AMGA
Advancing High Performance Health

AMGA Foundation

Adult Immunization (AI) Best Practices Learning Collaborative, Group 2: Case Study

Cleveland Clinic
Cleveland, OH

Organizational Profile

Ranked the number two hospital in the nation and located in Cleveland, Ohio, Cleveland Clinic is a nonprofit, multispecialty academic medical center that integrates clinical and hospital care with research and education. Cleveland Clinic was founded in 1921 by four renowned physicians with a vision of providing outstanding patient care based upon the principles of cooperation, compassion, and innovation. Today, with more than 1,400 beds on its main campus and 4,450 beds system-wide, Cleveland Clinic is one of the largest and most respected hospitals in the country. Structured as a group practice, Cleveland Clinic encompasses 34 full-service family health centers and community clinics, where wisdom and expertise is pooled for the benefit of the patient and the community. Through combining specialties surrounding a specific organ or disease system into integrated practice units called institutes, Cleveland Clinic's goal is to put patients first. Cleveland Clinic Medicine Institute centralizes departments across the practices of adult primary care, geriatrics, hospital care, and infectious disease in the mission to be the medical home for accessible, comprehensive, and coordinated care for patients.

Executive Summary

Joining AMGA's Adult Immunization (AI) Best Practice Learning Collaborative (AI Collaborative) was part of Cleveland Clinic's efforts to put patients first. Given the importance of pneumococcal and influenza immunization, Cleveland Clinic wanted to increase its outreach to patients to ensure that all patients who wanted to be vaccinated were linked to care. To do so, Cleveland Clinic's team set out to improve access by monitoring immunization rates and performing proactive outreach to patients across the health system. Immunization rates were reviewed through the use of the health maintenance tab in Epic and the corresponding ambulatory care dashboard. Patients who were not up to date on their immunizations received proactive outreach through phone calls or a MyChart questionnaire. The outreach included information about the importance of pneumococcal and influenza immunization and options for scheduling an appointment. These efforts successfully increased Cleveland Clinic's pneumococcal immunization rate to 88.1% (from 82.3% at baseline) and influenza immunization rate to 51.4% (from 40.4% at baseline).

Acronym Legend

AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative

CDC: Centers for Disease Control and Prevention

EHR: Electronic health record

HP2020: Healthy People 2020

Program Goals and Measures of Success

The AI Collaborative goals were set by AMGA Foundation based on reviewing the Healthy People 2020 goals from the federal office of Disease Prevention and Health Promotion (HP2020)[1], baseline data for each group, and with input from the Collaborative advisors (see Appendix).

Cleveland Clinic's main goal was to ensure all patients eligible for an influenza or pneumococcal immunization were aware of their eligibly and to facilitate access to vaccinations. This goal was operationalized as reaching a 45% influenza compliance rate and to improve Pneumovax over the 90% threshold for the >65-year-old population. At the start of the AI Collaborative, Cleveland Clinic's pneumococcal vaccination rate was 58.8% for the >65-year-old population; the influenza vaccination rate was 28.5%. Following the collaborative, the pneumococcal rate for the >65-year-old population improved to 63.7% and the influenza rate improved to 35.8%.

Cleveland Clinic had three secondary goals that would support our primary goal: first, to educate patients about the influenza vaccine; second, to provide clinician and staff education on best practices for documenting immunizations within the electronic health record (EHR); and third, to capitalize on our health information technology (IT) to identify patients not up to date on their influenza or pneumococcal vaccination and proactively reach out to those patients.

Data Documentation and Standardization

Cleveland Clinic took separate approaches to identifying patients for pneumococcal and influenza outreach. For pneumococcal outreach, Optum One was used to identify patients >65 years of age who were pneumococcal vaccine naïve. Optum One creates variables using underlying data

from a variety of data sources including Rx tables, Rx history/patient reports, immunization tables, CPT/G codes, health maintenance tables, and ICD codes. Eligible patients were added to an Optum One registry, used by the Optum technology partner, Emmi Solutions, to place automated interactive phone calls to targeted patients. For the influenza outreach, Cleveland Clinic EHR data was used. Patients were identified as not up to date based on data from the polling data from Clarity in Epic. The patient also needed to be 18 years of age and an active MyChart user who had not fulfilled their influenza status for 2016.

