

Initiative to Increase Pneumovax and Influenza Immunization Rates in our Senior Population in the 2014-2015 Influenza Season

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St. Vincent's Family Medicine Residency Program



Introduction

Our project consisted of implementing ways to improve influenza and pneumococcal vaccinations in over 65yo population in our clinic. The 2011-2012 flu and pneumococcal vaccination rates in the over 65yo were 25.1% and 42.5% respectively. We wanted to improve both rates to 75%.

Key components included educating staff and physicians about the current guidelines through lectures and handouts, and educating patients about the importance of these vaccines through posters, written information and counseling from health care givers. We implemented strategies to target at risk patients including automated call campaign and letter writing. Influenza immunization rates in our over 65 year old population improved greatly to 70% and pneumococcal vaccination rates improved to 76%. The most important impact is that many of our senior patients have received influenza and pneumonia vaccinations this season as a result of this project and our team gained knowledge on implementation of preventative health strategies.

Methods

The resident team and faculty team:

1. Met with staff and physicians in August 2014 to review guidelines and strategies to improve vaccination rates.
2. Set up ways to educate patients about vaccines including handouts, videos, radio spots, posters in office.
3. Identified at risk patients through chart review to receive automated calls to have them schedule appointments to receive immunizations.
4. Gave nurses delegation rights to order and give needed vaccines independently of physicians.
5. In Dec 2014 presented interim data to residents and faculty and outlined strategies going forward.
6. Patients who were still unimmunized were contacted by their assigned PCP via mail or phone to ask about current vaccine status and offer appointments to give vaccines.

Results

Influenza and Pneumococcal Vaccination Rates from 2012 – 2015 in over 65yo Population

Seniors (age 65 and older)	2012-2013 Flu Season (Sep 2012-Mar 2013)	2013-2014 Partial (Sep 2013-Dec 2013)	2014-2015 Flu Season (Sep 2014-Mar 2015)
Influenza Vaccine Rate (%)	32.1%	20.1%	70%
PPSV23 Pneumococcal Vaccine Rate (%)	48.5%	53.2%	76%

Conclusions

- Influenza Immunization rates in our over 65 year old population improved greatly from 25.1% in 2011-2012 season to 70% in the 2014-2015 season – 656 patients were immunized out of a population of 932 seniors. We missed our goal by 5%. Our documented flu vaccine refusal rate was a total of 37 patients out of 956 or 0.04%.
- Pneumococcal Vaccination rates in our over 65 year old population improved greatly from 42.5% in the 2011-2012 season to 76% in the 2014-2015 season – 714 patients were immunized out of a total of 932 seniors.
- In January 2015 we began a Plevnar13 campaign with a current percentage of 7.8% patients immunized - a total of 73 patients.

Lessons Learned

- Need for flexibility concerning National Guidelines change; such as the new recommendation for PSV13 and the impact it has on giving PSV23
- Goal reinforcement is important to keep momentum
- It is important to delegate and share tasks to help better serve patients
- Timing of vaccination arrivals are important. Our shots came in later in the season which was uncontrollable for us, resulting in people having immunizations at other locations.



2014-15 Senior Immunization Grant Awards FINAL REPORT FORM for RESULTS & FINDINGS

Instructions

- The information requested, including Appendix 1-3, should be included in your Final Report.
- Your Final Report is due by May 1, 2015.
- Please include any attachments, graphs, pictures (jpg, if possible) or other items that capture the essence of the outcomes realized by your project.

Name of Family Medicine Residency Program: St Vincent's Family Medicine Program

Contact Information

1. Name, Title, Email of person completing the report:
Report completed by Dr Helena J Karnani MD
Title: Residency Program Faculty,
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2. Project Contact information if different from above: Same as above
3. Name(s) of Resident(s) presenting Immunization Awards Poster at the 2015 National Conference :
Dr Omolabake Bankole MD and Dr Leslie Thomas MD

Title of Project:

Initiative to Increase Influenza and Pneumococcal Immunization rates in our Senior Population in the 2014-2015 Influenza Season

Statement of Goal(s)

- Our Primary Metric was that 975 seniors would receive an influenza shot in the 2014-2015 influenza season to achieve a 75% immunization rate in our over 65 year old patient population and that an additional 282 additional patients would receive a pneumococcal vaccine to achieve an overall pneumococcal immunization rate of 75%.
- Our secondary metric was that 3 Family Medicine Residents would be involved in the project at all levels from planning, to implementation, maintenance and presentation of the project.

