Richmond Immunization in Seniors and Elderly (RISE)

Matthew Chan, MD, Luis Manriquez, MD, Wilfredo Pérez, MD, Sreevalli Atluru, MD, Faculty Coach: Emily Myers, MD
Oregon Health and Science University Department of Family Medicine

Introduction
- Richmond Clinic is a federally qualified health center that cares for a medically and socially underserved population in the Portland, Oregon.
- Clinical measures such as immunization rates have notoriously been difficult to increase and sustain due to barriers of care, including underinsured/uninsured status, low health literacy, low socioeconomic status, and isolation.
- The R2s at Richmond conducted a focused quality improvement project to address the deficiency in vaccination rates.

Objective
Increase the percentage of patients aged 65 years and older who are vaccinated against both influenza and pneumococcal disease to achieve a 90% vaccination rate by the end of the 2014/2015 influenza season in alignment with the goals of Healthy People 2020.

Methods
Target population: Patients 65 years old or greater in age, and were active patients at Richmond Clinic (seen within the last 3 years).

Measures: Tabulating monthly and quarterly completion percentages of pneumovax and influenza for eligible Richmond patients.

Data Collection: Our data team from OCHIN, the EMR at Richmond, generated all data sets and immunization rates from before the onset of the project and after implementation of interventions.

Relational Meetings: R2s attended a training session on conducting relational interviews with patients. We then created a randomly generated list of 50 targeted patients to reach out for relational meetings.

Results

Year | Sep ’12 - Mar ’13 | Sep ’13 - Mar ’14 | Sep ’14 - Mar ’15
--- | --- | --- | ---
Influenza Vaccine Rate (%) | 31.18% | 32.58% | 50.27%

Fig 1. Chart depicting the six major process interventions performed to bolster PPSV23 and influenza vaccination rates.

Fig 2. Richmond Clinic quarterly report card on pneumovax eligible patients greater than 65 years old. Data accounting for all active patients currently at the Richmond Clinic who have or have not ever received a pneumovax shot.

Fig 3. Percentage of eligible Richmond patients vaccinated for influenza during the designated flu season by last three years. Highlighted column in table indicates data collected after interventions were conducted.

Fig 4. Percentage of eligible Richmond patients vaccinated for PPSV23 during the designated vaccination season by last three years. Highlighted column in table indicates data collected after interventions were conducted.

Conclusions
- Significantly improved completion rates of PPSV23 and influenza vaccination, although we did not meet our ambitious target of 90%.
- Improvement in clinic workflow by collaborating with team coordinators and ancillary clinic staff to identify eligible patients.
- Reconciliation of data in our EMR ensured more updated reflection of our immunization rates.
- Flexibility is important in QI projects. New ACIP pneumococcal vaccine recommendations needed to be implemented for our patients even though we had no way to measure administration rates of PCV13 with our current EMR. We created a laminated algorithm for each exam room to instruct staff and providers on the new ACIP guidelines.
- Time management overall was challenging for this project since second year residents are often on rotations away from the clinic. For instance, relational meetings did not play as big a role as initially desired due to time constraints.

Acknowledgements
We would like to thank the AAFP Foundation and its donors for awarding us the AAFP Foundation Senior Immunization Grant Award to support our project.
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
Oregon Health & Science University Family Medicine Residency

Contact Information
1. Name, Title, Email of person completing the report
   Matthew Chan, M.D., PGY-2, chama@ohsu.edu

2. Project Contact information if different from above
3. Name(s) of Resident(s) presenting Immunization Awards Poster at the 2015 National Conference

Title of Project
Richmond Immunizations in Seniors and Elderly (RISE) Project

Statement of Goal(s) Include your Primary Metrics
The Richmond second year residents planned to boost the percentage of adult patients aged 65 years and older who are vaccinated against both seasonal influenza and pneumococcal to achieve a 90% vaccination rate by the end of the 2014/2015 influenza season in alignment with the goals of Healthy People 2020

Impact on Target Population
1. PATIENT DATA – Complete information in Appendix 1.
2. KEY OUTCOMES (Bullet points)
   - Completion rates of patients eligible to receive influenza and pneumovax (PCV23) over the designated time frame of the project
   - Resident comfort with immunization quality improvement on a clinic-wide scale

