

Improving Pneumococcal Vaccination Rates Using Exclusive Clinic Visits; a Pilot Program

Ronald R. Julia MD, MS

Lehigh Valley Health Network, Ronald_R.Julia_Jr@lvhn.org

Michael J. Sither DO, MPH

Lehigh Valley Health Network, Michael.Sither@lvhn.org

Cheryl A. Bloomfield MD

Lehigh Valley Health Network, Cheryl_A.Bloomfield@lvhn.org

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Improving Pneumococcal Vaccination Rates Using Exclusive Clinic Visits; a Pilot Program

RR Julia, Jr. MD MS, MJ Sither DO MPH, C Bloomfield MD
Lehigh Valley Health Network, Allentown, Pennsylvania

Background/ Introduction

- Overlooked during many resident clinic visits are preventative healthcare measures. The perception also exists that this aspect of care is substandard in a resident clinic. Based on reports generated by internal computer systems, our resident clinic was noted to have a 13% rate of pneumococcal vaccination, well below network average (57%) and goal (63%). Bolstered by successes at other practices in the network, a pilot vaccine fair was undertaken to assess if our clinic could mass vaccinate its patients.

Current Conditions

- Our Quality Improvement project was initiated upon review of the Lehigh Valley Physician Practice (LVPP) vaccination rates. When our clinic was compared with other practices within the Lehigh Valley Physicians Group (LVPG), our pneumococcal vaccine rate was listed as 13.1% for patients over 65 years old. The LVPG average was 57%, and the goal throughout the network is 63%. This data was collected from our old disparate electronic medical records and aggregated by population management software.
- Indications for prophylactic vaccination against pneumococcus are separated into two populations—65 and older and 18-64 who have: chronic health conditions, compromised immune systems, smokers, asplenia, CSF leak, cochlear implants, and residents of long term care facilities.
- Current recommendations from the Advisory Committee on Immunization Practices have three categories for patients over 65 (Figure 1). Naïve patients >65 years old should get the 13-valent pneumococcal conjugate vaccine (PCV13), then in 6-12 months they should receive 23-valent pneumococcal polysaccharide vaccine (PPSV-23). For patients who have received PPSV-23 after age 65, PCV13 should be administered greater one year after getting PPSV-23. If the patient received PPSV-23 prior to turning 65, they can still receive PCV-13 one year later, but should also be revaccinated with PPSV-23 five or more years after the first PPSV-23 vaccination. (Annals of Internal Medicine 162(3): 214-23)