Impact on Target Population

1. PATIENT DATA – Complete information in Appendix 1.
2. KEY OUTCOMES
 - Influenza Immunization rates in our over 65 year old population improved greatly from 25.1% in 2011-2012 season to 70% in the 2014-2015 season – 656 patients were immunized out of a population of 932 seniors. (We missed our goal by 5%.) Our documented flu vaccine refusal rate was a total of 37 patients out of 956 or 0.04%.
 - Pneumococcal Vaccination rates in our over 65 year old population improved greatly from 42.5% in the 2011-2012 season to 76% in the 2014-2015 season – 714 patients were immunized out of a total of 932 seniors.
 - In January 2015 we began a Prevnar13 campaign with a current percentage of 7.8% patients immunized - a total of 73 patients.
3. KEY PROGRAM COMPONENTS
 - Initial analysis of baseline data and building a multidisciplinary team to discuss ways to improve vaccination rates and to then implement these strategies.

- Building a resident team to devise and implement strategies, to be part of the peer education team, and assist with data collection.
- Educating staff and physicians about the guidelines for pneumonia and influenza shots and the strategies employed to improve rates.
- Educating patients about the importance of pneumonia and influenza shots through posters, written information, and one on one counselling from health care givers.
- Having a strategy of asking patients about their vaccine record at each office visit and offering shots for those who are unimmunized
- Identifying at risk patients from the EMR and conducting an automated call campaign to have them schedule appointments to receive immunizations. 740 patient calls were made and 63 patients were transferred to scheduling to make appointments for shots.
- Offering “flu clinics” run by practice nurses to give patients needed shots.
- Giving order delegation rights to all nurses to allow them to order and give needed influenza and pneumonia shots independently from physicians.
- Teaching physicians and nurses strategies to persuade patients to have shots and developing a talking points information sheet to assist with the conversations.
- Community outreach in the form of videos for patient education (produced by the hospital) and radio spots to discuss need for influenza and pneumococcal vaccines. Placing educational posters in the waiting rooms.
- Taking influenza and pneumonia shots with us on Resident’s patient home visits for patients needing immunizations.
- In Mid-season identifying patients who were still unimmunized and having the patient’s assigned PCP contact the patient by mail or phone to ask about current vaccine status and offer appointments to give vaccines.
- In Mid-season running immunization statistics and tagging every chart of unimmunized patients with an electronic yellow sticky note to remind providers to offer and give influenza and pneumonia shots.

4. THINGS THAT WORKED BEST

- It helped to delegate tasks such as chart review and tagging and contacting patients to a larger group of resident physicians and to recruit nurses to discuss needed shots with patients and doctors.
- Giving frequent updates of the project to the residency physicians helped to keep the momentum and enthusiasm going. We repeatedly stressed the importance of offering and documenting shots given or received in the appropriate part of the chart.
- Using initial data and interim data to demonstrate the need for immunizations to generate interest for the project and give a sense of urgency.
- Utilizing analytics programs in our EMRs to speed up data collection.
- The ability to access the Florida Vaccine registry through our new EMR.

5. LESSONS LEARNED

- It is important to reinforce goals and needs for the project frequently and give timely feedback on numbers so as to keep the impetus of the project going.
- Changing to a new EMR in the middle of a project was frustrating but we were able to use some features in the new EMR to enhance our project such as ability to do automated calls and ability to access the Florida Vaccine Registry.
- Changing to the new EMR affected the denominator of our project as we were only able to gather data on patients who had been seen from August 2014 onwards (a total of 932 patients)
- It is important to delegate and share tasks among the whole healthcare team and tap into everybody’s strengths.
- Some patients will not accept a flu or pneumonia shot however persuasive you try to be.
- We did not have control over when our flu shots arrived as the order is made through the hospital system – we learned that we had to develop strategies to encourage patients initially to get their shots elsewhere as the flu shots were not delivered to the practice until the end of

September. We then had to ask patients at later appointments and by calling whether they had had shots elsewhere. Many of these shots also populated the chart from the Florida Vaccine program. Some pharmacies also fax information that shots had been administered by them.