3. KEY PROGRAM COMPONENTS
   a). Patient outreach via letter and phones
   b). Instituting change in workflow processes to identify patients who need flu/pneumovax
   c). Reconciliation of immunization database on EMR
   d). Identifying patients living in nursing homes whose charts required reconciliation in EMR
   e). Learning and incorporating new ACIP recommendations into clinical practice at Richmond
   f). Performing relational meetings with patients of the clinic to identify potential barriers, and enrich relationships between community and clinic

4. THINGS THAT WORKED BEST (to accomplish your activities)
   - Having excellent guidance and leadership from our project attending, Dr. Myers
   - Collaborating with team coordinators to initiate scrubbing of charts prior to start of clinic day for Pneumovax
   - Engendering discussion in regards to instituting new guidelines for pneumonia vaccination amongst the providers and ancillary medical staff
   - Ability to request frequent statistics from data team, including our quarterly clinic scorecards
   - Training in conducting relational meetings, hosted by Metropolitan Alliance of the Common Good
- Enlisting medical students to perform phone outreach with their increased flexibility in scheduling

5. LESSONS LEARNED
- Quality improvement requires patience, with tailored expectations in terms of degree of change or improvement that is desired; even incremental change can be considered successful
- The inherent erratic schedule of residency makes resident team collaboration and meetings challenging
- Improving influenza vaccination rates was especially challenging given the lower efficacy and higher infection rate this year, generating a lot of patient skepticism and distrust
- Our clinic had multiple outreach projects going on simultaneously, and at times our ancillary staff suffered from “outreach burnout.”

6. PERSONAL STORY
Please provide a personal account that shows a difference was made as the result of the work you and your team have done on this project. It can be a story that reflects on a resident or on someone from the patient population you are serving.

Below is an example of a relational meeting session held with a patient. From these interactions, it allowed us to reflect more thoughtfully on other intangible connections to our patients, but how this could be woven into their medical care to augment it.

“Bio
PC grew up in Wyoming, moved to Portland with her husband and raised 5 children and two grandchildren here. Her husband is now deceased for almost 7 years

Social Networks
PC keeps in touch with friends and family. She also is active in her church, Richmond Community Church. She is engaged in bible study twice a week and gives rides to a formerly homeless person at the church and contributes to charity projects through the church.

Healthy living
PC focuses mostly on doctor’s advice for health questions. She likes Dr D and mostly listens to her doctor. When she doesn’t understand what has happened at a visit she relies on one of her grandson’s wives, who is a nurse, to help her understand medical issues.

Dr D made her sign up for an Ease of walking group through the Arthritis Foundation and she now finds it very helpful. By walking with a group “they keep each other accountable to one another” and she feels she would not be walking nearly as much if she were not part of this group. She feels that it has done a lot for her health including her desire to lose some weight. When asked if she thinks engaging her church or group of friends around health issues would be useful they thinks it would be very good idea but it has never been brought up before.

Richmond clinic
PC has been coming to Richmond for many years. She used to live in the neighborhood but sold her home to move into a smaller apartment. She still does many things in the neighborhood around Richmond including her church and meeting up with friends at Tom’s. She does not know if any of the people in her life use the Richmond clinic, it has never really come up. She does think that a few of her low-income friends would benefit from the clinic and doesn’t know why they don’t go there.

Vaccination
PC is due for the pneumonia vaccine and wants to get it though she hasn't yet. There were several miscommunications between the clinic and the pharmacy and they were never able to give her a shot. She has an upcoming appointment with Dr D and will get it then.

Reflections

Unbidden Ms. P brought up the importance of having other people to help keep her accountable for her health goals in order to follow through on them. Though she is a longstanding patient, there is no sense of community through Richmond for Paula though her PCP did connect her to an external group that has been important for her health. Through her church it would be possible to connect with people like PC for whatever health plans may be useful but it is unclear how many Richmond patients are members at the Richmond Community Church. She is fairly health literate and engaged but still does not always understand her medical issues and has had difficulty getting vaccinated even though she has followed up several times.”

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).

Matt Chan—primary coordinator of project, including compiling written reports, coordinating with data team, adhering to milestones, training staff, etc

Luis Manriquez—arranging training on relational interviewing, developing/designing/disseminating pneumococcal vaccine flow sheets with new 2014 guidelines for clinic use

Will Perez—coordinating and communicating with MAs and team coordinators to conduct outreach to patients 65 and above in need of flu and pneumovax.

Sree Atluru—assisting 2nd year residents in project

Faculty:

Emily Myers—Faculty supervisor
Responsibilities include guiding team through OHSU research exemption for human subjects, mentoring and coordinating grant team including meetings and group emails, coordinating use and disbursement of grant funds, ensuring deadlines are met.

