



Enhancing the Health of the Elderly by Improving the Immunization Rate of Pneumococcal and Influenza Vaccination

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Introduction

Approximately 23,607 influenza-associated deaths and over 200,000 influenza-associated hospitalizations occur every year in the United States¹.

In 2014, the death rates from pneumonia for age groups 65-74, 75-84, and >85 years old were 27.4, 91.2, and 368.1/100,000 deaths respectively².

Complications related to influenza include pneumonia, bronchitis, sinus and ear infections, whereas complications related to pneumonia include meningitis and bacteremia^{3,4}.

The risks for serious health problems, hospitalizations, and deaths from influenza are higher among people 65 years of age or older, young children, pregnant women, and people of any age who have medical conditions that place them at increased risk for complications from influenza¹.

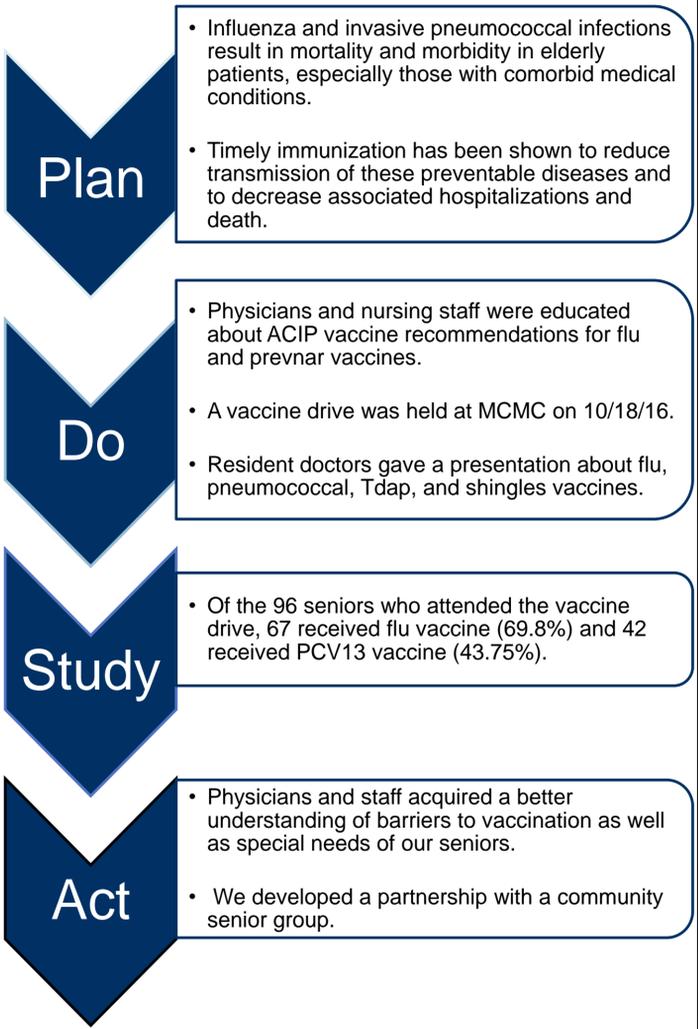
7,176 pneumonia and influenza deaths were reported in Texas during the 2016-2017 influenza season⁵.

Our Study Aimed to Address Three Primary Metrics:

- To train the residents and staff in population health, the quality improvement process, and current ACIP recommendations for vaccination in elderly patients.
- To improve the immunization rate against influenza and pneumococcal pneumonia
 - influenza immunization rate goal: >75%
 - Pneumococcal Polysaccharide (PPSV23) vaccination rate goal: >50%
- To improve community outreach and to provide Influenza, Pnevnr and PPSV23 vaccinations for patients in the community.