Population Identification

All adult patients who were not classified as up-to-date for their influenza or pneumococcal immunization were eligible. Optum support enabled the identification of patients without a documented influenza and/or a pneumococcal vaccine in 2016.

Intervention

A three-pronged approach was taken to meet Cleveland Clinic's goals.

Patient Outreach

Efforts were mainly focused on educating patients about pneumococcal and influenza immunization. Pneumococcal education included interactive phone calls using the Emmi system for patients not up to date on their pneumococcal vaccine. The first step was to develop verbiage regarding the importance of pneumococcal vaccination, describing pneumococcal disease, and subsequently linking patients to care (if requested). Next, workflow processes were designed with the call center staff. EMMI calls were scheduled to occur during specific days and times. A new phone number was created to enable EMMI call respondents to have access to a specialized individual at the call center. The call center leadership educated staff on the project and how to link patients to care. Finally, Optum was used to identify patients who were not up to date on their pneumococcal immunizations. Process information was collected about the number of patients called, the number of calls completed, and call outcomes. Influenza education was conducted via MyChart outreach. An influenza questionnaire was sent to all MyChart users who were documented as not up to date for the influenza vaccine. Patients were given the option to schedule a visit to receive their vaccination or, if the patient had already received their vaccination outside of the Cleveland Clinic Health system, they were asked to document the date of the vaccination. Additionally, a link to an informational sheet on influenza published by the Centers for Disease Control and Prevention (CDC) was provided.

Patient Outreach Intervention

Cleveland Clinic conducted two outreach campaigns with Optum One and Emmi solutions. Each campaign targeted patients who were over 65 years old and pneumococcal vaccine naïve.

Calls were customized to identify the call as coming from Cleveland Clinic, and to introduce the call as being from Cleveland Clinic. Once connected, patients were told that a pneumonia vaccine was due, and given education about the importance of vaccination. The patient could then elect a soft transfer to schedule an appointment, make a note of provider contact information to schedule at a later date, or state that the vaccination had been received.

Results

Population	65+, pneumococcal vaccine naïve
# patients identified	25,043
# Engaged	9,481
% Engaged	37.9%
Engaged patients vaccinated	2,084
% Engaged patients vaccinated	21.9%

Clinician outreach

An informational tool was created and sent out to all ambulatory nurses. This tool provided guidance on documenting immunizations received outside of Cleveland Clinic and on documenting refusals into the "override" area of health maintenance. Nursing staff was identified as ideal clinicians because they were charged with immunization documentation. To obtain buy-in from the nurses, the Nursing Director of Regional Ambulatory Operations emailed educational materials to the ambulatory nurse managers who in turn were charged with educating nurses on how to document an outside immunization or a patient refusal of an immunization in the immunization tab of the patient's electronic medical record.

Information Technology

Cleveland Clinic's health IT infrastructure supported the patient and clinician outreach. Specifically, Optum data was used to identify patients who were not up to date on pneumococcal vaccination. MyChart was used to send the influenza surveys to patients who were not up to date on influenza vaccination and automatically update the patient's health maintenance tab when the immunization was received from an outside provider.

Outcomes and Results

At the end of the AI Collaborative, Cleveland Clinic almost met its goal for pneumococcal immunization and influenza immunization. Out of the older adult population (≥65), 34.7% were up to date on their pneumococcal immunization. Thirty-three percent of Cleveland Clinic's general adult population (aged 19-64) received their pneumococcal immunization. This percentage increased to 37.4% when the population was restricted to patients who were aged 19-64 with an at-risk condition. Regarding influenza immunization, 36% of adults aged 18 or older received their vaccine, which was near the goal of 45%.