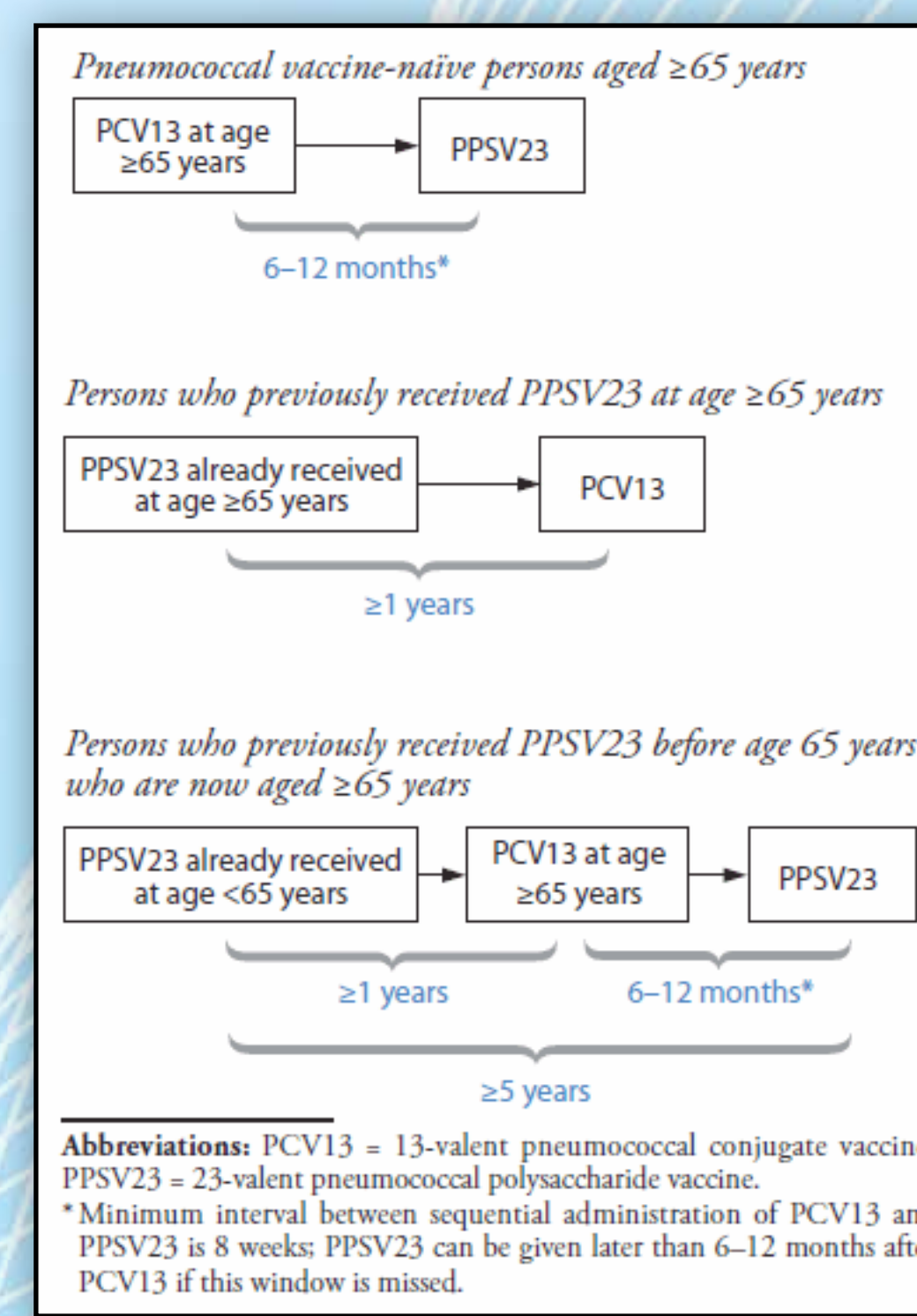


Figure 1: Advisory Committee on Immunization Practices Guidelines for Pneumococcal Vaccination of patients older than 65.

AIM Statement

- To increase the number of LVPP patients 65 and older who are vaccinated against pneumococcus by 15% using a dedicated immunization fair.

Analysis

- Using a fishbone diagram, potential causes of unrecorded vaccinations were discussed amongst the residents and documented. The omissions discussed not only include why patients remained unvaccinated, but potential delays in recording vaccines, receiving duplicate vaccines and sources of waste within the practice and the computer system. The causes were grouped into six sections: The patients themselves, the primary resident seeing them in clinic, the residents who cover results when the patient's primary resident is working inpatient, Staff, Outside Sources and the EMR (Figure 2). These six factors overlap in the critical aspect that the vaccine, whenever and wherever it was given, must be recorded in the patient's office chart by either a provider or a staff member. In this pilot study, we wanted to minimize complexity by focusing on the patients themselves and the staff and residents who could administer the vaccine.