- We had to learn to be flexible and re-educate the health care providers when National Guidelines changed – such as the new recommendation for PSV13 and the impact it has on giving PSV23.

6. PERSONAL STORY :

I realized what an impact the project was having on our residents when at most every precepting session, as residents checked out their patients, they were proud to say that they had made sure that their patient's influenza and pneumonia shots were up to date. This has also translated into residents being more aware of preventive measures in general and finding ways with the new EMR to track their personal progress in addressing these issues with patients. Having observed the success of this project several residents have shown interest in conducting their own process improvement projects next year.

7. IMPACT OF INTERVENTIONS - Complete information in Appendix 2.

Impact on Residents and Team Members

1. Provide a general description of those who worked on the quality-improvement and/or community-based project (e.g., 18 residents, 3 medical students, and 2 MPH graduate students).
 - There were 2 Faculty members and 3 resident doctors (1 PGY3 and 2 PGY2's) involved in the planning and implementation team. 30 residents and 8 Faculty were personally involved in contacting their patients who were unimmunized mid-project.
2. Address the current and future impacts of this project on the residents &/or members of the team.
 - The most important impact of this project on the residents was for them to learn how to design and implement a process improvement project, how to educate their peers, and how to educate patients and find materials to use for this. They were also an integral part of the grant application and learned how to apply for grants in the future. Finally, they learned that there are always glitches along the way and that you need to be able to make adjustments as they appear. They also learned that it is a constant process to maintain enthusiasm and interest in such a project and that clear and repeated communication is the key to this.
 - As faculty we also had to learn the importance of delegation and flexibility when situations change.
 - Overall we all learned that with a coordinated and multi-faceted effort we can produce remarkable changes and results that are clear and measurable.
3. If applicable, describe the impact (on your project) of the new ACIP pneumococcal recommendation issued on September 19, 2014 (Both PCV13 and PPSV23 should be administered routinely in series to all adults aged ≥ 65 years. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a4.htm#box>)
 - The new recommendation that PCV13 should be given to all patients over the age of 65, ideally prior to PSV23, was issued in September 2014 just as our campaign was getting underway.
 - Medicare did not pay for this vaccine until January so, after meeting as a team, we initially decided that we would not offer PSV13 routinely unless the patient wanted to pay for it out of pocket.
 - In December 2014 we conducted a Morning report educational session for the resident physicians as well as an in service for the nursing staff to educate everyone about the recommendations for both PSV23 and PSV13 and how they should be administered in relation to each other. We were able to use CDC case vignettes to illustrate the presentation.
 - As of this date 73 seniors have received PSV13.

