

Kansas Family Medicine Pneumococcal Immunization Office Champions (KFMPIOC) Project Report

March 31, 2020

Introduction

Abstract

Background: In the increasingly fragmented world of health care, one thing remains constant: family physicians are dedicated to treating the whole person. In Kansas KAFP has over 1,060 active practice family physician members. Simple calculation shows that Kansas family physicians have more than 89,000 office visits per week. With such a high penetration of patient encounters and high number of family physicians, Kansas family physicians were uniquely poised to focus efforts to increase adult pneumococcal immunization rates through participation in focused quality improvement (QI) activities.

Local Problem: The statewide pneumococcal immunization rate for Kansas (59.2%) in 2016 was below the national average of 66.9% for the same time, and far short of the Healthy People 2020 goal of 90%.

Methods: The project deployed a hybrid method for improvement, leveraging the Kansas Academy of Family Physicians' (KAFP) Office Champion Model and the Kansas Foundation for Medical Care's (KFMC) Coaching for Improvement Model.

Interventions: Three primary interventions were leveraged to facilitate improvement in the KFMPIOC project including real-time data collection, tailored technical assistance, and using patient level data to facilitate root cause analysis.

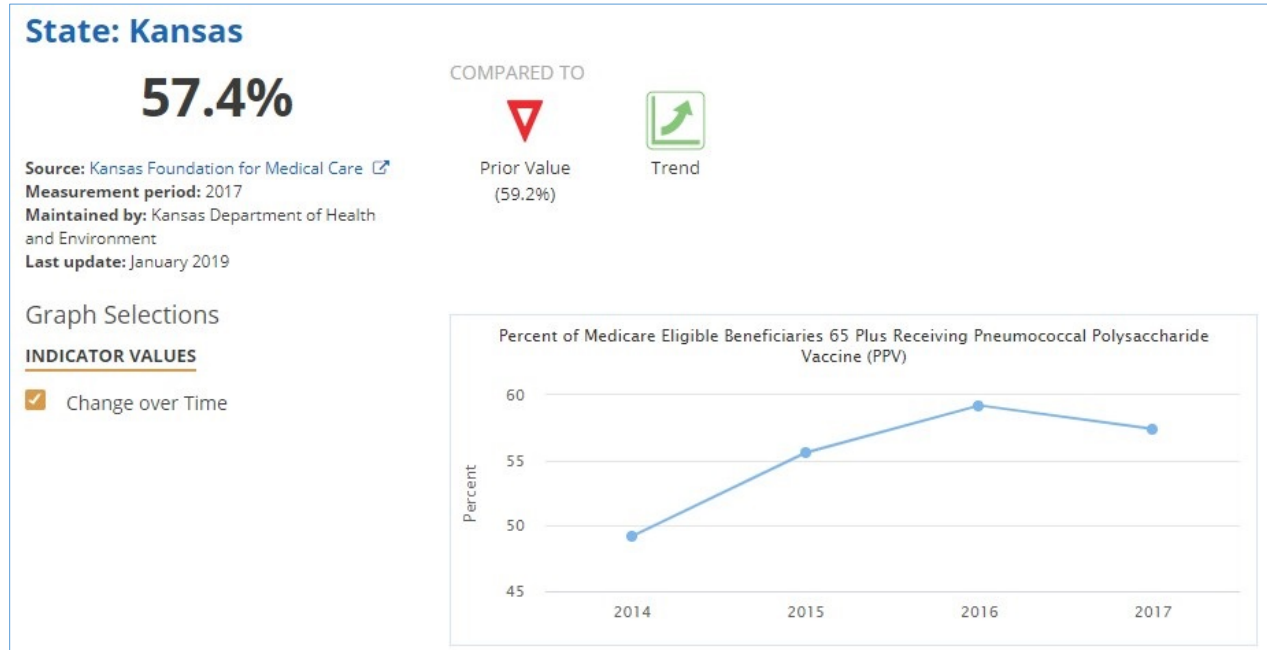
Results: The project's aggregate relative improvement rate (RIR), for the seven participating practices, was 38.42%.

Conclusions: This project has implications beyond pneumococcal immunizations as the same interventions could be used to improve any targeted measure in the primary care setting.

Local Problem

This KFMPIOC project was intended to address the pneumococcal immunization rates of older adults in the state of Kansas. The Kansas rate for adults age 65 and above was 49.2% in 2014, 55.6% in 2015, 59.2% in 2016, and 57.4% in 2017.ⁱ While Kansas rates improved from 2014 – 2016, the rate dropped in 2017 and is significantly below the Healthy People 2020 goal of 90%ⁱⁱ and below the national rate. The national rate of pneumococcal vaccination coverage among adults age 65 and above in 2016 was 66.9%.ⁱⁱⁱ

Table 1: “Medicare Eligible Beneficiaries 65 Plus Receiving Pneumococcal Polysaccharide Vaccine (PPV).”



There are 105 counties in Kansas. Analysis of the county-by-county rates from 2016 revealed that each of the 105 counties of the state were below the 2020 goal of 90%, and only 9 of the 105 counties were at or above the national average of 66.9% for the same year.^{iv}

Originally, eight practices were recruited for this project from 8 different counties. However, one practice withdrew from the project early on. Of the seven practices who actively participated, five were in counties whose pneumococcal vaccination rates were below the national average. One practice is in Rice County, the county with the second lowest rate of pneumococcal immunizations in the state. The seven counties are included in Table 2 below.

Table 2

Percent of Medicare Eligible Beneficiaries 65+ Receiving Pneumococcal Polysaccharide Vaccine (PPV)			
Overall	Percent	Counties Represented	Percent
Kansas	59.20%	Rice County	20.30%
National	66.90%	Dickinson County	47.00%
		Wyandotte County	61.00%
		Rooks County	61.8%
		Harvey County	70.50%
		Crawford County	55.90%
		Riley County	76.90%

Methods

Context

The overall strategy was to use the KAFP Office Champion Quality Improvement Model to have selected practices design QI projects around the issue of increasing pneumococcal immunizations in adults age 65 and older based upon the National Vaccine Advisory Committee (NVAC) Standards for Adult Immunization Practice^v. KAFP's Office Champion Model has been successfully used in several other recent QI programs including programs involving immunizations in the child and adolescent populations.