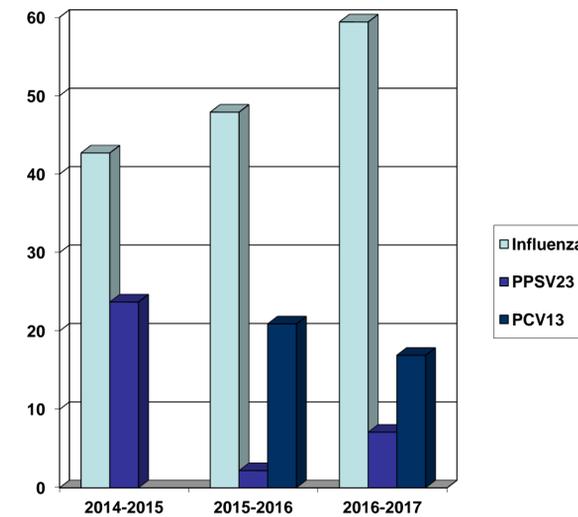


Methods

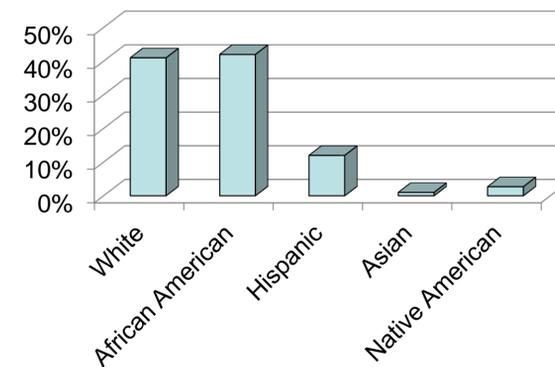


Results

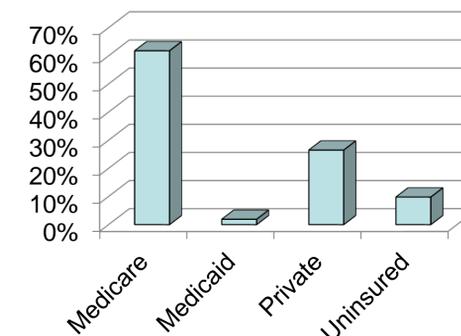
Vaccination Rates



Race



Insurance



Conclusions

Chart review of vaccination rates was hampered by the limited functionality of our previous EMR. A meticulous review of the 1866 visits to the clinic from September 15, 2016 - March 15, 2017 revealed that 72% of charts had flu vaccination documented, 71.1% had Pnevnr vaccination documented, and 62.5% had PPSV 23 vaccination documented. Our new EMR promises improved functionality in analysis of the health of our patient population.

The MCFMRP has gained a better understanding of quality improvement, barriers to care, vaccine counseling and education materials. We aim to have accurate immunization histories and best practice advisories providing prompts for immunizations in our new EMR. Standing orders now allow medication refills and point of care testing to improve nursing staff efficiency. Annual health literacy training will be conducted for all staff and physicians. We will continue identifying areas for improvement during our quarterly quality committee meetings and new projects will be initiated. We will maintain our collaborative work with seniors in our community through workshops and immunization projects. We will also pursue the possibility of offering free vaccines for the elderly immunization project next year or request assistance from our hospital system.



References

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2016-2017 Senior Immunization Awards CASE STUDY

Methodist Charlton Family Medicine Residency

IMPROVING VACCINATION RATES FOR SENIORS INSIDE AND OUTSIDE CLINIC WALLS

The senior audience waited with eyes focused on the door, anticipating the arrival of young physicians from the Methodist Charlton Family Medicine Residency Program (Charlton FMRP). Generations Program Assistant Linda Hodge looked out over the packed room and smiled. Every seat in the room was taken--a real first for a senior vaccination workshop and clinic.

In June 2016, the Charlton FMRP received a 2016-2017 Senior Immunization Award from the American Academy of Family Physicians (AAFP) Foundation to implement a quality improvement project that would help increase flu and pneumonia immunization rates in seniors age 65 and older. In developing the immunization award proposal, the residency program's Clinical Director, Rajasree Nair, MD, could easily identify areas within the clinic's protocols, staff knowledge and electronic medical record (EMR) documentation that could be impacting patient vaccination rates, and certainly these would be addressed within the grant's scope of work. But she also wanted to see their residents develop leadership skills and become sensitive to the special needs of the broader community that lay outside clinic walls. To accomplish this, it was essential to provide residents with training opportunities that stepped beyond traditional boundaries.