Education and Outreach

1. Summary of accomplishments
 - Residents on the team, and as a whole, have been able to participate in and observe a process improvement project and to see what dramatic changes can be made as a result.
 - Residents and Nursing Staff are better educated about the reasons and need for vaccines and have been shown specific talking points to use when talking to patients which can apply to giving other vaccines.
 - Patients are now more aware about the importance of immunizations through posters and handouts, mailings, individual conversations and television and radio spots.
 - We have learned how to utilize features such as automatic phone calls and electronic sticky notes in our new EMR to reach out to our patients
2. List of clinical & patient education and outreach materials produced or used in this project.
 - Morning report lecture for medical staff – Flu and Pneumovax Immunizations and printed handouts of slides for providers
 - Presentation and Handouts for Medical staff on the indications of Prevnar 13
 - Presentation and discussion of talking points handouts for both providers and nursing staff.
 - CDC Posters for Influenza and Pneumonia shots in the waiting rooms.
 - CDC Vaccine Information Statements for patients for Influenza, PSV13 and PSV23 Vaccines
3. List of presentations with the date(s) and brief description of the audience.
 - August 12th 2014 – Faculty meeting – An overview of the project and request for support was presented to the Faculty Physicians and Clinic Director
 - August 25th 2014 – residents and faculty met with the whole nursing staff to educate them about indications for vaccines, facets of the project and “Talking Points” to discuss with patients. (Talking Points attached)
 - August 29th 2014 – Staff team Meeting – Residents and Faculty presented to project to the staff as a whole and presented an overview of the importance and effects of a vaccine initiative.
 - September 3rd 2014 – Faculty-resident meeting – A more detailed presentation by residents and faculty to their peers outlining the format and importance of the project and presenting statistics
 - September 16th 2014 – Morning Report – residents and faculty presenting the facts about Flu and Pneumonia Vaccines (Attached)
 - October 31st 2014 – Dr Dominguez – a faculty member – produced a television informational video for the general public informing them about influenza and the importance of influenza vaccine
 - December 12th 2014 – presented interim data to residents and faculty and outlined strategies going forwards
 - December 15th 2014 – Morning report to residents and faculty. Outlined the new PSV13 guidelines and shared patient lists of individual PCPs with providers in order that they contact patients by mail or phone to discuss needed vaccines. (form letter attached)
 - April 18th 2015 – Dr Waidner – a faculty physician – participated Health based radio show on Jacksonville WOKV which discussed Influenza and Pneumonia Vaccines and took patient calls with questions.
4. Include the materials developed and implemented as an attachment (in a jpg or pdf format) or provide the web address where they can be accessed.
 - CDC Posters for Influenza and Pneumonia shots in the waiting rooms. Available at <http://www.cdc.gov/vaccines/schedules/index.html>
 - CDC Vaccine Information Statements for patients for Influenza, PSV13 and PSV23 Vaccines. Available at <http://www.cdc.gov/vaccines/schedules/index.html>
 - PDF attached of 2 lectures given, Talking points handouts for Nurses and Physicians and letters sent to patients by the PCP to encourage getting a flu shot.

Sustainability

Discuss how the FMRP and residents will carry the best practices and gains into the future.

- Each resident in the program is required to conduct a PI research project and several people in the new PGY1 class have shown interest in conducting similar projects in the future having seen the successes and gains made by this project.
- The residency has a Process Improvement team that meets on a monthly basis. The project has been presented to the team and the techniques learned from this project will be used in future years.
- We have learned the pitfalls and advantages of implementing a new EMR mid-project and how to best mine data from the EMR and use it to improve outcomes
- We have developed nursing and resident educational material and will adapt and use it for succeeding years.

Project Impact Statement for Donors

What would you like the donors who supported this project to know about this project and the benefit you derived from receiving this grant?

The most important benefit resulting from this project was that many more of our patients have received influenza and pneumonia shots this season and we know that this will have helped to save lives.

The second important benefit was for our resident physicians who were involved at every level of this project and learned the nuts and bolts of applying for a grant, and conducting a process improvement project. The best part of the project for me, as a faculty member, was when we calculated the final results and I saw the looks of excitement and pride on my resident's faces – priceless!

Budget Update – Complete information in [Appendix 3](#).

Appendix 1: PATIENT DATA for 2014-15 Senior Immunization Grant Award

I. INFLUENZA VACCINE INFORMATION: 2014-15 Flu Season

- 1a. Total # of seniors (adults aged ≥65) served by your residency who were **eligible** for an *influenza* vaccine from 9/1/14 -3/31/15: 932
- 1b. Total # of seniors who **received** an *influenza vaccine* from 9/1/14 - 3/31/15: 656
- 1c. Historical Data – Enter data in the table by clicking on the box and typing in the numbers

Seniors (age 65 and older)	2012-2013 Flu Season (Sep 2012-Mar 2013)	2013-2014 Partial (Sep 2013-Dec 2013)	2014-2015 Flu Season (Sep 2014-Mar 2015)
Influenza Vaccine Rate (%)	32.1%	20.1%	70%
Numerator/Denominator (absolute numbers used to calculate rate)	124/1072	305/899	656/932

- 1d. Summary of methodology used to obtain the data and information:

This data is for patients seen at the Family Medicine Residency office over 3 influenza seasons. The denominator varied a little from year to year as we only counted patients who had been seen in the previous 12 months and deleted patients who died during the data collection period. We switched to a new Athena EMR in June 2014 and used the patients seen since inception of Athena as our denominator for 2014-2015.

For the Influenza data up until December 2014 we queried the analytics program of our previous EMR (Allscripts) as to which patients had an influenza shot between the October and March dates (December for 2013).