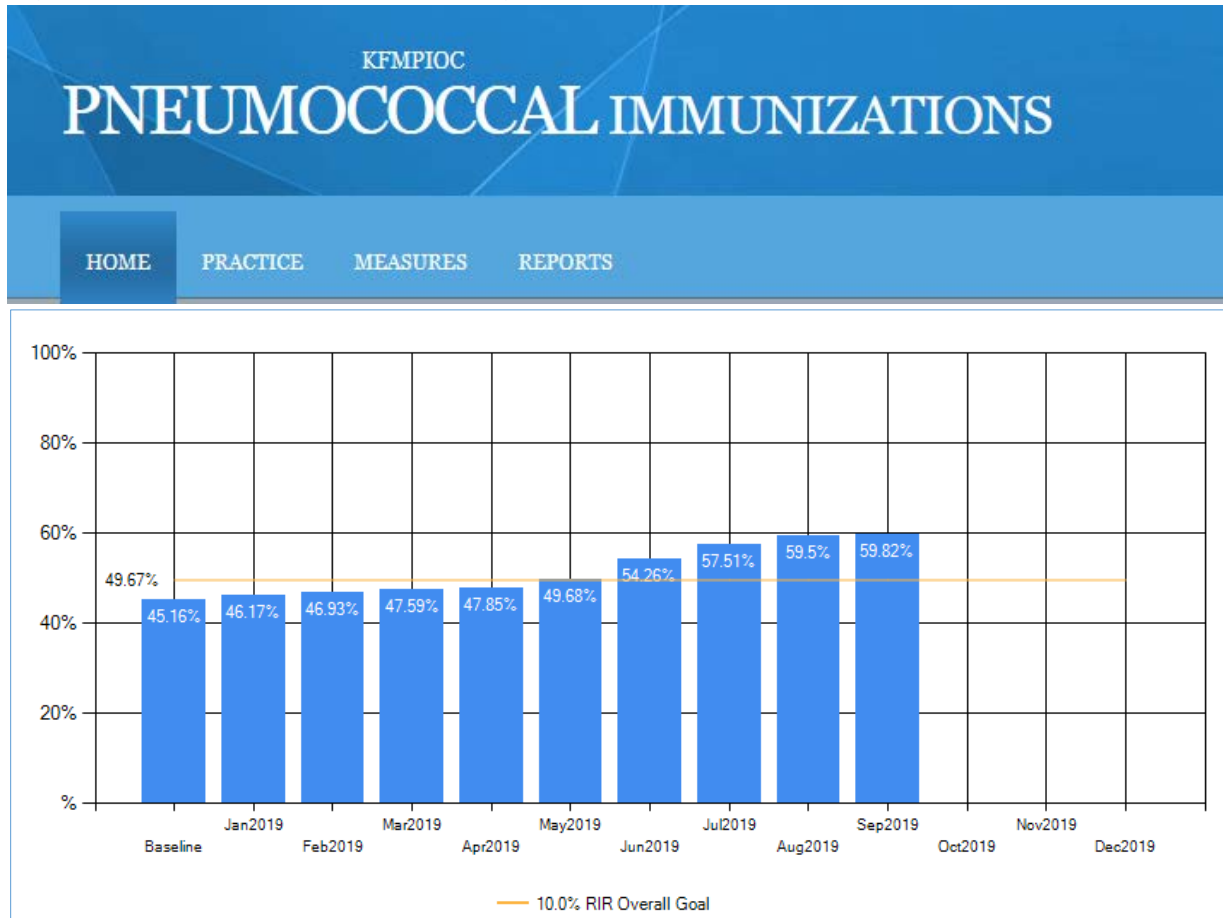
Office Champions (OCs) were given technical assistance with adoption of three primary interventions: a web portal to record and track their data, coaching calls to assist the OC in implementing QI projects, and a gap report intended to educate OCs on areas for improvement in their immunization efforts. The OC Model was combined with a Coaching for Improvement model, leveraging consistent and timely data collection to facilitate rapid cycle improvement. The Coaching for Improvement model incorporates tailored technical assistance delivered timely in response to the specific needs of participating practices through learning opportunities and monthly coaching calls.

Interventions

Three primary interventions were deployed to facilitate improvement in the KFMPIOC project. The three interventions were real-time data collection through the KFMPIOC Web Portal, tailored technical assistance provided through monthly coaching, and patient level data to identify gaps in care and facilitate root cause analysis activities.

KFMPIOC Web Portal: The KFMPIOC web portal was created specifically for KFMPIOC participants to provide a structured environment for data collection and analysis. The web portal was designed to measure pneumococcal vaccination status following the measure specifications for the Physician Performance Measures (Quality ID #111) and related data specifications developed by the National Committee for Quality Assurance (NCQA). Within the KFMPIOC web portal, self-reported data was input by each participating clinic, beginning with clinic specific baseline data from CY 2017, followed by current, monthly data. From these data points, KFMPIOC participants were able to view the Relative Improvement Rate (RIR) of their administered pneumococcal immunizations as the project progressed. For each month of data collected, participants were given a space to record any barriers or successes the practice may have encountered during the specific time frame. Also housed within the KFMPIOC web portal, participants had access to policies, tools and resources provided by the American Academy of Family Physicians (AAFP). Below (Figure 1) is a screenshot of aggregate data collected and monitored through the KFMPIOC web portal.

Figure 1: KFMPIOC Web Portal Monitoring Dashboard





Coaching Calls: Monthly coaching calls were scheduled with each KFMPIOC participant. During these monthly calls, the office champions, along with other designated staff, were given the opportunity to report and discuss any action items that were established during the previous call, provide an update on any additional progress that has been made with vaccine administration, outline any identified barriers they may have encountered and if they were able to identify solutions to the identified barriers. Clinic staff was also given time to discuss what has been going well for them and if they had identified any best practices for their organization. Each coaching call followed a consistent and pre-defined format. The coaching call template is included below as Figure 2.

