AMGA™
Advancing High Performance Health

AMGA Foundation

Adult Immunization (AI) Best Practices Learning Collaborative, Group 3: Case Study

CentraCare Health
St. Cloud, MN

Organizational Profile

The Sisters of the Order of Saint Benedict opened the first hospital in St. Cloud, Minnesota, in 1886, planting seeds of compassion that have blossomed and grown for more than 130 years. Though the name and location changed, the spirit of compassion has not. In 1964, the Benedictine Sisters deeded all the hospital property to a newly formed St. Cloud Hospital (SCH) Corporation as a gift, entrusting their work to the men and women willing to take it up. Founded by the Sisters of the Order of Saint Benedict, SCH has grown from a small community hospital to a comprehensive, high-quality regional medical system. The values that spurred the Sisters to launch their healing mission have endured through the decades.

In 1995, CentraCare Health (CCH) was developed, creating an integrated healthcare delivery system that began with the first local clinic merging with SCH. SCH remains the flagship of CCH. CCH is a nonprofit healthcare system that provides comprehensive, high-quality care to people in both urban and rural areas of central Minnesota. Today, the collaborative network includes seven hospitals, seven long-term care facilities, 39 clinics, four quick clinic locations, one urgency center, five outpatient surgery centers, and three pharmacies. CCH employs more than 12,000 employees and 828 providers (including advanced practice providers) system-wide who together serve more than 775,000 people.

CCH's mission is to work to improve the health of every patient, every day. As a healthcare leader in the state of Minnesota dedicated to quality, safety, service and value, CCH's core value of compassion speaks to serving all who seek health care with kindness, dignity, and respect. By delivering care that respects and values the variety of backgrounds and beliefs of the CCH service area, CCH sustains the commitment of their forefathers who began providing health care in this region in the 1800s.

Demographics are evolving in the communities served by CCH entities. CCH relishes and values the strengths that increasing diversity brings to the region. Likewise, CCH recognizes that to live out its mission, its workforce needs to reflect the diversity and the changing needs of the communities. Diversity and inclusion enable CCH to deliver high-quality care, improve the patient experience, be a great place to work, and sustain a successful, viable organization.

Acronym Legend

ACIP: Advisory Committee on Immunization Practices
AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative
BPA: Best Practice Advisory
CCH: CentraCare Health
CDC: Centers for Disease Control and Prevention
CMS: Centers for Medicare & Medicaid Services
EMR: Electronic Medical Record
FTE: Full Time Equivalent
Glob IMM: Global Immunizations
HP2020: Healthy People 2020
LPN: Licensed Practical Nurse
MAR: Medication Administration Record
MIIC: Minnesota Immunization Information Connection
SCH: St. Cloud Hospital
VPD: Vaccine Preventable Disease

Executive Summary

As a participant in the AMGA Adult Immunization Best Practices Learning Collaborative (AI Collaborative), CCH strived to improve uptake of both adult influenza and pneumococcal vaccinations system-wide. Utilizing Centers for Disease Control and Prevention (CDC) guidelines, CCH worked to identify system-wide gaps and ways to address the gaps to improve recommended vaccination uptake of influenza and pneumococcal vaccines. Goals were based upon baseline data to understand a starting point and set realistic plans for each of the four measures set by the AI Collaborative (see Program Goals and Measures of Success). CCH had a prior existing framework (see Appendix) for system-wide immunizations that consisted of a Steering Committee and four specific Work Groups (Hospital, Clinic/Community, LTC/Senior Community, and Employee). The AI Collaborative aligned well with the existing work of Hospital and Clinic/Community Work Groups. The intent was to expand upon the foundational work that existed by identifying opportunities in the specified populations for the four specified measures. As well, CCH sought to exercise performance improvement to impact population and community health by improving patient outcomes based upon Vaccine Preventable Diseases (VPD).

Goal: Increase immunization rates in adult patients with pneumococcal and influenzas vaccines; thereby, reducing the clinical and economic burden of vaccine preventable diseases in the CentraCare service area.

AMGA/Healthy People 2020 Goals:	Baseline Data (FY17):	FY18Q1:	FY18Q2:	FY18Q3:	FY18Q4:	FY19Q1:
90/90%	Measure 1 (Pneumococcal Imm ≥65)	89%	89%	88%	89%	90%	91%
45/60%	Measure 2 (Pneumococcal Imm 19-64 w/High Risk)	31%	35%	35%	37%	38%	39%
None	Measure 2a (Pneumococcal Imm 19-64 w/At Risk)	30%	33%	34%	37%	40%	42%
45/70%	Measure 3 (Influenza Imm ≥18)	44%	22%	52%	47%	46%	51%

CCH was able to demonstrate improvement in all four measures and strive for stretch goals. As part of the AI Collaborative, they were able to contribute and benefit from identification of best practices amongst the participants.

