the huddle happen?

- Yes: 33%
- No: 58%
- Yes, but was done by someone other than the MA: 8%
Did the provider notify the nurse to prepare the vaccines while the visit was still in progress?

92%

Was the nurse available to receive notification to prepare the vaccines on the first attempt?

73%
Summary of results (3-4 sentences):
The average wait time for immunizations from the pilot phase through PDSA 4 was two minutes and 31 seconds. 82% of patient visits that tested the changes for the immunization process were below the goal of 5 min 48 seconds. 71% of the patient visits that tested changes for the immunization wait times had a wait time of 0 minutes. There was no association between the decreased immunization wait times and the total visit time.

Learning (4-5 sentences)
Comparison of questions, predictions, and analysis of data:
When providers notified nurses that they could prepare the vaccines while the clinical encounter was still in progress, the wait time for patients decreased from 6.5 minutes to 0 minutes in most patient visits. The wait time was also decreased to 0 minutes by the providers calling the nurse to enter the room to administer the vaccines toward the end of the visit, but while the provider was still in the room. The pre-session huddle was noted by providers to decrease the amount of time during the patient visit addressing immunizations. The decrease in immunization wait time showed no association with the total visit time. This means that the changes made to the immunization process did not decrease total time patients spent in the clinic, but as a balance measure the new process also did not prolong the amount of time patients spent in the clinic. These results exceeded the prediction that the wait times would decrease to less than 4 minutes.
Impact on systems (3-4 sentences)
Discuss the project’s significance on the local system and any findings that may be generalizable to other systems:

This project helped decrease variability in the immunization administration process at Mattapan Community Health Center. It also introduced changes that helped to decrease the time patients waited to receive immunizations and provided a way to build trust between providers and nurses by having them work together to prepare for vaccines in each well child visit. It may be generalizable to other community health centers where there are not resources to hire more nurses or a clinical manager by providing a process that that places the tasks involved in immunization administration at different times in the patient visit, and thereby decreasing patient wait times.

Conclusions (3-5 sentences)
Summarize the outcome of the project. Is this project sustainable? What are the requirements for sustainability?

The outcome of this project is that it is possible to decrease the amount of time patients wait to receive immunizations at the health center, as well as a new protocol for vaccine administration that promotes efficiency and team work. In order to become sustainable there needs to be a champion who will continue to advocate for the continued improvement of this process. It also requires that medical assistants and providers conduct huddles regularly, and that nurses are able to regularly receive notifications that they can prepare the vaccines while the clinical encounter is still in progress.

Reflections/Discussions (5-7 sentences)
Discuss the factors that promoted the success of the project and that were barriers to success. What did you learn from doing this project? What are your reflections on the role of the team?

Factors that promoted the success of this project include staff that was willing to share their thoughts on the immunization process, allow me to observe the process, and engage with the test interventions. Without this willingness implementing a new process would not have been possible. In particular the nurses’ desire for more responsibility created an environment where they were excited to take on the new responsibility of determining the vaccines prior to the patient visits. I learned from this project that efficient processes do not happen automatically in clinical practice, and as a result simple changes and the introduction of a process can have great impact. The role I played by doing this project was to highlight the fact that there was an opportunity for improvement in the immunization administration process, and to have focused time to address and communicate the opportunities to the health center. I also hope that I played the role of displaying a quality improvement project that will encourage other employees to examine other processes in the clinic and improve them.

By signing this document (electronic signature is acceptable), I attest that the information provided by the learners in this project is accurate.

LEARNER(S):

Signature: __________________________ Area of Study: __________________________
Printed Name: __________________________
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**FACULTY SPONSOR:**

Signature: Ramon S. Cancino, MD, MSc
Printed Name: ____________________________
Institution: ____________________________

**HEALTH SYSTEM SPONSOR** (if different from faculty sponsor):

Signature: ____________________________
Printed Name: ____________________________
Institution: ____________________________

**AUTHORIZATION**

Do the learners, faculty sponsor, and health system sponsor authorize this project for publication at [www.ihi.org](http://www.ihi.org)?

☑️ Yes  ☐ No