Figure 2: Coaching Call Template

Kansas Family Medicine Pneumococcal Immunization Office Champion (KFMPIOC) Coaching Call	
Practice:	Date:
These are the following items to have available during the call:	
<ul style="list-style-type: none"> List of Clinic Providers KFMPIOC Website PDSA/RCA Flow Sheet(s) 	
Facilitator:	
ITEM	DISCUSSION / CONCLUSION / ACTION
1. Practice Update	Results of last meeting: Progress to date:
2. Practice Identified Issues/Barriers	
3. Solutions to Issues/barriers	

Gap Reports: Vaccine Gap Reports were developed and distributed to recruited providers to engage them in the facilitation of meaningful conversations with practice staff to identify any potential root causes for the indicated missed opportunities within their clinics. The Gap Report reflected attributed patients that did not have a record of PPV vaccination based on a review of Medicare claims for January 1, 2018 to December 31, 2018.

Figure 3: Sample Vaccine GAP Report – Patient Level Data

 		Missed Vaccination Opportunities based on PPV Status as of 2018Q4				
Billing Organization: TIN ORG NAME 3						
Medicare Beneficiary ID	Full Name	Zip Code	State	Sex	Date of Birth	
3RV0DC3GT3	JANE DOE 006	00000-0000	KS	Female	04/30/1928	
3Q98E65MR4	JOHN DOE 012	00000-0000	KS	Male	05/19/1950	

Study of the Interventions

KFMPIOC Web Portal: Analysis of the effectiveness of this intervention is primarily through evaluating qualitative feedback from providers who were using the portal.

Coaching Calls: Tailored technical assistance has been provided by way of coaching calls to assist participating providers in analyzing their immunization data for potential barriers or opportunities. Tailored technical assistance has been provided to assist providers in identifying and integrating best practice interventions into practice workflows.

Gap Reports: Analysis of the effectiveness of this intervention is primarily through evaluating qualitative feedback from providers who used the reports.

Results

Intervention Results

Overall, the combinations of interventions deployed within the identified model for improvement was effective.

Qualitative Assessment of Implementation

KFMPIOC Web Portal: Feedback from the Office Champions (OCs) found that the process of inputting data into the web portal was beneficial for both them and their staff. OCs had the impetus to run reports and review data in a timely manner and found that the task kept the project in the forefront of their mind. The graphs provided a way to clearly communicate progress and goals to staff at staff meetings. Several practices printed off the graphs to review routinely at scheduled staff meetings to support practice buy-in and continuous improvement.

Coaching calls: Coaching calls with the OCs provided a means of accountability for the OC as well as a venue to brainstorm and evaluate best practices implemented in the clinics. Best practices identified by project support staff fall into three categories: improved use of data, changes to clinic processes, and engagement of staff and patients.

Improved use of data included “chart cleaning”, comparisons of provider rates, and reviewing missed opportunities. “Chart cleaning” ensured immunizations were documented in the correct EHR field to be pulled into reporting and that all immunization records were consistent and accurate in both the EHR and WebIZ (the state immunization registry). One practice identified a nurse whose provider was out of the office for an extended period. That nurse was designated as the “chart cleaner” to best utilize available staffing. Comparison of provider rates was done by most clinics at monthly or weekly meetings and served to spur internal competition between providers. Practice #3 reported a single provider improving their 2019 immunization rate from approximately 15% to 40%. Reviews of missed opportunities were done by several clinics, generally at end-of-week meetings that reviewed all immunization stats for the previous week.

Changes to clinical processes included training on appropriate EHR documentation, the implementation of standing orders, pre-visit planning and adding the promotion of immunizations (including pneumococcal) as a standard part of flu clinics and annual wellness visits (AWV). Successful implementation of standing orders required a level of comfort for the nurses and at least one practice expressed that the changes in recommendations surrounding the 13-valent pneumococcal conjugate vaccine (PCV13) may lessen nurse confidence in giving this immunization. Several clinics used standing orders to work around providers who were less engaged in giving the immunization or learning the correct documentation processes. One barrier to pre-visit planning that has been expressed by the OCs is the time and paperwork involved for providers and nursing staff. Practice #2 overcame this barrier by providing more nursing staff for this task to take the burden off providers, while Practice #6 discontinued pre-visit planning for that reason. The inclusion of the pneumococcal immunization in practices' AWVs and flu campaigns was cited by several clinics as a key to end of the year improvements and future sustainability of the pneumococcal focus.

Engagement of staff in the immunization project largely focused on sharing of progress toward the 10% RIR goal or a target absolute immunization rate. Practice #2 celebrated reaching clinic goals with treats for the staff. Engagement of patients was done through education on the need for the immunization. Several practices took advantage of postage-paid fliers provided by Pfizer, but saw few patients come into the clinic as a result. Practice #1 increased utilization of their portal to message patients who still needed the immunization.

Gap Reports: The gap reports were found to have minimal uptake by the practices. In part, this was due to the timing of the report release, which was right before the winter holiday season. Several providers expressed that they were busy with the end of year push to complete AWVs and with the obligations of flu season. They were therefore unable to dig into the patient level reports before the project ended. There was also an issue with the timeliness of the data. Released in November 2019, it utilized Medicare claims data from 2018. One practice felt it was similar enough to their own, timelier, data reports, that they preferred to use them instead. There may also have been a lack of communication within the practices regarding the gap reports. Reports were run at the individual provider level and sent directly to them (as required by CMS data sharing policies), rather than a practice manager, project manager or the OC. Depending on the strength of practice communication between the providers and the OCs, the OCs may have been unaware of efforts to utilize the reports when asked about them during coaching calls.

Discussion

Interpretation

Process Measures:

Process Measure 1 - Monthly Coaching Calls

Monthly coaching calls were held with each participating practice to review data and progress toward goals and re-evaluate or adjust short term goals and planned activities. Overall, coaching calls were well attended. While there is not a lot of correlation between coaching call rates and improvement rates, it is important to note that the practice with the lowest participation rate (Practice 4) also had the lowest relative improvement rate.