Charlton's Senior Immunization Project goals were to increase their influenza vaccination rate to more than 75% and the pneumococcal vaccination rates to more than 50% by implementing the PDSA (Plan, Do, Study and Act) model of identifying barriers and opportunities for improvement. As the immunization project team came together to hammer out implementation details, the community

outreach and education components initially appeared the most challenging. The (as then perceived) unenviable task of coordinating these efforts fell to Theresa Salmon, LMSW, Director of Family Medicine Behavioral Health. But fate stepped in. "During a brainstorming session, someone mentioned the Generations group—and I hadn't even heard of it," she said. It only took one phone call from Dr. Nair to Linda Hodge, and a beautiful partnership was born.

Funded through Methodist Health Systems, the Generations senior service program addresses the diverse needs of adults 55 and older through health, education and fun. Program offerings are wide, ranging from memory loss, caregiving and fall prevention to tai chi, book clubs, and art classes. Generations' services are well known within the largely African American intercity population of the Dallas/Fort Worth, TX area, with about 46,000 households on its mailing list (which translates to about 64,000 individuals).

Charlton FMRP discovered that Generations already conducted annual vaccination drives and year-round discussions and workshops for seniors. By collaborating with Generations, Charlton FMRP gained a platform for providing ongoing health education to seniors in the community. Along with this came almost instant access to an extensive mailing list that already targeted seniors, as well as Generation's robust promotional capabilities. The date of October 18, 2016 was set for offering Boo the Flu Away, their first collaborative workshop and free influenza and Prevnar immunization clinic. Generations threw their full marketing support behind Boo the Flu Away, including postcards via USPS sent to 46,000 households, 5,851 emailed flyers, and Generations e-newsletters and

emailed flu shot reminders to over 7,900 addresses. Generations also posted flyers in all Charlton elevators, as well as at the information desk, outpatient registration and seating areas, and the fitness center. Participants from 18 zip codes in nine area cities attended the event.

While the Generations immunization event was being planned, several Senior Immunization Award-related activities were underway inside the residency clinic as well. Methodist Charlton Family Medicine Residency focuses on team-based patient care; at Charlton, care was provided by two teams comprised of staff, residents and faculty, with third-year residents serving as leaders and faculty as advisors. To ensure a strong foundation for immunization project quality assurance (QA) methods, Dr. Nair secured coveted lecture time during noon conference for a workshop on the PDSA (Plan, Do, Study, and Act) model of continuous quality improvement. The workshop was led by faculty and the nurse educator for both physicians and staff. Two additional workshops held in August and again December 2016 trained residents and staff on current ACIP (Advisory Committee on Immunization Practices) recommendations for Influenza, Pneumovax 23 (PPSV23) and Prevnar 13 (PCV13) vaccinations with focus on immunization schedules and contraindications. Assessing patient health literacy and appropriate immunization counseling were also covered.

By September 2016, staff were ready and eager to begin immunizing patients once the vaccines became available to the clinic, but immediately came up against a problem that plagues many EMR systems: Charlton's old EMR allowed immunizations to be documented in multiple areas, some of which could not be easily captured. Unsure of the accuracy of immunization status reports generated from patient records, physicians and nursing staff felt compelled to conduct a chart review on all Charlton patients above the age of 65 across all visit types (procedure clinic, nurse visits, diabetic education and osteopathic manipulation visits). To help address documentation discrepancies, physicians and nurses were instructed in the

uniform way of recording vaccinations received both inside and outside the clinic. The center's transition to a new EMR (EPIC) in March 2017 is expected to aid in creating complete and accurate vaccination histories for Charlton patients. Dr. Nair also hopes to increase the clinic's effectiveness in capturing immunizations data from outside pharmacies/providers as EPIC capabilities are explored and utilized.