Chummi Devarajan—mentoring
Provided recommendations on outreach to geriatric patients, especially those residing in skilled nursing and assisted living.

OCHIN Data team: obtained reports before and after pneumovax and flu vaccine rates in patients 65+ at Richmond clinic

Richmond clinic staff time:

Sarah Jarvis—interim clinic manager: Role—coordinating with medical assistants and team coordinators about implementing project outreach

Erin Kirk: reviewing proposal, initial brainstorming for project timeline

Erwin Teuber—executive director: reviewing proposal, initial brainstorming for project timeline

Team Coordinators: scrubbing charts daily for patients

Medical assistants: implemented new pneumovax flow sheets, assisting microteams with scrubbing

Medical student:

Nicholas Robbins: Med student MS4, phone outreach to patients for pneumovax
2. **Address the current and future impacts of this project on the residents &/or members of the team.**

Overall, the RISE Project at Richmond was a challenging experience in implementing a quality improvement project on a clinic-wide scale. At the onset of the project, we had formulated a presumably feasible and enthusiastic plan to roll out over the year. As with all initiatives, we quickly ran into several barriers that required critical thinking and coordination with our staff at Richmond. Three major aspects that served as foundations for our learning included:

a). Clinical Systems Quality Improvement: In a large clinic setting like Richmond’s, we afforded ample time and effort coordinating between upper administration and back office staff in not only promoting our endeavor, but also achieving buy-in. While our ideas were promising, altering the clinic and staff culture proved to be less smooth than anticipated. Between competing outreach projects at the clinic, obtaining assistance for performing outreach, receiving approval to change workflow processes, and juggling of team schedules, the path towards quality improvement for our immunization project was met with many obstacles. And yet, we reflect that this is the essence of quality improvement in a community health center, and acknowledge that outside of a residency program, these same barriers will exist. Collaborating as a team to problem-solve around logistical barriers matured our understanding of what it takes to execute a larger scale quality improvement project, and was ultimately rewarding from an education perspective.

b). Data gathering and reporting: We collaborated extensively with our data collection team throughout this project. One of our largest educational pieces was interpreting how clinic data is collected, and even discovering some flaws in clinical capture and interpretation. For instance, we learned that our vaccination rates are likely much better than reflected in the documented percentages, simply because the EMR doesn’t capture every true data point of those who have received vaccines. Data gaps exist that are unaccounted for. We became familiarized with generating population health datasets, and working with our EMR to maximize its data reporting capabilities.

c). Vaccination medicine: This immunization project served as the centerpiece for refining our medical education surrounding vaccines. In addition to becoming well-versed with indications, contraindications, treatments, and schedules for influenza and pneumovax, we also delved more into patient attitudes regarding vaccines, and the patient shared decision-making that is unique to vaccines. Through relational meetings and office visits, we came to appreciate some of the myths held by patients surrounding not just flu and pneumovax, but vaccines in general, and the associated fears. This topic served as a profound educational experience as we will assuredly encounter these situations again in our careers.

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)

As mentioned above, when the new ACIP recommendations were made known, there was a window of opportunity to quickly institute new guidelines, and change clinical practice at Richmond. Borne from this was our distilled algorithm diagram to guide clinicians in deciding correct indications for pneumonia vaccine and the appropriate timing. There were efforts to explore reducing administration costs of supplemental PCV13 for our >65 year old population, however the cumbersome expenses of purchasing immunizations at our clinic made this an unfeasible avenue to pursue.

**Education and Outreach**

1. **Summary of accomplishments**

   - Creation of an algorithm based on new ACIP recommendations incorporating PCV13, with distribution to clinicians throughout Richmond clinic
- Phone call and hard copy letter outreach to patients from clinic staff, with phone outreach performed primarily by medical student assistance
- Integrating scrubbing for patients due for Pneumonia vaccine in the workflow of team coordinators, and staff education regarding proper indications for it
- Training provided for Richmond Residents in conducting relational meetings with patients and community members

2. List of clinical & patient education and outreach materials produced or used in this project.
   - Clinic Pneumovax Algorithm incorporating new ACIP recommendations
   - Discussions held with patients during phone relational meetings

3. List of presentations with the date(s) and brief description of the audience.
   - Presentation of immunization project on 4/27/15 to the FM residents

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.