Table 3: Coaching Call Participation Rate

Coaching Call participation		
Clinics	Number participated	Participation rate (denom = 12)
Practice 1	11	92%
Practice 2	10	83%
Practice 3	12	100%
Practice 4	7	58%
Practice 5	12	100%
Practice 6	11	92%
Practice 7	10	83%

Process Measure 2 – Monthly Data Collection

Monthly data was submitted by practice staff directly into the KFMPIOC Web Portal for monitoring of progress and adjustment of project tasks and activities. Data collection and submission was the widest adopted intervention and likely the biggest driver of improvement achieved.

Table 4: Monthly Data Collection Rate

Monthly Data Collection		
Clinics	Data Submitted	Participation rate (denom = 12)
Practice 1	12	100%
Practice 2	12	100%
Practice 3	12	100%
Practice 4	12	100%
Practice 5	12	100%
Practice 6	12	100%
Practice 7	11	92%

Outcome Measures:

Outcome Measure 1 - Quality ID #111: Pneumococcal Vaccination Status for Older Adults

This standardized metric measures the percentage of patients 65 years of age and older who have ever received a pneumococcal vaccine. This measure was collected monthly by participating practices through the KFMPIOC Web Portal using practice reported data. KFMC also measured data using publicly available data sets or Medicare claims data since this data source was initially used to identify and recruit practices for participation.

Of the seven recruited practices, four met the 10% relative improvement rate (RIR) set as a goal for the project. The three remaining practices had self-reported baseline rates of greater than 80%. Two of the remaining practices still achieved an RIR of over 9%. Practice #6 saw the highest rate of improvement, from the lowest baseline of 31.93% to a rate in December of 75.34%, a 136% RIR. The one practice that failed to make appreciable improvements began the project with an unofficial baseline rate of 82.99%. They were plagued with difficulties in running data reports in their EHR, impacted their ability to calculate a reliable baseline, and felt this stifled their ability to motivate their staff or assess the impact of any workflow changes.

Comparing the practice performance to state and national data, four practices had self-reported baselines below the 2016 state rate of 59.2% and the 2016 national rate of 66.9%. By the end of the intervention all seven practices had rates higher than the state rate and five practices had surpassed the national rate. Two practices, both of whom had baselines above 80%, met the Healthy People 2020 goal of a 90% immunization rate.

Table 5: Final Pneumococcal Vaccination Rates

	KFMC Calculated Baseline	Practice Reported Baseline	Practice Reported Rate (12/19)	KFMC Calculated Rate	Met KFMC Calculated 10% RIR	Met Practice Reported 10% RIR	% RIR
Practice 1	44.7%	45.16%	62.30%	49.17%	Yes	Yes	37.95%
Practice 2	69.9%	46.00%	80.48%	76.89%	Yes	Yes	74.96%
Practice 3	46.7%	43.88%	60.75%	51.37%	Yes	Yes	38.45%
Practice 4		82.99%	83.62%	0.00%	Yes	No	0.76%
Practice 5	59.9%	85.24%	93.02%	65.89%	Yes	No	9.13%
Practice 6	19.9%	31.93%	75.34%	21.89%	Yes	Yes	135.95%
Practice 7	81.6%	82.25%	90.11%	89.76%	Yes	No	9.56%
Aggregate		54.53%	75.48%			Yes	38.42%

Limitations

The only limitation of the project relates to the practice's electronic health record (EHR) vendor and ease of data extraction from the system. A practice's ability to replicate results is directly limited by the capabilities of the EHR to collect and accurately report data.

Conclusions

Overall, the project was successful and proves the age-old adage of: “that which gets measured gets improved!” The project’s aggregate RIR was 38.42%, far exceeding the goal of 10%. Likely, those practices with the lower baseline vaccination rates would have no problem achieving the absolute rate of 90% if the project continued beyond the 12-month performance period. This project has implications reaching far beyond pneumococcal immunizations. The same interventions and processes could be leveraged to identify any gap in care and improve health status or compliance rates for any targeted condition or population of patients.