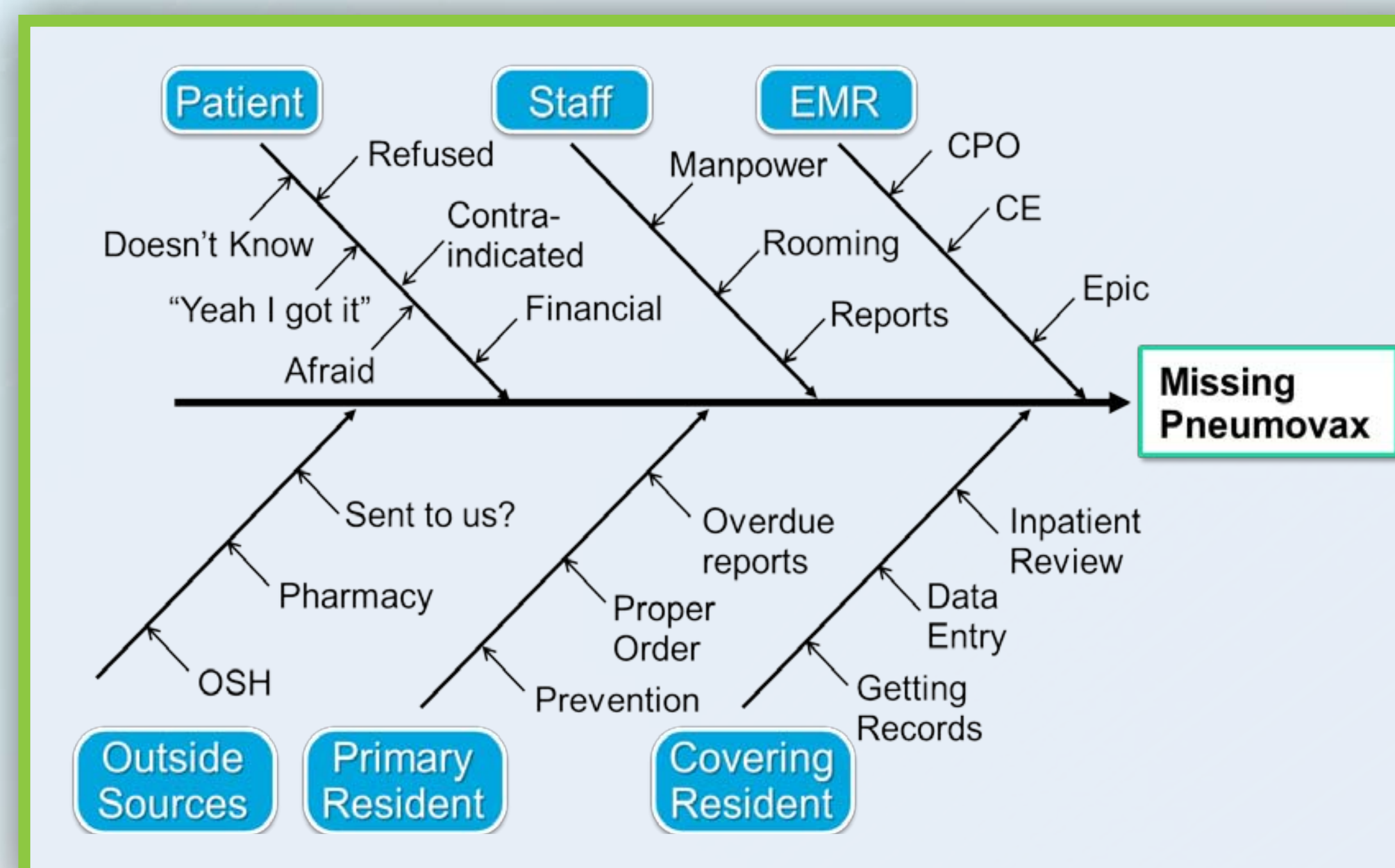


Figure 2: Fishbone diagram illustrating possible causes of missing Pneumococcal Vaccination at Lehigh Valley Physician's Practice.

Methods

- Our inspiration for the project came from three sources: prior successes in the network with mass vaccination, Clinic staff undertaking 15 minute blood pressure and blood sugar visits, and the transition to a new Electronic Medical Record. First, LVHN has undertaken several vaccine drives, most prominent being the annual Dorney Park drive-through flu clinic. These are well advertised events that draw hundreds of patients every fall. Second, one or two staff members are dedicated to 15 minute follow ups that focus vital signs like blood pressure and blood sugar, especially after recent medication changes are made. These visits minimize disruption in the practice by off-loading these follow ups from the residents and help deliver efficient, quality care our 5000-plus patients. Finally, in 2015, our network switched computer systems from Centricity to Epic, leading to widespread delays as providers familiarized themselves with the new system and patient data was integrated into the new system. Our goal in this project was minimize the reliance on either EMR and focusing on activities that could be patient centered. Combining these three different themes led to the decision to create dedicated time for administering pneumococcal vaccines.

