



Western Reserve Care System Family Medicine Residency * Youngstown, OH

Program Director/Contact: **Lisa Weiss, MD, FAAFP**
No. of Residents: **13 residents**
Patient Base: **8,000 all ages**
Reporting Period: **Baseline: Feb 2008 – Jan 2009; Improved: Feb 2009 – Jan 2010**
Number Audited: **114 out of 300 children 0-35 months**

Overview

Our Family Practice Center provides care to an underserved community. Most of our patients are state insured (medicaid or medicaid HMO's), underinsured or uninsured. We have rates of unemployment reaching up to 20%. Low socioeconomic status and various limitations such as problems with transportation, erratic work schedules and change in family structure have a great impact on continuity of care and lend to a high "no show" rate (ours is currently 20%). At the beginning of this project, our overall vaccination rate was 72%, excluding the vaccination series. Analyzing the initial data, we also found that the 4th dtap dose, 4th prevnar dose and therefore all of the vaccine series were our weakest points (we did not have the hep A data at the time).

Over a year ago, during one of our staff meetings, we presented the collected immunization data and made everybody aware of our current rates. It was here that the initiative of the immunization project occurred. We had an open discussion with all the members of our center to discuss and brainstorm reasons for our poor performance. Realizing the challenges and barriers was the first step to set goals for improvement. We addressed the problem by involving everyone - residents, faculty, medical assistants, other staff, and our nurse educator - in order to increase overall immunization rates among our children to better serve our public health community at large.

Barriers

We faced several challenges and concentrated on goals to improve the following barriers:

- Lack of knowledge regarding the importance of immunizations and immunization schedules amongst our patient population, staff, and physicians.
- Lack of a streamlined system for which to find children that were behind in their immunizations.

Other barriers – harder to overcome:

- Level of education leading to a lack of ability to understand complex health issues
- Culture specific beliefs regarding vaccination
- Poor communication - disconnected phone lines, changes in address
- Transient nature of our patient population
- Legal issues – guardianship status
- Availability of vaccines from state

Goals and Processes Implemented to Overcome Barriers

Increasing knowledge among patients and their caregivers by educating them at *any* type of the doctor's appointment.

- **Patient visual reminders – posters and paper copies of vaccine reminders.** We placed posters regarding the importance of immunizations in the waiting area and multiple clinical areas. Patients and caregivers are also provided with a printed copy of the immunization record from our EMR as a summary and reminder for follow up visits. The medical assistants provide these records for both well and sick visits, in order to make sure that we do not miss the opportunity to review and administer missing vaccines.
- **Nurse educator's effort and consistent work with prenatal and postnatal patients as well as with toddlers and their caregivers.** She provides pregnant patients with information on immunizations, as well as pregnancy related topics. Then, during the postnatal period she follows new mothers and babies in the nursery, scheduling the first follow up appointments at that time and again reviewing first immunizations series.
- **Providing incentives.** We have been fortunate to work with several bookstores to get donated children's books to give away to our patients when they get immunizations. This, besides being a learning tool for the families, makes the visit a more positive experience.

Increasing knowledge among staff and physicians of the immunization schedules and opening an avenue for easy communication of information regarding vaccines.

- **Physician reminders with current immunizations schedules posted at all working stations.**
- **Our nurse educator has current data on vaccine updates and any problems that are occurring with ready for our staff meetings.** This allows us to review progress and to facilitate discussion regarding necessary changes in the system.
- **A medical assistant is assigned responsibility for stocking and storing vaccines, keeping record of vaccines in shortage and placing orders in a timely manner.**
- **Immunization information was given to the residents several times during the year in several different formats (power point, quiz, group work, Board of Health flu vaccine clinic) in order to meet all types of learners needs.**
- **During precepting, faculty encourage the residents to review the immunization summary and give the necessary vaccines at each childhood visit.**

Work as a team to find ways to remind ourselves and our patients when vaccines need to be given.

- **Use of EMR with templates for well child checks and sick visits.** Now during each pediatric encounter a paper copy of the immunization summary is printed by the medical assistant and placed in the door for review by physician during all visits – well and sick.
- **Use of state immunization registry and EMR for recording all vaccines.** For the last year, we have been using the statewide Ohio Department of Health Immunization System - IMPACT SIIS - to review and upload vaccination records for patients. We enter all of the newly administered vaccines and are in process of uploading the old immunizations into the IMPACT SIIS system. We also record all the administered vaccines into our EMR as this is more easily and quickly accessible than IMPACT SIIS.
- **Nurse Educator runs monthly list of those behind on vaccines and follows up.** The nurse educator is in charge of running a monthly list of children who are behind on vaccinations and to follow them when they come in to any type of doctor's visit. She keeps a record of children who

are behind on immunizations and well checks. Those children’s caregivers are informed and reminded by phone call and letter to come for office visits .

- **Implementation of a positive “no show“ letter for patients who miss vaccines.** In our practice we have implemented new policy for patients. Instead of sending out warning letters that they might be dropped from the practice to the pediatric patients who need vaccines, we send out a reminder letter with information about the importance about immunizations and encourage them to reschedule their visit.
- **Written prescription provided in case of a vaccine shortage.** In case of a vaccine shortage, physicians provide patients with a written script to come back only for vaccine administration when available. A list is kept of these patients and when the vaccine is available, these patients are called to come in for a nurse’s visit.
- **Monthly staff meetings and progress reviews for information sharing.** Staff meetings have become a place to work out problems and to improve the system of giving and following up on vaccines.

Summary of Improved Immunization Rates

VACCINE	* U.S. Overall Q1-Q4 2008, NIS Compliance %	Baseline Compliance %	Improved Compliance %	Change (Improved-Baseline) %
4+ DTaP ≥4 doses of any diphtheria and tetanus toxoids and pertussis vaccines including diptheria and tetanus toxoids, and any acellular pertussis vaccine TP/DTaP/DT	84.6 ± 1.0	64.10	85.96	21.86
3+ Polio ≥3 doses of any poliovirus vaccine	93.6 ± 0.6	87.50	93.85	6.35
1+ MMR ≥1 dose of measles-mumps-rubella vaccine	92.1 ± 0.7	84.21	97.36	13.15
3+ Hib ≥3 doses of <i>Haemophilus influenzae</i> type b vaccine	90.9 ± 0.7	78.84	87.71	8.87
3+ Hep B ≥3 doses of hepatitis B vaccine	93.5 ± 0.7	81.57	92.98	11.41
4+ PCV 7 ≥4 doses of pneumococcal conjugate vaccine	80.1 ± 1.1	60.26	79.82	19.56
1+ Var 1 or more doses of varicella at or after child’s first birthday, unadjusted for history of varicella illness	90.7 ± 0.7	76.82	95.61	18.79
2+Hep A 2 or more doses of hepatitis A	40.4 ± 1.2	27.15	45.61	18.46
VACCINE SERIES				
4:3:1:3:3 4 or more doses of DtaP, 3 or more doses of poliovirus vaccine, 1 or more doses of any MMR, 3 or more doses of Hib, and 3 or more doses of HepB	78.2 ± 1.1	57.79	78.94	21.15
4:3:1:3:3:1 4:3:1:3:3 plus 1 or more doses of varicella vaccine	76.1 ± 1.1	52.59	78.07	25.48
4:3:1:3:3:1:4 4:3:1:3:3:1 plus 4 or more doses of PCV7 plus 1 or more doses of varicella vaccine	68.4 ± 1.2	45.03	70.17	25.14