Program Goals and Measures of Success

AI Collaborative Goals

Collaborative goals were set for the Adult Immunization AI Collaborative (Groups 2 and 3 participants). The collaborative goals were set 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 AI Collaborative advisors (see Appendix).

CCH Goals

CCH continually strives to improve system-wide, evidence-based practice with influenza and pneumococcal vaccinations to improve patient outcomes, and population and community health. By increasing compliance with influenza and pneumococcal vaccinations, CCH will see fewer hospital admissions and less severity of illness with these related illnesses.

Since pneumococcal and influenza vaccinations were historically Core Measures for the Centers for Medicare & Medicaid Services (CMS), CCH wanted to reduce missed opportunities for the inpatient, outpatient, and ambulatory populations.

The Global Immunizations (Glob IMM) statement for vaccine screening for CCH is: CentraCare Health will offer appropriate vaccine screening and administration to all eligible health care customers seen within the health system.

Specific objectives and benefits included:

- Identify gaps and ways to address gaps in CDC-recommended vaccination practices with a specific focus on pneumococcal and influenza vaccines
- Access a variety of interventions for both providers and patients to improve adherence to immunization guidelines
- Evaluate intervention impact on relevant vaccination rates over time
- Identify gaps in capture of vaccination data and ways to improve the accuracy and completeness
- Demonstrate value of a data-driven partnership in preventive care

Data Documentation and Standardization

The data analytics team used the AI Collaborative measure specifications to develop and test data extraction queries. Immunization data is stored in multiple locations in the electronic medical record (EMR) and data warehouse (e.g., claims, data from external sources, locally documented immunizations). The performance improvement process confirmed that the measure calculation included all available data.

Population Identification

Serving a population of more than 775,000, CentraCare's service area is comprised of 12 counties in Central Minnesota: Benton, Crow Wing, Douglas, Kandiyohi, Meeker, Mille Lacs, Morrison, Pope, Sherburne, Stearns, Todd, and Wright. It is an integrated healthcare system (including ambulatory practice).

CentraCare Health's EMR has the capacity to identify specifics on patient populations. Because of this, CCH can identify patients based on age, specific visit types, detailed diagnoses,

and exact vaccinations. The state of Minnesota has a vaccine registry, Minnesota Immunization Information Connection (MIIC), to aggregate electronic immunizations records in one place, ensuring ease of tracking vaccinations for Minnesotans.

Pneumonia Vaccine—total population

- Gender:
  - Male: 40%
  - Female: 60%
- Race:
  - White: 94.3%
  - African American: 3.2%
  - Hispanic: 1.2%
  - Asian: 0.8%
- Language:
  - English: 97.5%
  - Somali: 1.4%

Influenza Vaccine—total population

- Gender:
  - Male: 39%
  - Female: 61%
- Race:
  - White: 91.5%
  - African American: 4.9%
  - Hispanic: 2.0%
  - Asian: 0.1%
- Language:
  - English: 95.9%
  - Somali: 2.6%

Intervention

Efforts to improve and follow best practices for immunizations were well established at SCH and, in 2015, converted to system-wide efforts. CMS Core Measures drove the efforts to improve uptake of both influenza and pneumococcal vaccination rates within the hospitals. However, CCH realized the real opportunity not yet achieved was to capitalize on the ambulatory settings within the system. The AI Collaborative provided the opportunity to enhance and focus work to improve adult influenza and pneumococcal vaccination uptake.

Once on board with the AI Collaborative, developing an action plan was imperative for CCH to initiate change within its system. Over the course of the AI Collaborative, CCH had 27 action items identified as potential improvement opportunities that could increase the uptake of influenza and/or pneumococcal vaccinations in adults 18 years old or older. Of these items, by the end of the commitment with the AI Collaborative, 17 were completed, six were closed as not achievable (for varying reasons), and four remained open (and are currently being worked on). Ideas were generated by all level of employees who are impacted by screening, ordering, or administering vaccinations to patients in all settings within the system.