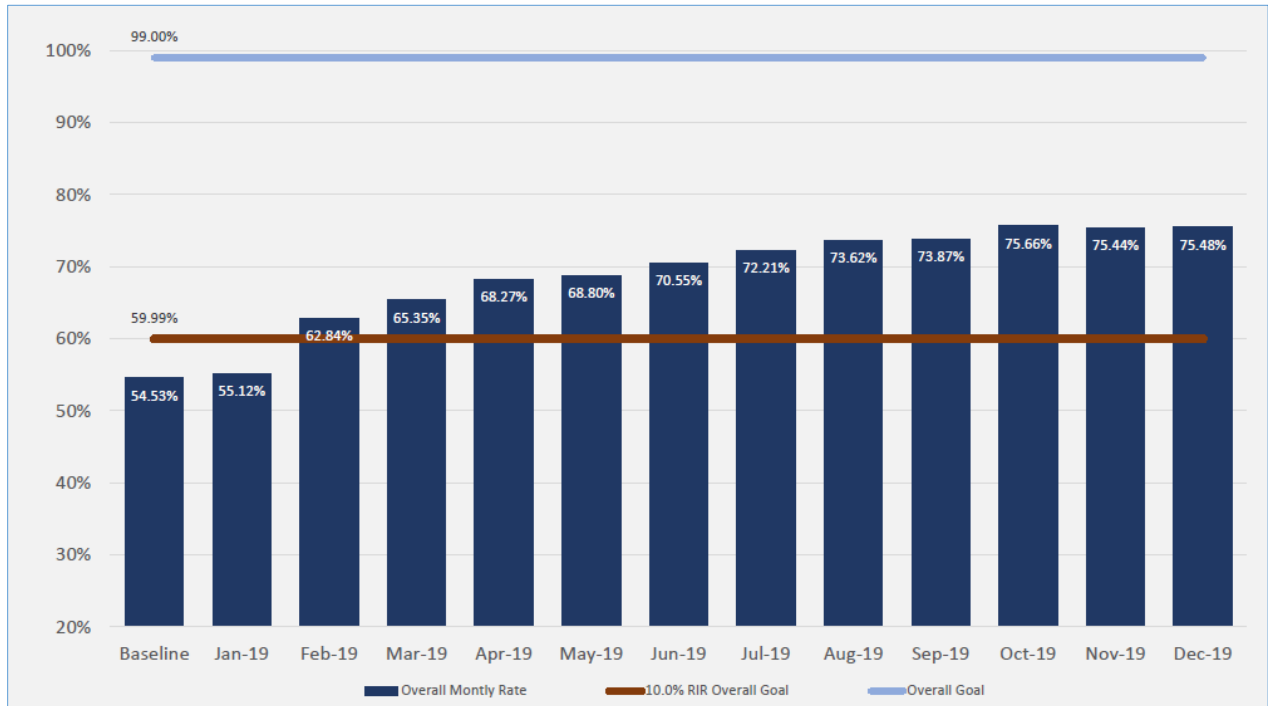
Other Information

Funding

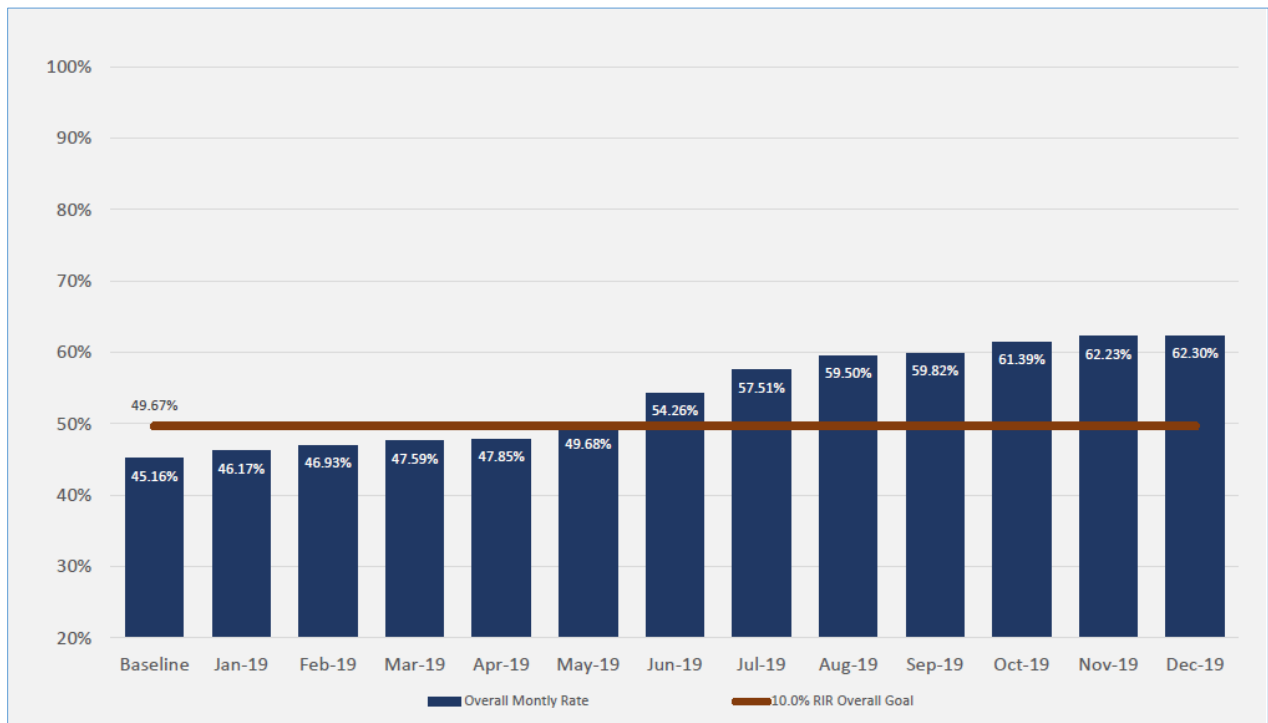
Technical assistance provided by KFMC was partially funded by the Centers for Medicare and Medicaid Services (CMS) as part of the Quality Innovation Network (QIN) – Quality Improvement Organization (QIO) funded efforts as part of the QIO 11th Statement of Work. The remaining project funding was provided by Pfizer and the American Academy of Family Physicians (AAFP).

Appendix A: Data Graphs

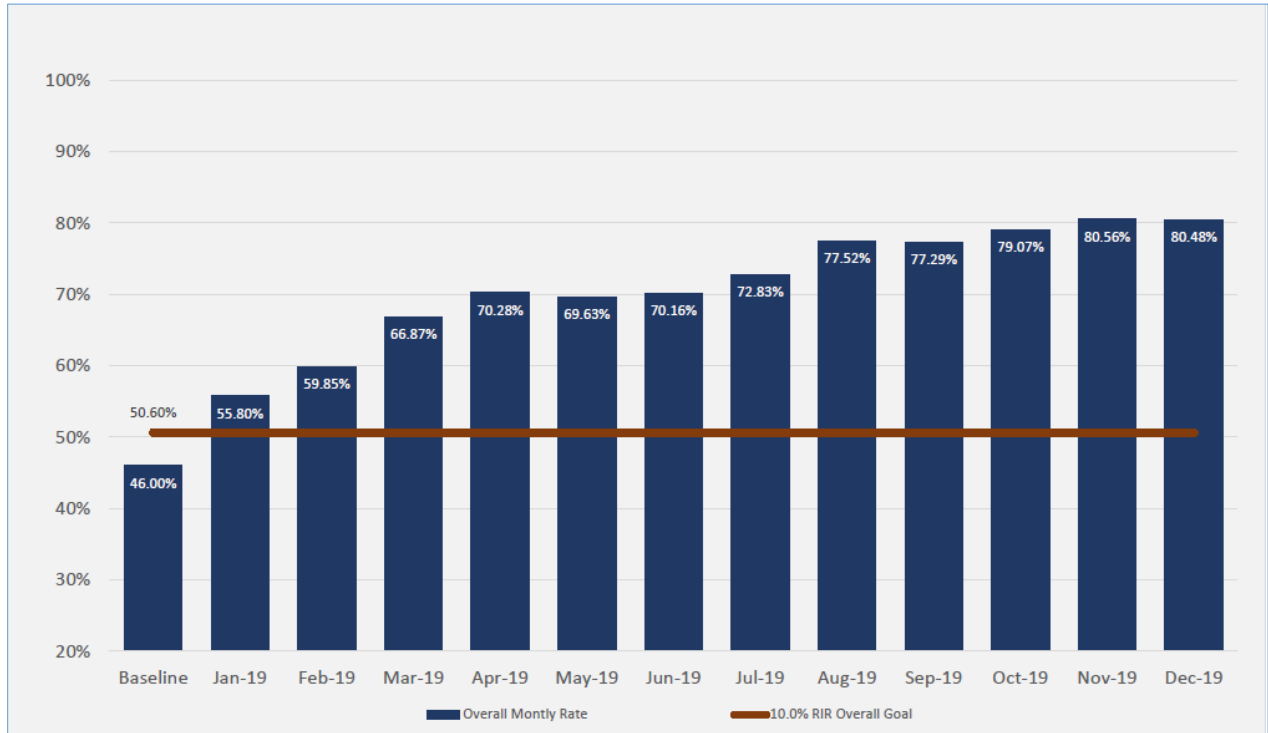
Aggregate Performance Rate – Overall Pneumococcal Vaccination Rate for Patients 65+



