



# Improving Pneumococcal and Influenza Immunization Rates of Senior Populations in McDowell County, WV

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## INTRODUCTION

McDowell County, WV is often cited as the unhealthiest county in the nation.

Poverty and geographical isolation contribute to this area being medically underserved.

## PROJECT GOALS

### Primary Metric

Increase rates of senior immunizations by 25%

### Goal 1

Improve access to immunizations

### Goal 2

Improve pre-existing medical record infrastructure

## KEY PROGRAM COMPONENTS

- Community outreach
- Provider education
- Improved documentation

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## METHODS

### Vaccination record

Developed means for facility to track vaccines from other providers or community source

### “Huddle” sheet

Implementation of a daily review of patients in need of vaccine and a system to remind providers of vaccine eligible seniors

### Myth busting

Giving providers means to counteract common reasons for declining vaccinations



L – R: Andrew Prusak, MS-4; Sarah Sexton, MD; Tuggy Bear; Diane Alcorn, RN

## RESULTS

### Influenza Vaccine Information

Seniors (age 65+)	Sep '15 – Mar '16	Sep '16 – Mar '17
Influenza Vaccination Rate (%)	35.65%	45.32%
Numerator/Denominator	261/732	359/744

### Pneumococcal Vaccine Information

Seniors (age 65+)	Apr '15 – Mar '16	Apr '16 – Mar '17
PPSV23 Pneumococcal Vaccine Rate (%)	6.50%	10.23%
PPSV23 Numerator/Denominator	53/816	84/821
PCV 13 Pneumococcal Vaccine Rate (%)	1.83%	3.65%
PCV 13 Numerator/Denominator	15/816	30/821

## KEY OUTCOMES

- Expanded documentation of vaccinations in targeted population
- Improved provider education
- Increased resident and medical student awareness of importance of provider’s role in patient’s receiving immunizations
- Recognition of rural population’s lack of receptiveness to outside Interventions

**Marshall University Family Medicine Residency  
PHYSICIAN-PATIENT RELATIONSHIP REMAINS KEY TO INCREASING SENIOR  
IMMUNIZATION RATES IN RURAL WEST VIRGINIA**

“I just happened to be in the right place at the right time!” explained second-year resident Sarah Sexton, MD, referring to how she came to help lead a 2016-2017 Senior Immunization Award offered through the American Academy of Family Physicians (AAFP) Foundation. “I was in the Program Director’s office for something else, and the subject of this grant came up. When he explained that its purpose was to help Family Medicine residency programs increase influenza and pneumococcal vaccination rates in patients age 65 and older, I immediately thought it was a great opportunity.”

Marshall’s Family Medicine Residency Director, Tammy Bannister, MD had an equally positive initial reaction. “When one of the faculty brought this grant opportunity to our attention, I thought, “Hey, absolutely, we can do that!” Neighboring McDowell County, WV seemed a logical focus for a potential senior immunization project. Built on coal mining, residents in the area had become increasingly isolated and impoverished as industry left the area, taking their jobs with them. Despite all this, many remained fiercely loyal to family and the land. “We knew they were at risk, so I thought we had a great opportunity for improvement,” Dr. Bannister concluded.

Marshall University’s Family Medicine program has had a longstanding relationship with McDowell County providers, with faculty, residents and medical students all involved in providing care and education to this severely medically underserved population. After joining forces to lead the project, Drs. Sexton and Bannister chose the Tug Valley Association to be

their McDowell County grant partner. A non-profit practice group, Tug Valley provides health and dental care to patients at five Federally Qualified Health Centers (with three located in McDowell County). In addition to Sarah Sexton, Family Medicine residents Shawndra Barker and Freddie Vaughn joined the two attending MDs, one RN and one medical student, which comprised the Marshall Family Medicine senior immunization project team.

Project goals aimed to achieve a 25 percent increase in influenza and pneumococcal vaccination rates over the previous year’s numbers by the end of March 2017. Early on, the project leads made the three and a half-hour drive to Tug Valley’s main location to meet with providers, support staff and the Quality Assurance (QA) officer for a brainstorming session. “We had the opportunity to troubleshoot barriers and tailor a plan that fit their population,” said Dr. Bannister. Drs. Sexton and Vaughn created a Continuing Medical Education (CME) PowerPoint training session for delivery to Tug Valley’s providers and staff covering Centers for Disease Control and Prevention (CDC) pneumococcal (both Prevnar-PCV13 and Pneumovax-PPSV23) and influenza immunization guidelines. Vaccine effectiveness, reactions, and commonly held vaccine myths were also addressed. The presentation took place on October 27, 2016—a date that coincided with staff meetings that brought many providers in from all Tug Valley locations to the main location. With support from the on-site IT team, Tug Valley staff not able to attend participated via teleconference.

Even with the immunization lecture content fresh in mind, it remained all too easy for Tug Valley's provider staff to overlook details about patients' vaccination needs during busy office visits. Marshall University Family Medicine had faced this problem, as well, and solved it by initiating a process whereby the Care Coordinator reviews the medical records of patients scheduled for the next day. Information for those identified as needing a vaccine or other preventive care services is documented on a "Huddle" sheet which is printed out and distributed daily. The Huddle sheets serve as a tangible daily prompt for providers to discuss vaccinations with their patients. As Dr. Sexton explains, "Even though we have the capability to accomplish this within the EMR, I think there's something about the tangible aspect of the Huddle sheet--it's a nice reminder. I even use it to remind me about things such as the need to request records from a patient's colonoscopy, or to call in a prescription." According to Dr. Bannister, the impact of the Huddle sheet's implementation at Marshall "has been amazing!" Consequently, the project leads suggested that Tug Valley emulate the Huddle system and suggested ways staff could integrate the process within the workflow of their clinics.