- By utilizing directed calling to unvaccinated patients in our practice as our advertisement, as well as offering multiple vaccination times over multiple days, we believed that patient care and quality would be maximized and waste from computer errors and data entry would be minimized. Using the old patient population management software, a list of 349 patients over 65 who were unvaccinated was generated. At the time of the pilot study, only PPSV23 was available to our clinic, so attention was focused on patients > 65 years old who were never recorded as vaccinated.
- Selected patients were directly called by residents or staff and asked scripted questions in English or Spanish (Figure 3). If the patient agreed to the vaccine, they were offered one of three half-day windows to arrive. If they declined, they were asked why and the explanation was recorded. Reasons for declining were anticipated and scripts were developed for the presumed most likely reasons. Any non-answers were also recorded separately. Residents were also given the list of patients as a reminder if they saw the patient during a regular office visit to discuss the pneumococcal vaccine.

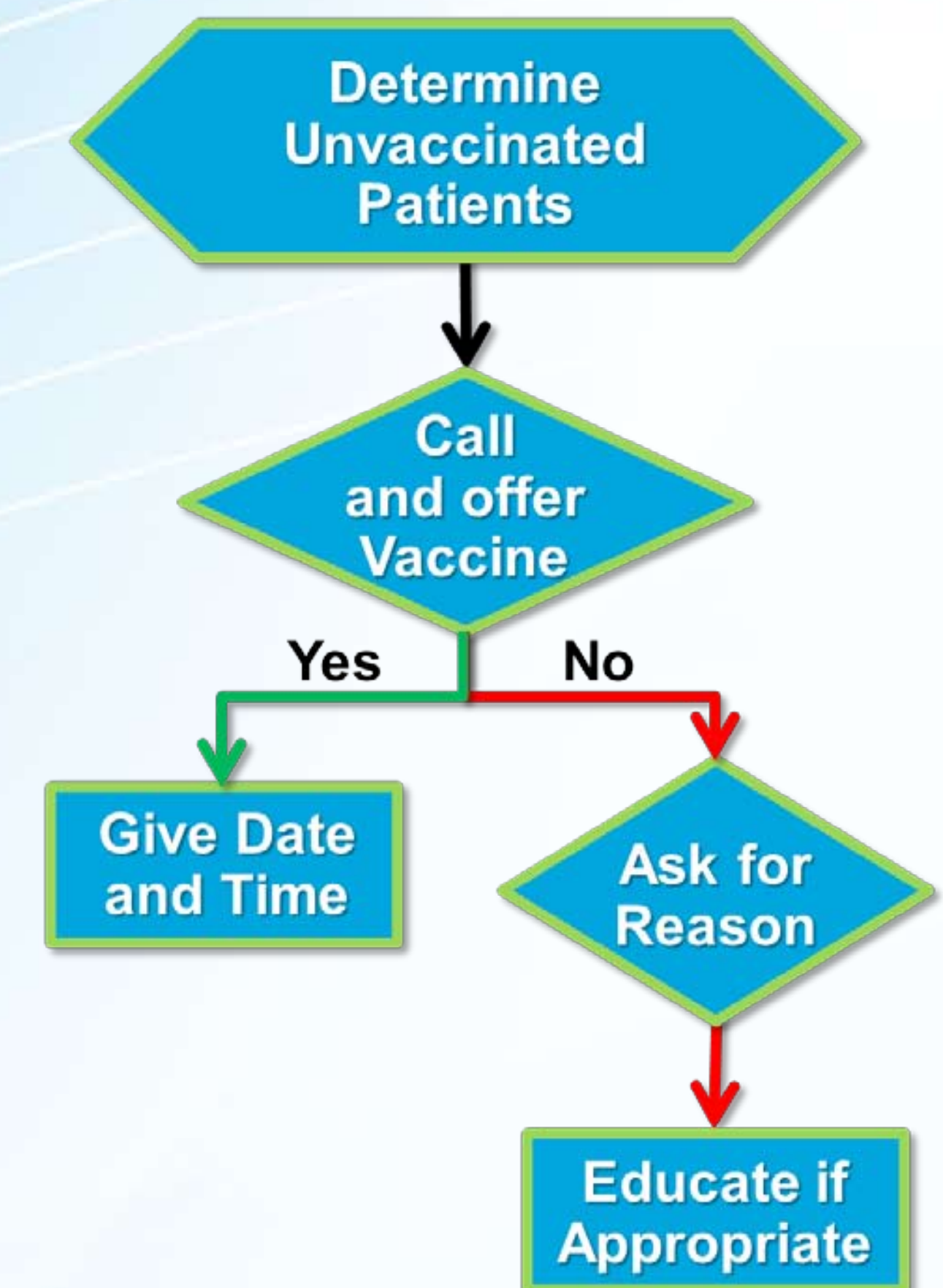


Figure 3: Process Mapping for calling unvaccinated patients.

Results

- Our initial efforts to reach out to the unvaccinated led to the discovery of data sharing errors between the prior office EMR and prior hospital EMR; only pneumococcal vaccinations in the office were recorded in the population management program. No inpatient vaccinations were transferred to LVPP's