Improving Pneumococcal Immunization Rates in Oklahoma

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Abstract

Overall Goal: The project goal is to increase adult pneumococcal immunizations by at least 5% in the target population by implementing practice protocols to identify, address and overcome physician and patient barriers contributing to low immunization rates.

Target Population: The target population is 10 Primary Care practices in rural Western Oklahoma with a lower percentage of pneumococcal immunization (compared to the national average) and high pneumonia-related death rates.

Assessment: We will assess outcomes through analysis of pre-post interventional pneumococcal immunization rates.

Methods: Practice Facilitators will make initial onsite visits to review the project with recruited practices, perform an initial workflow analysis and pull baseline data from EHRs via a combination of custom reports and CQM – NQF 0043 in order to have pneumococcal immunization data for patients aged 19 and over. Initial workflow assessments will determine as-is states and identify opportunities for improvement. We will organize and host three IHI-Breakthrough Series Collaboratives where recruited practices will learn about best practices for pneumococcal immunization (based upon the New Jersey Academy of Family Physicians model) and receive the project toolkit. Attendees will be instructed on Quality Improvement (QI) principles, including Plan-Do-Study-Act (PDSA) cycles, and will create a QI plan. Action periods will occur between the collaborative events, during which time practice-based coaches (facilitators) will reinforce collaborative learning and ensure practices are following their QI plans. Practice facilitators will also pull periodic pneumococcal immunization data throughout the project to determine if interventions are showing improvement.
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Main Section:

1.1 Current Assessment of need in target area

According to the Oklahoma State Department of Health (OSDH) in their 2014 *State of the State’s Health Report*, influenza and pneumonia was the eighth leading cause of death in the U.S. and in Oklahoma in 2010.\(^1\) The death rate in Oklahoma due to influenza and pneumonia was 19.7% in 2012, higher than the 15.1% rate for the U.S. (based upon rate per 100,000).\(^2\) To address this issue, the state of Oklahoma has set an immunization rate goal of 90%.\(^3\) When looking at only seniors receiving the pneumococcal immunization, Oklahoma’s rate in 2012 (74.9%) was higher than the national rate (68.8%).\(^4\) However, according to the Centers for Disease Control and Prevention (CDC), in 2014, only 35.5% of the population in Oklahoma, recommended to receive the Pneumococcal immunization, received it.\(^5\) Those recommended for immunization were adults between 18 – 64 years of age with a high risk condition for developing pneumonia and those 65 years of age and older. Individuals were considered high risk if they had ever self-reported or been told by a physician that they have one of the following conditions: asthma, current smoker, diabetes, myocardial infarction, angina, coronary heart disease, chronic obstructive pulmonary disease, emphysema or chronic bronchitis, or cancer (excluding skin cancer). The 74.9% Oklahoma rate did not account for high risk adults between 18-64, and we assume that this group accounts for the CDC’s much lower reported rate, which was inclusive of this group.

Oklahoma has the fourth highest rate of death in the nation from all causes and is over 20 percent higher than the national rate. Oklahoma has the highest rate of death in the nation due to chronic lower respiratory disease. Oklahoma also has the third highest rate of death due to heart disease and fourth highest rate of death due to diabetes. Oklahoma’s adult smoking rate was over 23% in 2012, while the national average was around 19%. All of these conditions are additional risk factors that place patients at a high risk for developing pneumonia.

With some Oklahoma counties rated with a grade D or F for deaths from influenza and pneumonia there is a need to focus on pneumococcal immunization improvement in these counties. In preparation for this proposal, OFMQ reached out to healthcare providers in these noted areas with whom we had previous relationships to determine interest in the project and to abstract EHR-based reports to determine current pneumococcal immunization coverage for their patient populations. We ran NQF 0043 which is an electronic Clinical Quality Measure (eCQM) that measures the percentage of patients 65 and older who have ever received a pneumonia vaccination. Four clinics from which data was abstracted were well below the 2014 national average for pneumonia immunization coverage (61.3%).\(^6\) The lowest rate documented from a prospective practice was 11.46% of adults 65 and older who had received the vaccine, and the highest was 46.12%. These low rates could be due to actual low