Physicians and staff were encouraged to regard each appointment as an opportunity to boost vaccinations, and this is where their health literacy training proved crucial. Armed with key talking points explaining side effects, impact of vaccinations on community/personal health, and myth-busting strategies, residents and nurses felt much more confident in their ability to connect with and counsel their elderly patients in a non-condescending, respectful way. These conversations were reinforced by immunization handouts placed in each patient exam room. Originally developed by the Centers for Disease Control and Prevention (CDC), the leaflets were revised for the grant to accommodate the low health literacy of Charlton's patient population.

Changes within the clinic were also made in vaccination protocol to better support decision-making surrounding immunization in specific clinical circumstances. Standing orders for influenza and pneumococcal vaccinations were initiated for patients above the age of 65. Physicians and staff were trained on the protocol, and physicians began using a newly-created chart review tool (both electronically and in paper format) to identify patients who needed vaccinations and other preventive services. Prior to this project, standing orders had never been employed in the clinic, but the change was viewed to be highly productive. As a result, additional standing orders and protocols have been implemented in the clinic, including medication refill protocol and point of care testing orders.

On October 18, Boo the Flu Away education workshop and free influenza and Prevnar immunization clinic was held from 11:00 a.m. to

1:00 p.m., with lunch provided. Despite the newness of the partnership and a shorter-than-ideal lead time, Boo the Flu Away immunization health fair was a big success, attracting 96 registrants—up markedly from the 10 individuals who had attended the year prior. Hodge credits the addition of the educational component with the event's success, along with the residents' personal interaction with participants. "Immediately after the workshop, they went from table to table, greeting attendees and answering their questions. The impact of that was just huge," asserted Hodge. "And you could see that the audience wanted to participate so much, learn so much," added Salmon. "I can't tell you how many workshop participants approached me and said, 'I've never had anyone explain that to me this way.' When they are given the opportunity to improve their healthcare and it's made financially accessible, you could see they really wanted those things."

At the end of the project, thanks to the enthusiastic support of staff and careful chart audits, Dr. Nair could confidently report results that accurately reflected the immunization status of patients above the age of 65 for all visits from September 15, 2016 to March 15, 2017. And the outcomes were impressive! After screening out patients with documented allergies, 1,344 out of 1,853 (72.02%) of patients were vaccinated for influenza. A total of 1,328 PCV13 vaccinations had been completed (71.1%), with 30 patients ineligible because they have received the PPSV23 vaccination within the prior 12 months. PPCV 23 vaccination rates came in at 1,168 (62.5%), with 238 ineligible because they had received a PCV13 within the previous 12 months.

In summary, Dr. Nair reports that Charlton's Family Medicine residents have gained a better understanding of the process of quality improvement, assessing barriers to care and developing appropriate counseling and

education materials. She expects that the new EPIC EMR will greatly assist clinic staff in maintaining accurate immunization histories for all patients and provide timely prompts for immunizations. The standing orders developed for immunizations, medication refills and point of care testing will continue to improve efficiency of the nursing staff. Annual health literacy training will be integrated as part of the regular training conducted for all staff and physicians. And finally, ongoing application of the PDSA model will allow continued progress in identifying areas for improvement during their quarterly quality committee meetings and in the initiation of new projects.

For her part, Linda Hodge agrees that the new collaboration with the Charlton FMRP has been "the most awesome thing that's happened during the two years I've been here." Before they began partnering with the Charlton FMRP, it could be challenging for Generations to connect with physicians in the community willing to give time to this group. Now, thanks to participation from the resident physicians, Generations can now offer far more health-related workshops—up to two to four a month—with topics ranging from "How to Talk to Your Doctor" to "How to Cope with A New Diagnosis."

Perhaps the most important outcomes of the Senior Immunization Project grew from Charlton FMRP's collaborative work with the elderly through community workshops and immunization projects. In Theresa Salmon's view, the experience has been as great a learning experience for residents as for their patients. "I think our residents learned a lot about who their community is, how to serve them, how to have conversations with them," she said. So much so that the residency has added a geriatric psychiatry rotation for second year residents, and every resident is now required to give a presentation to the geriatric population sometime during residency.