outpatient chart, nor were they recorded in our population management software. This led to short PDSA cycle within the main project resulting in a manual audit of all 349 patients listed. An additional 59 patients who received pneumococcal vaccine were discovered through this audit prior to the initiation of the vaccine fair. With the transition to Epic and its unified inpatient/outpatient chart, this problem is believed to be resolved at this time.
- In total, 140 patients out of 349 that were labeled as unvaccinated were called or had their charts amended in some form (Figure 4). Of these, 8 agreed to be vaccinated and came in to receive the PPSV-23 vaccine, 2 of these were vaccinated during their regular office visit. Four patients said no, none gave a reason why they declined.
- Difficulties were also encountered in contacting patients: 41 voice mails were left with patients, 16 phone numbers were inaccurate, 3 patients informed us they had changed physicians and 5 patients had died but were not removed from the patient panel.
- The combination of audited records and new vaccinations led to a substantial increase in vaccination rate: LVPP's presumed 13% pneumococcal vaccination rate among those >65 has increased to 57%. Though not at the network goal of 63%, it is above the network average of 56%. This shows us that the residents in our clinic can provide effective preventative care.
- Importantly, the days the vaccine fair was offered did not disrupt or delay usual operations of the clinic. Staff were not overburdened nor removed from other operations in the clinic.