After some dialogue with Tug Valley staff, "We also recognized that the vaccination numbers were underreported at these rural sites," said Dr. Bannister. "This can happen any time a patient gets vaccinated somewhere else and that information doesn't make it into the tracking system. So we sought to help them develop a system for identifying patients who had been immunized elsewhere." The project team worked with Tug Valley's QA officer to develop a Release of Information (ROI) form and a process for requesting immunization documentation from outside pharmacies and providers. Dr. Sexton explains the process: "For example, if a Tug Valley provider informs a patient that, 'You need a flu shot,' and their response is, 'But I got it last Friday at Rite Aid,' the patient is asked to sign a ROI form on the spot." Once sent to the pharmacy or other outside source, the ROI

authorizes release of the paper or electronic vaccination documentation Tug Valley needs to update the medical record.

Another important component of the project was to increase rural immunization numbers through use of the Marshall Medical Outreach (MMO), a free mobile health clinic. Although most frequently used to provide medical care for the homeless and at-risk in Huntington and the surrounding community, the mobile unit has been engaged in everything from assisting flood victims to providing free pap smears for underserved women. Outfitted with two fully-stocked, nearly full-sized exam rooms, "We can take it anywhere that land and climate permit," claims Dr. Bannister.

The project team originally planned to take the MMO on four separate occasions to two remote rural locations. These spots were identified because of their location between the Tug Valley satellite sites, which we hoped would capture seniors who struggle with transportation to the medical centers. Spirits were high when Dr. Sexton and her team of medical students and a nurse headed out for MMO's debut event: the wildly popular Autumn Fest held October 29, 2016 on Pineville's main drag. In the past, the event has attracted crowds in excess of 5,000 with features such as chili cook-offs, costume and pumpkin carving contests, cake walks, hay rides and an array of booths and vendors. Dr. Sexton and crew would use the MMO to add a free flu clinic to the year's itinerary.

Tug Valley had advertised the free flu clinic through local radio stations, newspapers and even more heavily through social media, and MMO was stocked for strong demand. They went to the site, parked the huge bus, and made their presence known by setting out tables, greeting, and offering flyers to passers-by. "But few people would stop to take a flyer, let alone agree to a flu shot," lamented Dr. Sexton. After some reflection, she explains the community's reaction this way. "We were outsiders. I saw people stop in at the other tents just to chat.

'Hey, hi, how are you? How are your kids doing?' they would ask. But we didn't have those relationships."

Despite best efforts, MMO's Autumn Fest results were dismal. "We ended up doing maybe five-six vaccinations—it was not at all productive," admitted Dr. Sexton. "These communities are very inward-looking," added Dr. Bannister. "Many appeared to very guarded, like they don't need (especially our) help, and can take care of themselves."

The staff at Tug Valley supported this assessment. "Look, this is not going to work for you. Folks here respond to people they have a relationship with," they told Dr. Bannister. Given the expense of operating the van and the distance (a three+ hour drive) between Marshall and locations in McDowell County, Drs. Bannister and Sexton decided to pull the plug on future grant-related MMO activities. The bottom line for Dr. Bannister: "We just couldn't justify using time and money on unproductive things."

So who did have those established relationships? The answer was hiding in plain sight in the form of long-standing connections between the Tug Valley providers and staff that reached across generations of families in the community. With this realization, project outreach efforts shifted to focus on maximizing the impact of existing doctor-patient relationships supported through consistent use of the Huddle sheets and even stronger emphasis on increased dialogue and patient education.

While unable to achieve a 25 % increase, the project was still able to increase senior immunization rates for all three vaccines: Influenza from 35.65% to 45.32%; PPSV23 from 6.5% to 10.2%; and PCV13 from 1.8% to 3.65%. There were other benefits as well in the form of

improved provider education, increased and more accurate documentation in the medical record, Huddle sheet daily reminders, and use of QA to ensure that preventive care became integrated into daily clinic flow. And despite disappointing results from the project's outreach component, Dr. Bannister has not completely given up on the effort. "Access to medical care remains a huge problem for the people in this area. Perhaps they would have been more receptive had we approached them in a different way—say, at a church or other safe place with a group of people they trust."

Of all the ways Marshall's senior immunization project has positively impacted Family Medicine residents, Dr. Bannister feels that one of the most important take-aways was an increased appreciation for the challenges inherent in providing care to this isolated population. "One of the things I've learned is not to assume that residents grasp this population's needs and the deep-seated nature of the myths they believe. In the future, we will focus more on that in our residents' training. As they go out into the community after completing residency, they will realize the need for that preparation."

Dr. Sexton sums up her experience this way: "As a physician-in-training, this project highlighted the importance of the physician-patient relationship in health maintenance, particularly as it pertains to immunizations. I did not have a relationship with patients I met at community outreach, and they were very hesitant to agree to immunization. Now, because of my participation in this project, I personally aim to take time discussing immunizations with my patients. And while I didn't collect data, I found that my patients were much more accepting after having a conversation with me."