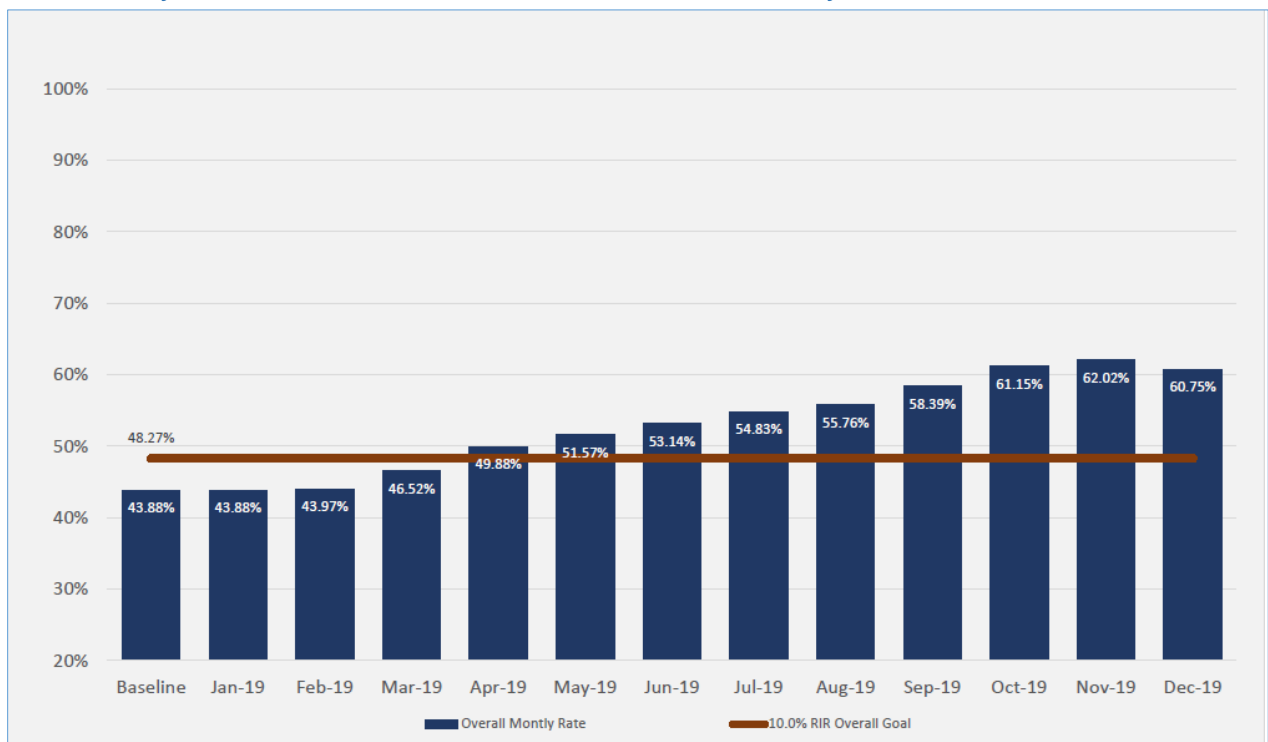
Practice 1 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