Lessons Learned and Ongoing Activities

The main takeaway was the importance of health IT infrastructure. Cleveland Clinic is a very large institution, and the volume of general adult patients not up to date on their influenza immunization was so great that it overwhelmed known technological capabilities. For example, the MyChart system timed out when the team attempted to run a workbench report to populate the bulk message tool in order to send out the questionnaire. Instead, each individual patient's name and clinic medical record number (MRN) needed to be copied into the system before the bulk messages could be sent. As a result of this situation, the team focused on increasing immunizations in patients aged 60 or older. In total, more than 18,000 patients' names were individually entered and received a MyChart message. Of those, 2,515 patients responded with 63% (n=1,591) stating that they received the influenza vaccine. Since the AI Collaborative ended, Cleveland Clinic's team has identified an improved process to populate and send bulk messages that will be used for future patient outreach.

The importance of making the process of responding to the Emmi and MyChart messages easier was a second key takeaway. Both the Emmi and MyChart messages enabled patients to be quickly linked to care, inform Cleveland Clinic about their immunization status, or state that no immunizations were wanted. For example, within the MyChart survey a patient could check a box and list the date of his/her immunization without requiring an office visit. Further, by giving patients the option to check "I have been counseled, but I decline," Cleveland Clinic providers could respect patients' wishes without asking the same questions repeatedly.

Cleveland Clinic will continue to build on its goal to put patients first by providing education on and access to influenza and pneumococcal immunization. Next year, the influenza questionnaire will again be sent to patients using the new improved technology workflow that enables MyChart bulk messages to be populated and sent.

References

1. Office of Disease Prevention and Health Promotion (ODPHP). Healthy People 2020. healthypeople.gov.

Collaborative Goals

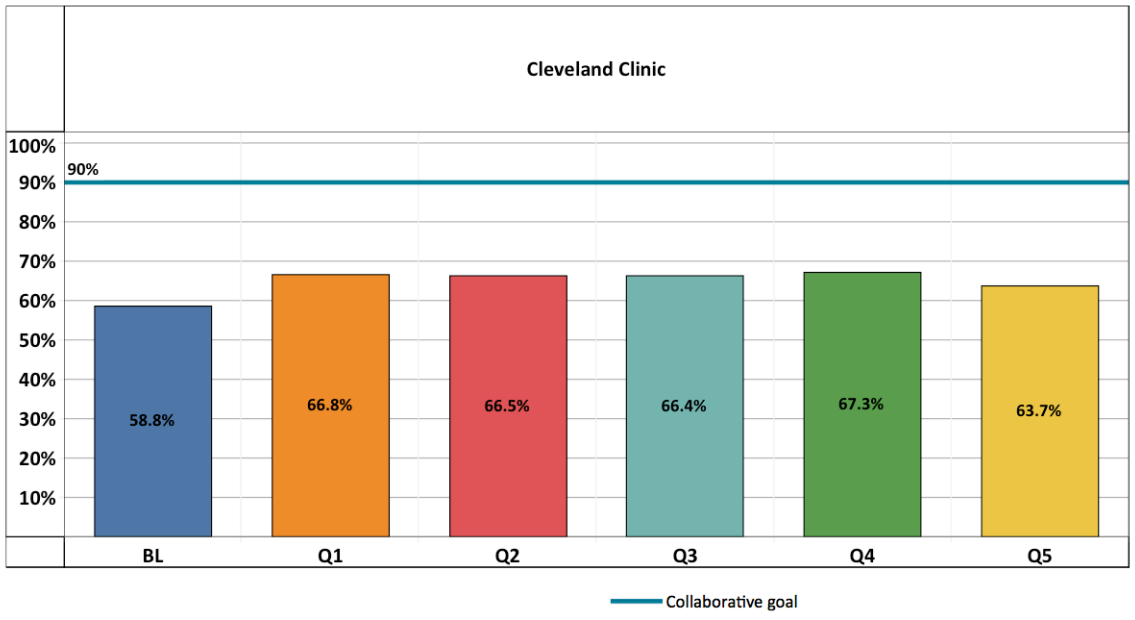
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* Increasing "Both" is a good goal for Groups which are already doing well on "Any"

** According to CDC guidelines, it is not currently recommended that the at-risk population receive PCV. Therefore, "PPSV" or "Unknown pneumococcal vaccination" are numerator options for Measure 2a.