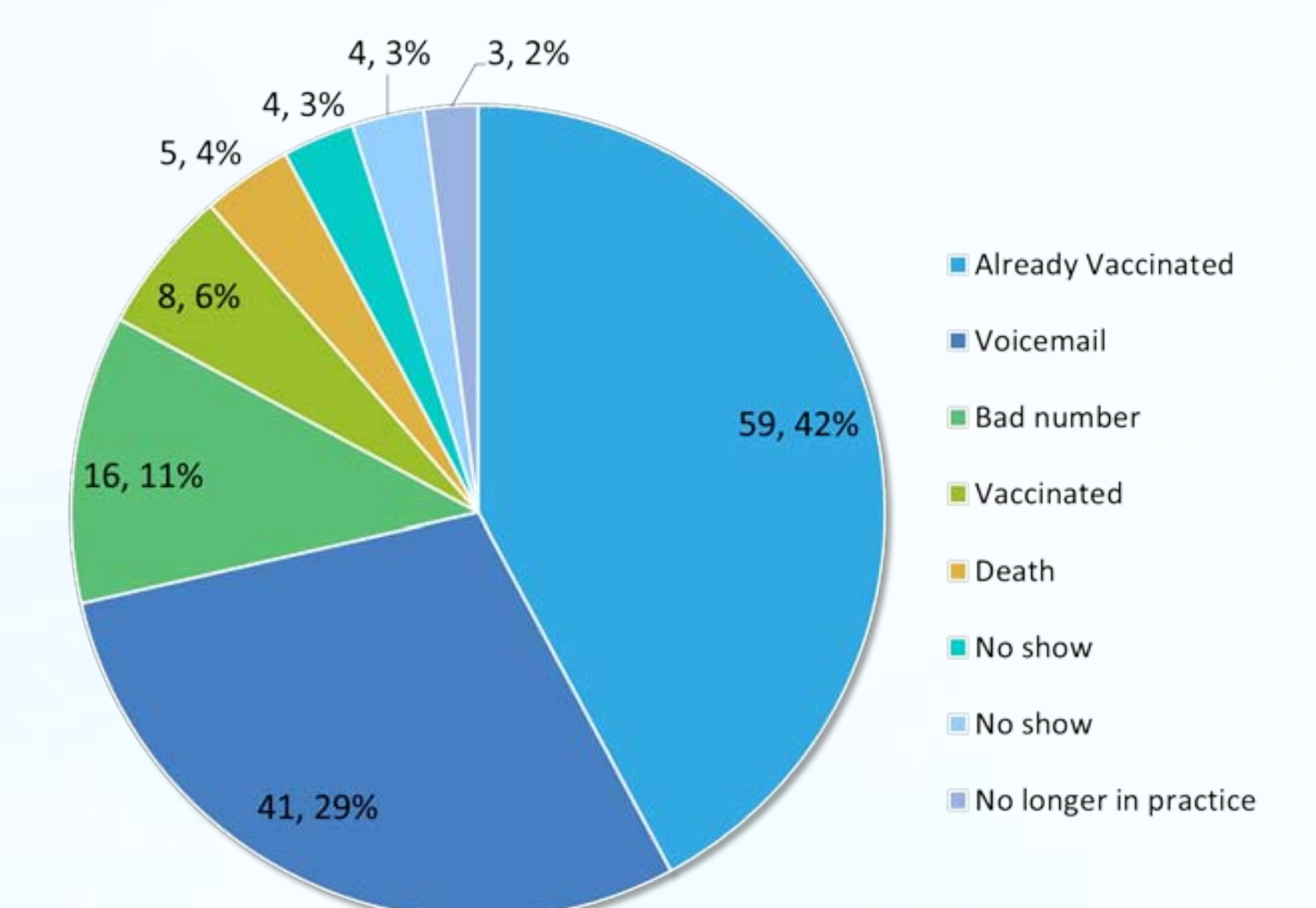


Figure 4: Results of pilot vaccine fair for pneumococcal vaccines at LVPP. The results combine auditing of patient charts and calling patients listed as unvaccinated.

Follow-up

- The resident clinic has the logistical capability to undertake a vaccine fair. In regards to preventative care, the residents in the clinic also have the medical knowledge and ability to perform at a level similar to their counterparts in independent practice. Pitfalls were discovered in our Electronic Medical Records, both in regards to data sharing and accurate patient contact information. By transitioning to a unified EMR, updating patient contact info with every visit, and proactively auditing patient charts for transfers and deaths, our clinic is striving to provide "Seamless patient care" as discussed in the ACP position statement on Electronic Records. (Annals of Internal Medicine. 162(4):301-3)
- We at LVPP plan to continue improving on the vaccine fair concept. We are looking not only to reach the patients we did not contact in the pilot study, but expanding to those patients in our clinic who are in the indicated group of 19-64 year-olds. We also now have access to the PSV-13 vaccine, and can fully implement the 2014 AICP recommendations in Figure 1. We are also considering applying the lessons learned in this project by diversifying the vaccine fair concept to other preventative health measures like Tdap and Zoster vaccines.
- This Quality Improvement project for Pneumococcal vaccinations not only allowed us to enhance our preventative care for our patients, but it also allowed us to further review and improve upon how our medical records are viewed and maintained. Through continual improvement processes, we at LVPP strive to deliver excellent patient care and continue to improve our residents skills as physicians.

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