When we switched EMRs in August 2014 to Athena we were able to run a similar query for 2014 for the influenza shot data from Athena.

We now no longer have access to Allscripts analytics so we have not been able to have access to the 2014 data from January to March.

Athena EMR also pulls in data for shots given elsewhere from the Florida Vaccine registry which we were able to include in this year's data. Athena analytics did not capture shots entered in certain fields so we did a manual data search for patients without listed shots after the initial computerized query. We reviewed didactic portions of the chart and also checked the records of our Hospital EMR for patients that had been admitted and given shots as inpatients.

II. PNEUMOCOCCAL VACCINE INFORMATION: 2014-15 Flu Season

*Note: New ACIP recommendations for PCV13 and PPSV23 use in adults aged ≥65 were issued on Sep 19, 2014 during the course of this grant. They were NOT required to be implemented by grant recipients.

- 2a. Total # of seniors who were **eligible** for a PPSV23 vaccine who were served by your residency from 9/1/14 - 3/31/15: 932
- 2b. Total # of seniors who **received** a PPSV23 vaccine from 9/1/14 – 3/31/15: 714
- 2c. Historical Data – Enter data in the table by clicking on the box and typing in the numbers

Seniors (age 65 and older)	2012-2013 Flu Season (Sep 2012-Mar 2013)	2013-2014 Partial (Sep 2013-Dec 2013)	2014-2015 Flu Season (Sep 2014-Mar 2015)
PPSV23 Pneumococcal Vaccine Rate (%)	48.5%	53.2%	76%
PPSV23 Numerator/Denominator (numbers used to calculate rate)	124/1072	51/899	714/932
*Number of seniors who received PCV13 during specific time period			73

- 2d. Summary of methodology used to obtain the data and information:

The denominator varied for the reasons stated above.

For the pneumonia vaccine we used the same Analytics programs in each EMR but ran data for any pneumonia shot given before the last date of the influenza season since this is a one-time shot after

the age of 65.

The PCV13 data was extracted using the analytics program of the Athena EMR. This shot was initially given only to patients who had received a PSV23 shot more than 12 month previously. We are now proceeding with giving the PSV13 1st and giving the PSV23 after 8 weeks have passed.

III. COMMUNITY-BASED PROJECTS ONLY: INFLUENZA & PNEUMOCOCCAL INFORMATION: 2014-15 influenza season [*Note: New ACIP recommendations for PCV13 and PPSV23 use in adults aged ≥ 65 were issued on Sep 19, 2014 during the course of this grant. They were NOT required to be implemented by grant recipients]

- 3a. Total # of seniors served by this project through community outreach from 9/1/14 – 3/31/15: 1T
- 3b. Total # of seniors served through community outreach who **received an influenza** vaccine from 9/1/14– 3/31/15: 1T Is this data included in the data presented in question 1b and 1c? 1T
- 3c. Total # of seniors served through community outreach who **received a PPSV23** vaccine from 9/1/14- 3/31/15: 1T Is this data included in the data presented in question 2b and 2c? 1T
- 3d. Total # of seniors who **received a PCV13** vaccine* from 9/1/14 – 3/31/15: 1T Is this data included in data presented in 2c? 1T
- 3e. Summary of methodology used to obtain the data and information:
1T

IV. PNEUMONIA-RELATED HOSPITALIZATION RATES FOR AGE ≥ 65 , Reported Over 2 Flu Seasons

- 4a. Historical Data – Enter data in the table by clicking on the box and typing in the numbers

PNEUMONIA-RELATED HOSPITALIZATION RATES FOR SENIORS AGE ≥ 65		
Patients 65 and older	2013-2014 Flu Season (Sep 2013-Mar 2014)	2014-2015 Flu Season (Sep 2014-Mar 2015)
Community Acquired Pneumonia	1550	1775
Pneumococcal Pneumonia	8	5
Influenza-Related Pneumonia	5	43

- 4b. Summary of methodology used to obtain the data and information:
These numbers were derived by the financial team analysts reviewing billing data from hospital admissions and diagnosis codes for the various types of pneumonia for the given dates. The data for 2013-14 season was originally pulled for the time frame 3/13 -2/28/14. This year's data was pulled using the dates outlined above.