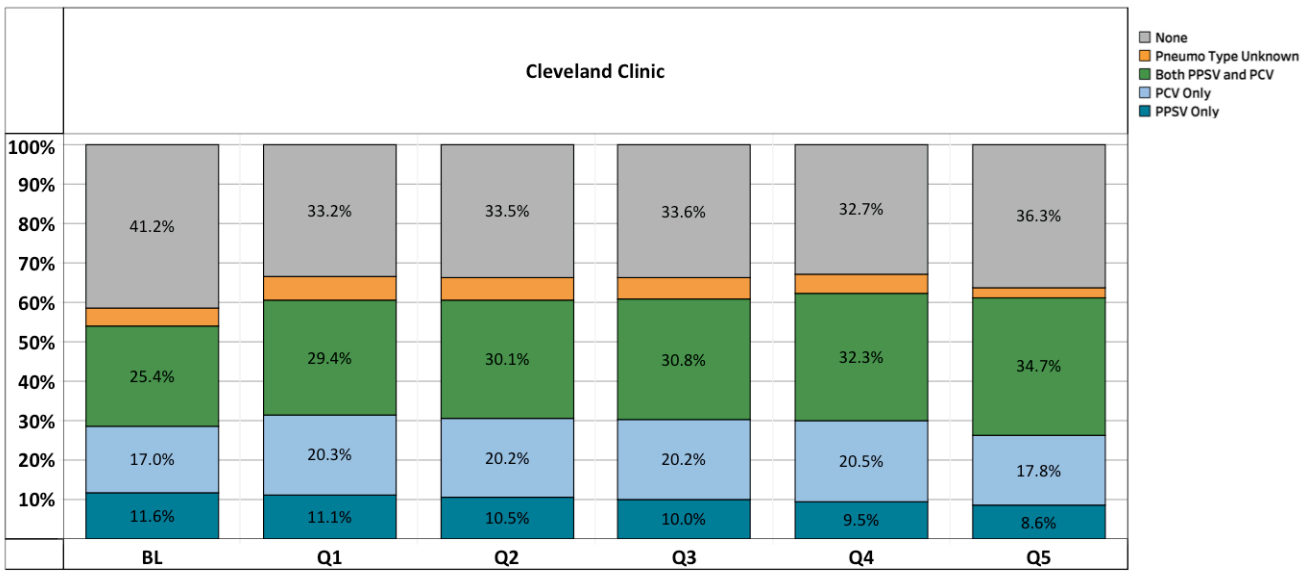
*** 70% for all patients, 90% for Medicare patients

Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65

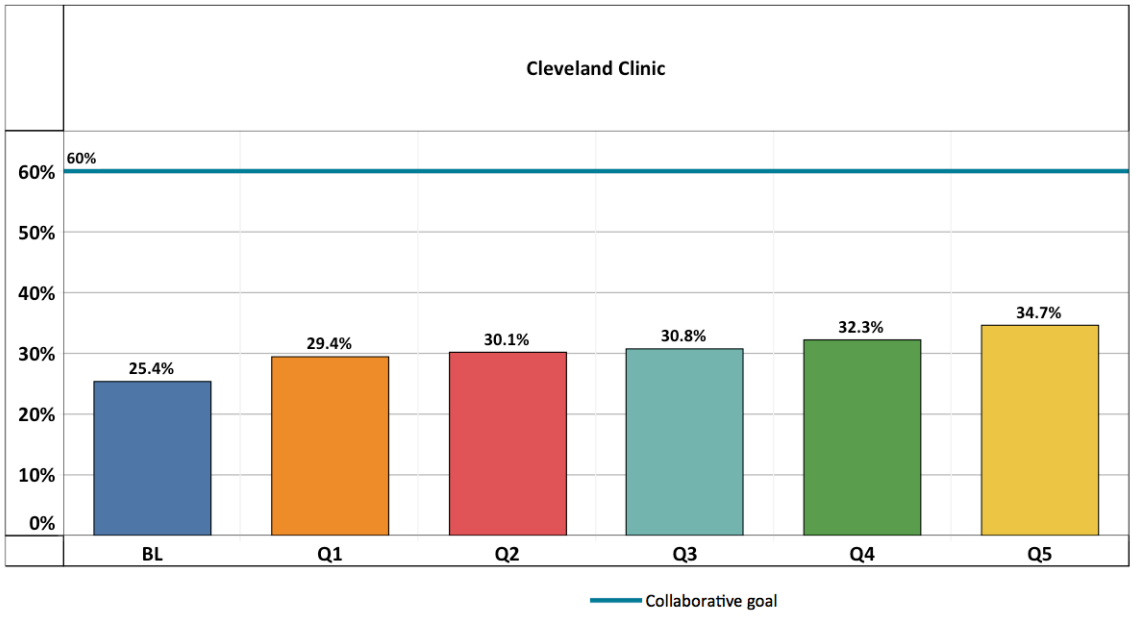


Appendix

Measure 1 – Pneumococcal (Any) Immunization for Adults Ages ≥ 65

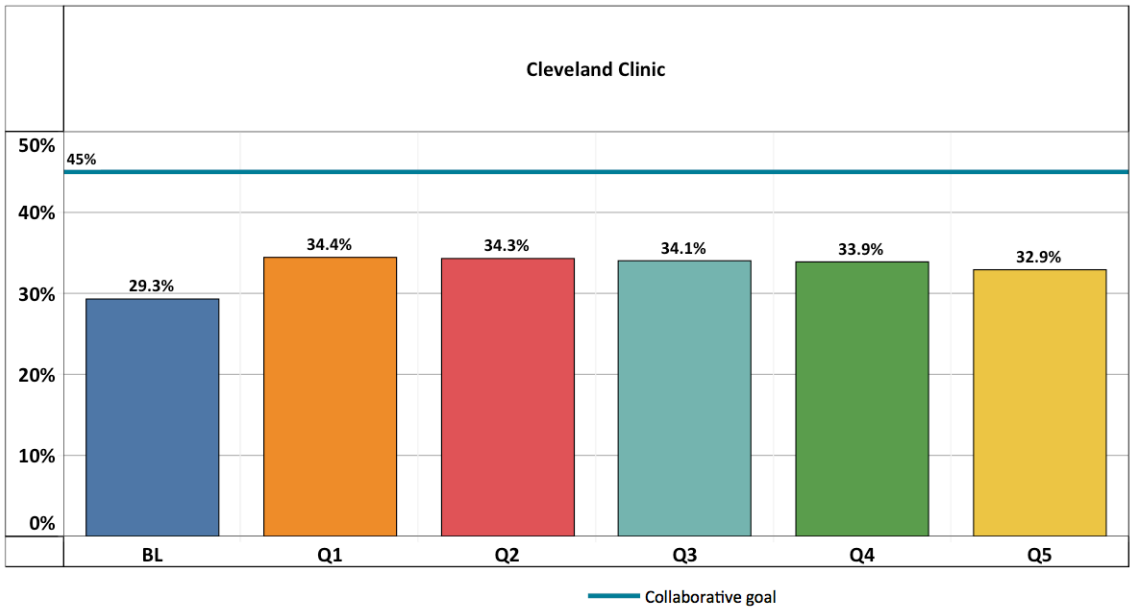


Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65



Appendix

Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