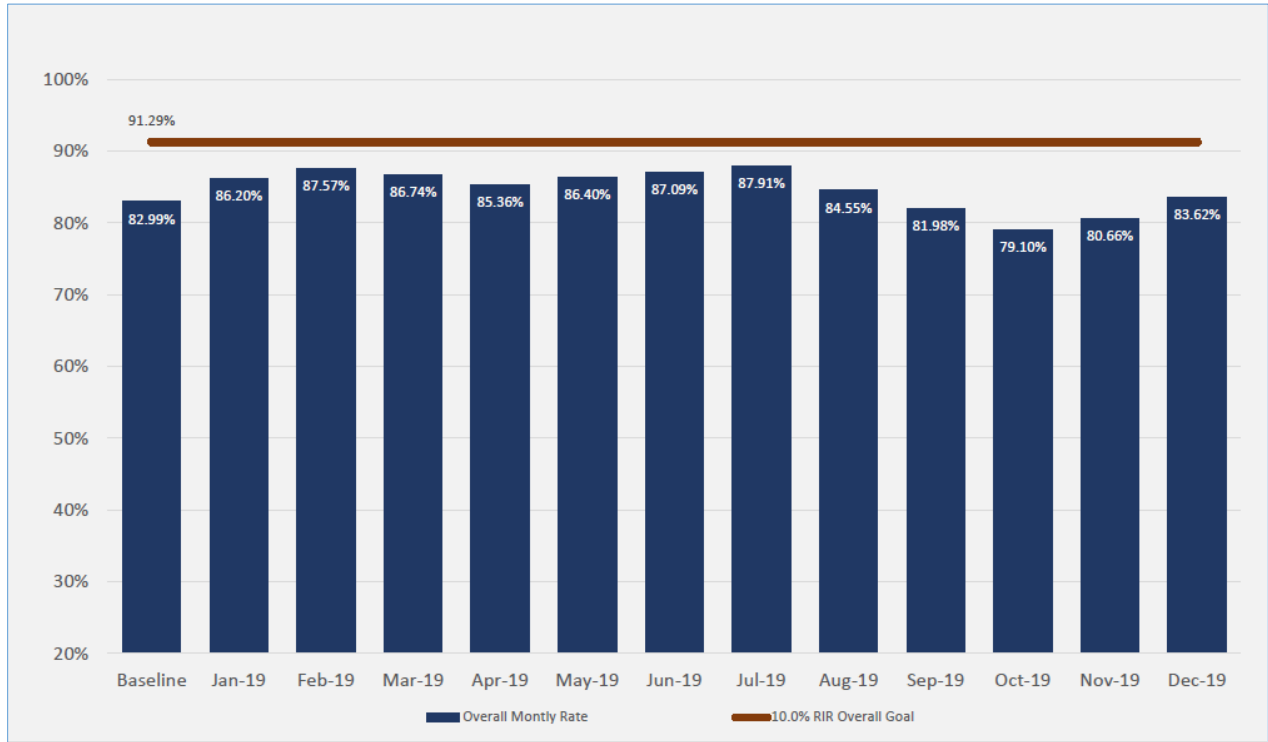
Practice 2 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



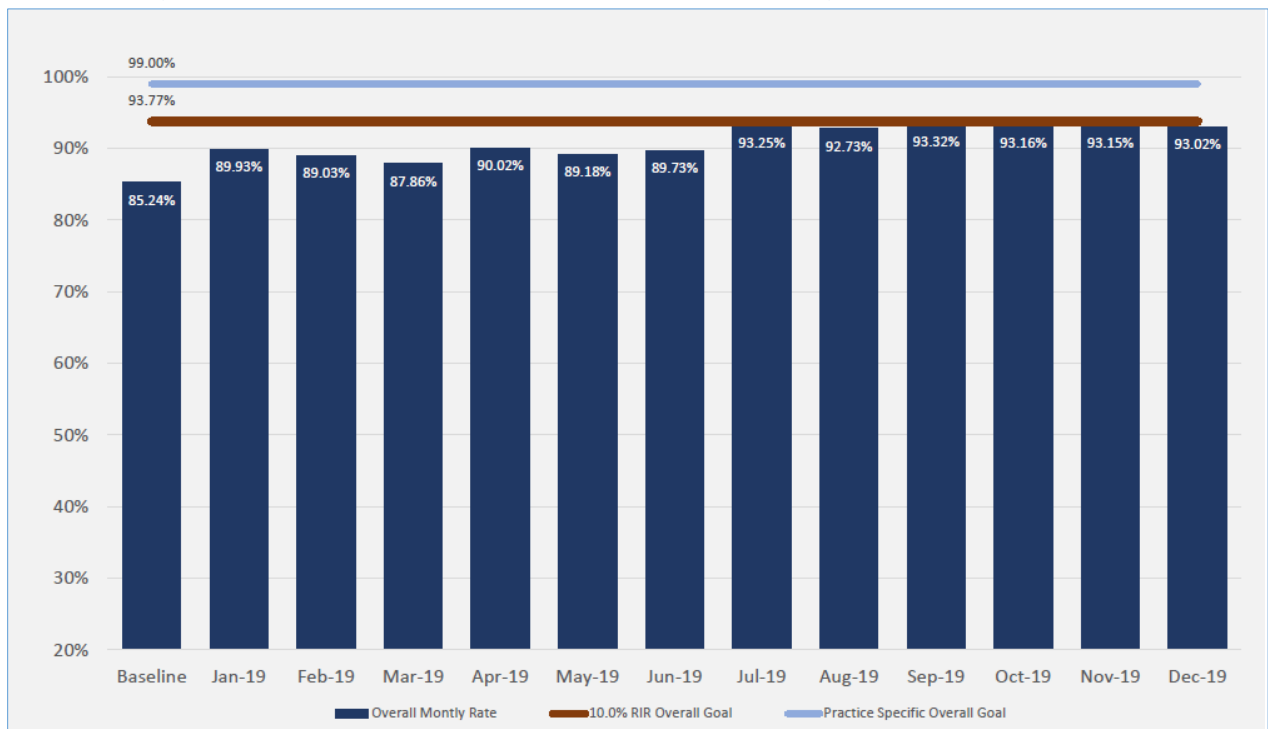
Practice 3 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