\(^1\) [https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf](https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf), page 5
\(^2\) [https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf](https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf), page 19
\(^3\) Ibid.
\(^4\) [https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf](https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf), page 5
\(^6\) [http://www.cdc.gov/nchs/fastats/pneumonia.htm](http://www.cdc.gov/nchs/fastats/pneumonia.htm)
improvement in immunization rates, or it could be attributed to lack of clinical documentation for patients receiving vaccination elsewhere than their primary care provider. Figure 1 below shows the Influenza/Pneumonia Mortality rates by county, graded from A (best=blue) to F (poorest=red). The dot indicates counties where our recruitment focus will be located.

Figure 1: Influenza/Pneumonia Mortality Rates in OK, 2010-2012, and Project Recruitment by County

Primary recruitment (black dot) will be located in counties with geographic proximity as follows:

- Beckham
- Caddo
- Custer
- Kiowa
- Washita

Secondary recruitment (gray dot), if needed, will be located in additional counties with geographic proximity as follows:

- Comanche
- Jackson
- Tillman

1.2 Target Audience and Recruitment:

1.2.1 Primary audience(s) targeted for this project
The target audience for this project is small, rural primary care practices located in Western Oklahoma counties with an indicated need. “Small” is defined as 5 providers or less per site/location. “Indicated need” is defined as a county with an indicated need for pneumococcal vaccination rates. The dot indicates counties where our recruitment focus will be located.

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7 https://www.ok.gov/health/pub/boh/state/SOSH%202014.pdf, page 19
need” is defined as those counties graded as a D or an F for influenza/pneumonia mortality. Additionally, due to Oklahoma’s rural nature, many of the recruited practices will come from Primary Care Healthcare Provider Shortage Areas (HPSAs), or Medically Underserved Areas and Populations (MUA/Ps). We will ensure that recruited practices will be independent practicing providers who receive no direct assistance or support from large healthcare organizations and who rely solely on their staff for practice improvement.

1.2.2 Recruitment plan for engaging ten practices to participate in the project
Since OFMQ has worked with more than 2,000 providers in Oklahoma on Quality Improvement projects over the past 10+ years, recruitment will be based upon these established relationships. It is through these relationships that OFMQ will seek out practices that have demonstrated a commitment to culture change, process improvement, and patient engagement. Recruitment will consist of initial engagement through email, followed by phone conversations with key leadership, followed by an onsite visit to obtain full cooperation, buy-in, and formal project sign on.

1.2.3 Level of commitment from the potential participants
OFMQ maintains a long-standing track record of success in improving care metrics among rural providers. This track record is often contingent upon identifying and selecting practices that have a commitment to change, process improvement, workflow enhancement, and overall patient well-being.

OFMQ has already identified 10 practices that have given verbal commitment to this project and have the following characteristics:

- Demonstrated buy-in from leadership
- Demonstrated willingness to improve patient care indicators within their practice
- Staff capability to implement workflow improvements
- Are located in counties noted to have high death rates from influenza/pneumonia
- Meet the eligibility thresholds (pneumococcal immunization rate < US rate) based upon performance of the Clinical Quality Measure: NQF 0043 - Pneumonia Vaccination Status
- Have an EHR with a high-functioning registry capable of extracting data for the 18 – 64 high risk age group

1.2.4 Description of those who will directly benefit from the project outcomes
Patients from recruited practices will directly benefit from this project through improved pneumococcal immunization rates resulting in less likelihood of contracting pneumonia. This will occur through helping the recruited practices adopt the proven New Jersey Academy of Family Physicians (NJAFP) model for improving pneumococcal immunization rates.

Participating healthcare providers will also benefit from this project. Participating clinics will have access to OFMQ practice advisors who will provide on-site technical assistance. Benefits include education related to improved clinical documentation and workflow, learning new techniques for chronic disease and patient population management, especially the NJAFP model, and assistance with patient engagement. OFMQ will help providers to better track and manage their patients within the EHR as well as new ways of communicating with patients about their healthcare.
Because our planned recruitment is with providers in rural settings, these participating providers will also benefit because they often do not have the same access to educational opportunities as are found in Oklahoma Metropolitan Service Areas (MSA). Most provider-based educational conferences are held in the MSA areas thus making it more difficult for rural providers to attend. The IHI Collaboratives for this project will be held in a rural area that is central to the recruited practices.