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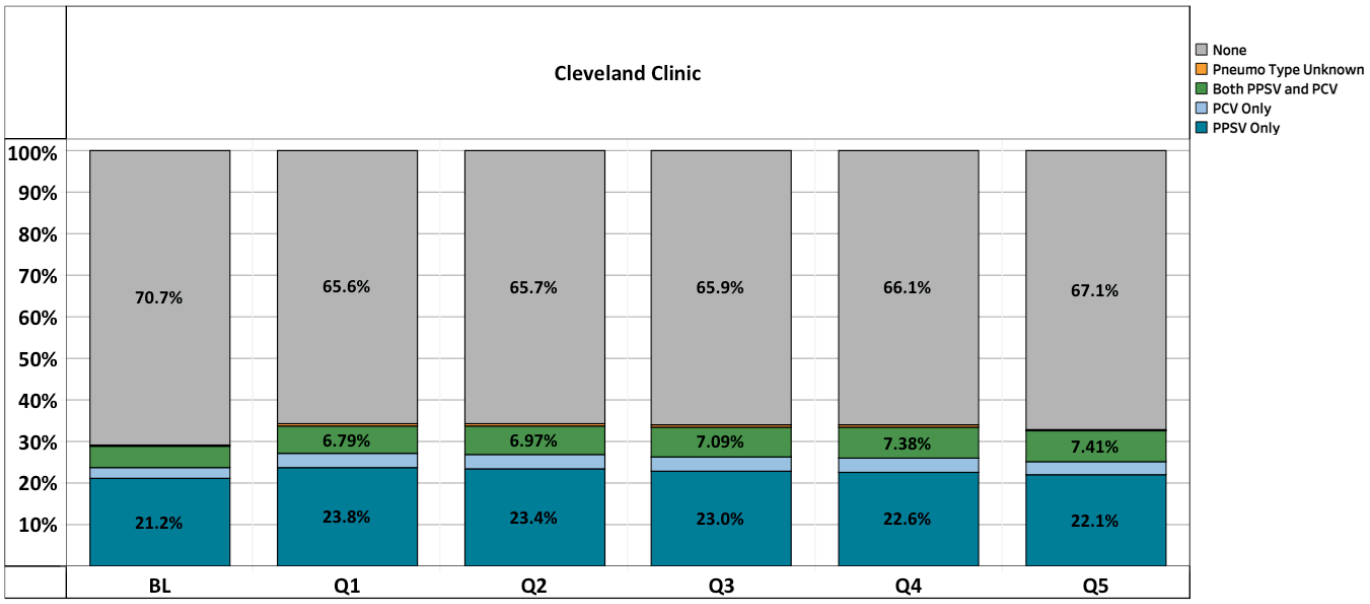

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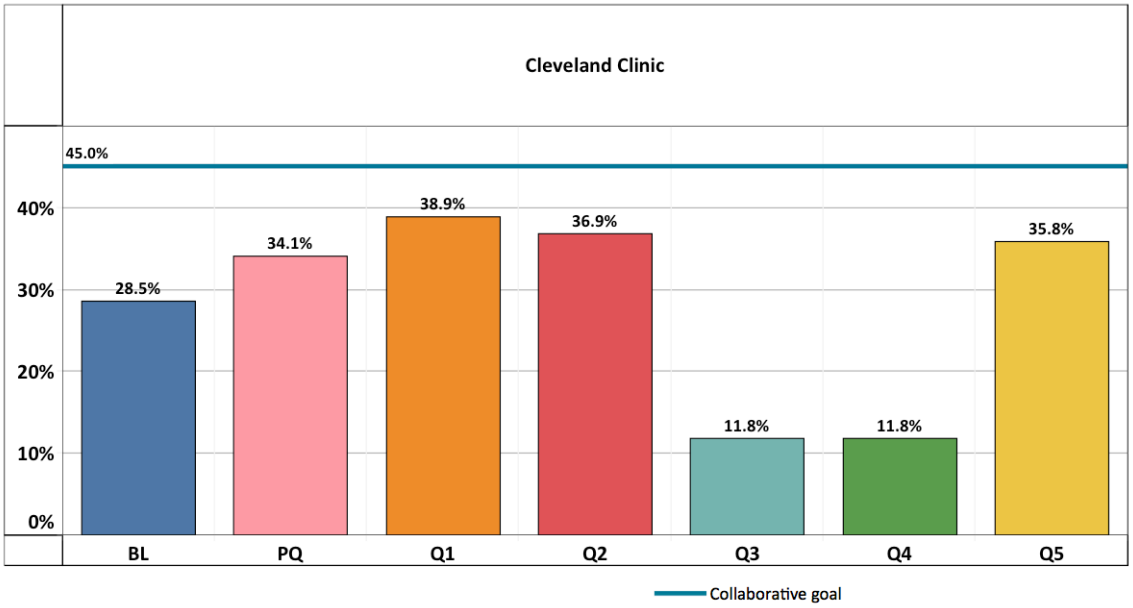
Measure 3 – Influenza Immunization, Age ≥ 18



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