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

For long-term sustainability, on a personal level, the residents involved in this project gained essential knowledge pertinent to vaccinations that will augment our clinical practice, and incorporate new guidelines as we go forward working at Richmond Clinic and beyond residency.

In terms of the clinic, we hope that instituting a new workflow for chart scrubbing from the team coordinators, our phone and letter outreach to the community, our education of staff regarding new vaccination guidelines, and our reconciliation of missing pneumonia vaccinations in the EMR, will support the clinic to maintain the increased trend upwards in vaccination rates.

As a residency, we have presented our results to the rest of our colleagues, and engaged in discussion using our educational tools regarding the new guidelines, as well as barriers other residents perceive in administrating vaccines. We hope to spur further educational discourse amongst the program to address patient and provider barriers in all our clinic sites, using Richmond as an example from this past year. We also hope to utilize our skills in relational meetings to continue forging stronger bonds between community members and the Richmond Clinic.

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?

We would first and foremost like to give our thanks and appreciation for those who provided the funding for the residents at OHSU Richmond Clinic to undertake this unique project. This project served to take the fundamental basics of quality improvement, and apply them firsthand to a focused endeavor. From this, we demonstrated progress in a collaborative fashion with our clinic colleagues, and appreciated the incremental change that occurs when changing the culture around a clinical practice.

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: 7461 eligible patients

1b. Total # of seniors who received an influenza vaccine from 9/1/14 - 3/31/15: 3751

1c. Historical Data – Enter data in the table by clicking on the box and typing in the numbers

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Influenza Vaccine Rate (%)</td>
<td>31.18%</td>
<td>32.58%</td>
<td>50.27%</td>
</tr>
<tr>
<td>Numerator/Denominator (absolute numbers used to calculate rate)</td>
<td></td>
<td></td>
<td>3751 / 7461 patients</td>
</tr>
</tbody>
</table>

1d. Summary of methodology used to obtain the data and information:
The timeframe, patient population, and data criteria were submitted to our OCHIN data team for analysis, and reported back to us. For the 2014-2015 year, there was paradoxically a marked jump in completion of influenza vaccination rates. This is actually an underestimate, as the 3751 patients denoted are pts that received their shots at Richmond alone, and does not include those who received vaccinations elsewhere.

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: 989

2b. Total # of seniors who received a PPSV23 vaccine from 9/1/14 – 3/31/15: 673

2c. Historical Data – Enter data in the table by clicking on the box and typing in the numbers

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>PPSV23 Pneumococcal Vaccine Rate (%)</td>
<td>47.2%</td>
<td>43.87%</td>
<td>68 %</td>
</tr>
<tr>
<td>PPSV23 Numerator/Denominator (numbers used to calculate rate)</td>
<td>-</td>
<td>-</td>
<td>673 / 989 patients</td>
</tr>
<tr>
<td>*Number of seniors who received PCV13 during specific time period</td>
<td></td>
<td></td>
<td>Unable to track at this time</td>
</tr>
</tbody>
</table>

2d. Summary of methodology used to obtain the data and information:
Similar to the above process, the timeframe, patient population, and data criteria were submitted to our OCHIN data team for analysis, and reported back to us. Additionally, we extracted some of the vaccination rates from our quarterly reports sent to clinicians throughout Richmond.

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: Click here to enter text.

3b. Total # of seniors served through community outreach who received an influenza vaccine from 9/1/14 – 3/31/15: Click here to enter text. Is this data included in the data presented in question 1b and 1c? Click here to enter text.

3c. Total # of seniors served through community outreach who received a PPSV23 vaccine from 9/1/14-3/31/15: Click here to enter text. Is this data included in the data presented in question 2b and 2c? Click here to enter text.
3d. Total # of seniors who received a PCV13 vaccine* from 9/1/14 – 3/31/15: Click here to enter text. Is this data included in data presented in 2c? Click here to enter text.

3e. Summary of methodology used to obtain the data and information: Click here to enter text.

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

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Patients 65 and older</strong></td>
<td><strong>Community Acquired Pneumonia</strong></td>
<td><strong>Pneumococcal Pneumonia</strong></td>
</tr>
<tr>
<td>Inpatient</td>
<td>Observation</td>
<td>Emergency</td>
</tr>
<tr>
<td>2011</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>2012</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>2013</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>2014</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>2015</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

*Data not broken down by Pneumonia sub-types

4b. Summary of methodology used to obtain the data and information:

From OCHIN data team