1.4 Existing Projects

The following projects are existing or recent projects which include similar work to this project:

**Office of the National Coordinator (ONC) Regional Extension Center (REC) for the state of Oklahoma:**
This is contracted work from 2010 through the present to provide direct technical assistance to over 1,000 primary care providers to adopt and meaningfully use EHRs. It includes direct technical assistance and assisting providers to report data from their EHRs.

**CMS 10th Scope of Work – Patient and Family Engagement Collaborative (PFEC):** The PFEC project was a CMS special innovations project through the Oklahoma QIO in 2014 in which OFMQ recruited four rural healthcare practices and assisted them with patient portal implementation and adoption. OFMQ worked with both healthcare professionals and their patients to train them on how to use a patient portal and educate them on the benefits of the portal. OFMQ held “Welcome to the Portal” kickoff events for all of the clinics in which they provided on-site education to patients who wanted to register for the portal. OFMQ also created patient toolkits with instructions on portal use and educational materials that the clinics could provide to patients to assist with registration.

**Various projects through the Oklahoma State Department of Health (OSDH):** OFMQ has held numerous contracts with OSDH such as a Million Hearts project and a Pediatric Cancer Registry
reporting project. The Million Hearts work was performed November 4, 2013 through June 20, 2015. Approximately 90 providers were recruited across counties identified with increase rates of hypertension to provide technical assistance and community level educational conferences to decrease the incidence of hypertension and diabetes. Data was extracted quarterly from the certified electronic health record technology (CEHRT) for National Quality Forum (NQF) 18 Controlling Hypertension and NQF 59 Diabetes: Hemoglobin A1c Poor Control. Provider feedback reports were then created and disseminated to each practice showing rates of improvement depicting providers’ progress compared to national benchmarks and compared to highest participating provider. OFMQ’s excellence in this project gained the attention of the Center for Disease Control (CDC) to share best practices with other participating collaborates in other states. The pediatric cancer registry project was performed in 2015. OFMQ worked with family practice clinics in Oklahoma that were located near state borders to improve their poor cancer case reporting. This project included over 30 providers across 11 clinics. OFMQ practice advisors worked with these clinics to develop an EHR-based workflow in which they could electronically report pediatric cancer cases to the state for early case capture and developed a provider toolkit for guidance on future reporting.

Various projects through the Oklahoma State University (OSU) Office of Rural Health ORH: Several contracts through OSU ORH were funded from 2013 through 2016 to provide regional educational conferences on various topics. These events were held throughout the state in metropolitan areas and rural communities.

Centers for Medicare & Medicaid Services (CMS) Quality Improvement Organization (QIO) for Oklahoma: This was contracted work from 2002 – 2014 that included groundbreaking work on the National Pneumonia project (OFMQ was the lead), a full IHI-Breakthrough Series collaborative with primary care physicians for diabetes improvement, and technical assistance for implementation and meaningful use of EHRs with a focus on improvement in prevention measures.

1.5 Dissemination of Results
Information about this project will be shared by project participants when they come together for their IHI Collaboratives. Additionally, OFMQ staff are often invited speakers at a number of statewide conferences, such as at the Physicians’ Liability Insurance Company’s annual provider Expo, a two-day conference for physicians, and at the annual meetings for the Oklahoma Academy of Family Physicians, the Oklahoma Primary Care Association, the Oklahoma Office of Rural Health, the Oklahoma Osteopathic Association, our own Health Information Technology Conference (QualTech) and any other events to which we might be invited speakers. We also have an active Facebook page where we post information about current projects. OFMQ hosts a monthly webinar on trending topics in health IT, and disseminates a monthly newsletter, Momentum, where we highlight project happenings, share best practices and offer other educational opportunities.