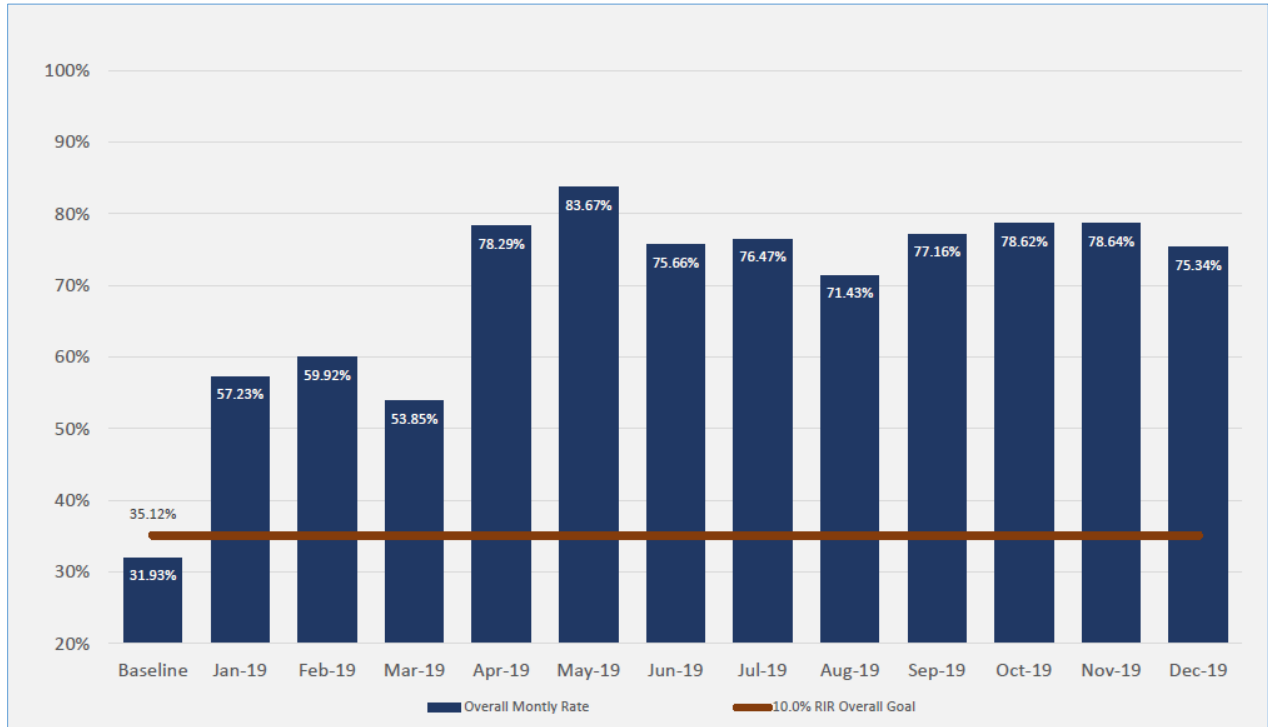
Practice 4 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



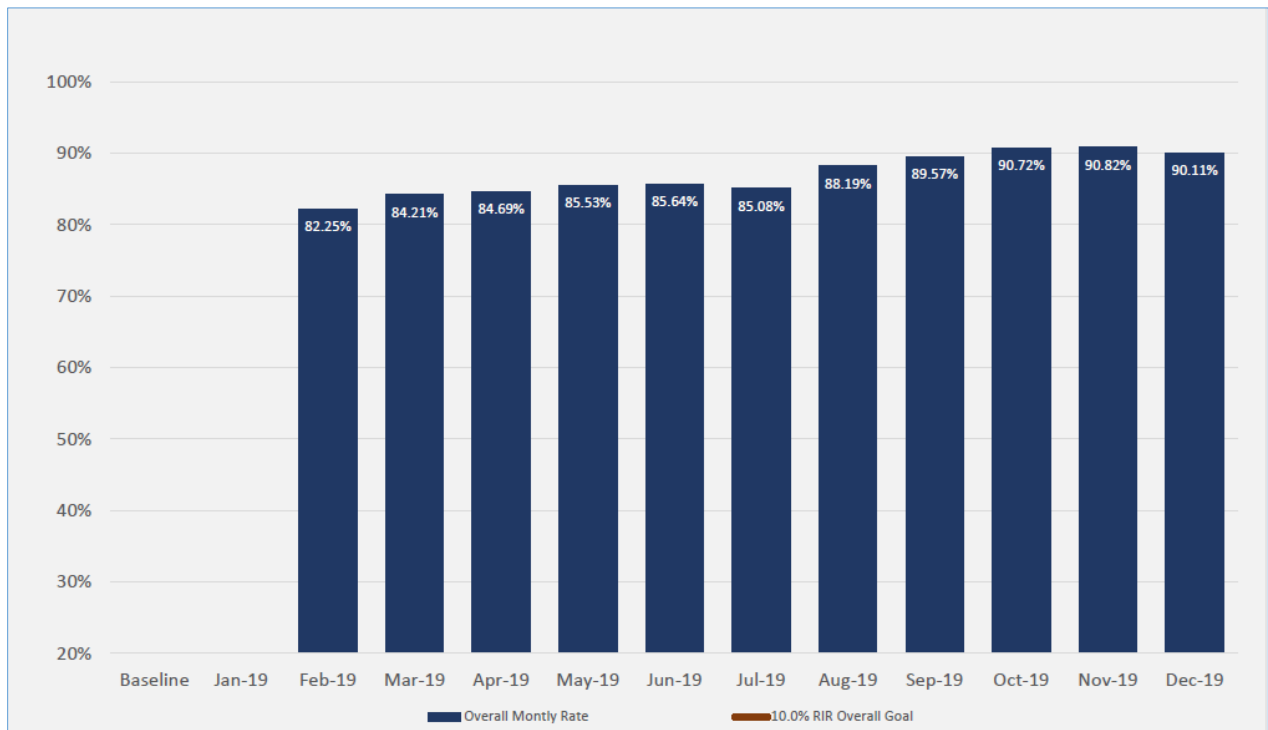
Practice 5 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



Practice 6 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



Practice 7 Performance Rate - Overall Pneumococcal Vaccination Rate for Patients 65+



References

- ⁱ Kansas Health Matters website: <http://www.kansashealthmatters.org/> custom report: Percent of Medicare Eligible Beneficiaries 65 Plus Receiving Pneumococcal Polysaccharide Vaccine (PPV) 2014-16, Table 1 above
- ⁱⁱ Healthy People 2020, Immunizations and Infectious Diseases: Objectives <https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives>
- ⁱⁱⁱ Vaccination Coverage Among Adults in the United States, National Health Interview Survey, 2016 <https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2016.html#pneumo>
- ^{iv} Kansas Health Matters website: <http://www.kansashealthmatters.org/> custom report: Percent of Medicare Eligible Beneficiaries 65 Plus Receiving Pneumococcal Polysaccharide Vaccine (PPV) County-by-county, Table 2 above
- ^v Recommendations from the National Vaccine Advisory Committee: Standards for Adult Immunization Practice <http://journals.sagepub.com/doi/pdf/10.1177/003335491412900203>