Focus Areas of Action Items

1. Adaptive changes
   - Initiated a "flu plus all" screening, where patients were screened for any due vaccines on each clinic encounter and offered all due vaccines (as high as seven doses administered to one patient at clinic visit)
   - Added new access points to vaccinate the public
   - Added Quick Care Clinics where vaccination access could be maximized
   - Provided transparency of provider immunization rates in comparison to benchmarks from the AI Collaborative
   - Hired a Medication Safety Specialist (0.8 FTE [full time equivalent]) to lead all system-wide clinic immunization work
2. Technical changes (EMR)
   - Enhanced Problem List capture to identify high- and at-risk patients
   - Built out Health Maintenance in ambulatory EMR for pneumococcal vaccine for low, medium, and high-risk groups
   - Granted licensed practical nurses (LPNs) ability to accept best practice advisories (BPAs) for influenza and pneumococcal vaccinations
   - Implemented screening for influenza vaccines at Center for Surgery (hospital-based)
   - Increased MyChart sign-up, heightening patient awareness of due vaccinations

- Created a hard stop for after visit summary for influenza and/or pneumococcal vaccinations on Medication Administration Record (MAR), due before discharge from hospital setting
- Revised running usage report (EMR) to monitor and resolve missed opportunities for vaccinations
- Put a best practice advisory (BPA) for influenza and pneumococcal vaccinations in patient header, creating the ability to directly accept an order to administer indicated vaccination
- Added new column within vaccine screening report for inpatient settings to indicate who has or has not received influenza vaccination
- Work list firing every eight hours in inpatient settings if influenza screening has not yet been completed
- Employee Health entered influenza vaccinations into state registry (MIIC)

Remaining Open Action Items (current and future work):

1. Build out Health Maintenance in inpatient EMR for pneumococcal vaccine for low, medium, and high-risk groups
2. Incorporate immunization rates and goals into daily huddles at clinic sites
3. Incorporate physician compensation measures around pneumococcal and/or influenza vaccinations into their metrics
4. Maximize previsit planning for primary care to include vaccination opportunities

Outcomes and Results

CCH strived to attain or exceed each of the AI Collaborative's measure goals and began not far off the mark from their baseline data. CCH also recognized the importance of the contribution vaccinations make towards the health of the population and community.

Measure 1: Improved from baseline by 2% over the collaborative period. This improvement exceeded both the AI Collaborative and HP2020 goals.

Measure 2: Improved from baseline by 9%. Although this was a significant improvement, CCH did not meet either the AI Collaborative or HP2020 goals.

Measure 2a: Improved from baseline by 12%. This was an incredible improvement over the timeframe. There were no goals associated with this optional measure.

Measure 3: Improved from baseline by 7%. This improvement exceeded the AI Collaborative goal but did not meet the stretch for the HP2020 goal.

By the end of the AI Collaborative, CCH met or exceeded the group-weighted average on all four measures (see Appendix). There were many incremental improvements that brought about steady increases in all four measures. One of the most impactful decisions was to hire a dedicated Vaccine and Medication Safety Specialist full time for all clinics and lead the Clinic/Community Work Group for the Glob IMM work.

Lessons Learned and Ongoing Activities

The most significant lessons learned through participation in the AI Collaborative revolved around the power of influence of the group in the collaborative and the importance of staying vigilant with ongoing efforts and monitoring trends. Although CCH had a solid framework for their system-wide immunization work, the networking and collaboration among AI Collaborative groups around the nation brings incredible opportunity to dissect ideas, discover, and integrate best practices.

Regarding impact, CCH started by thinking the immunization work should be focused on their hospital processes; however, CCH realized soon into the AI Collaborative that they would miss the mark if the clinic/ambulatory sites were not the primary focus of the work, since these sites are where the largest number of patient encounters occur in any healthcare system. Both the Hospital Work Group and the Clinic/Community Work Group within CCH worked diligently to align their efforts to improve vaccine uptake in a variety of patient populations and in numerous settings within the system. Some of these settings included:

- Hospitals
- Clinics
- Specialty Clinics
- Retail Pharmacies
- Community Paramedic Program
- Jail Program

Sustainability and spread of VPD work are key to the future strategic planning for CCH. Continually screening all patients in clinic settings with each encounter is what will sustain the momentum attained from participating in the AI Collaborative. Having built a screening tool in the EMR on the ambulatory side (like that which existed in the acute care side) for influenza and pneumococcal vaccines will standardize the workflow and process, helping to lead clinical staff to the right vaccine at the right time. Data Analysts and Performance Improvement Consultants continue to support the ongoing work of CCH Glob IMM, all four work groups, and monitor trends for opportunities while sustaining or exceeding the achievements reached through the AI Collaborative participation.

References

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

Collaborative Goals

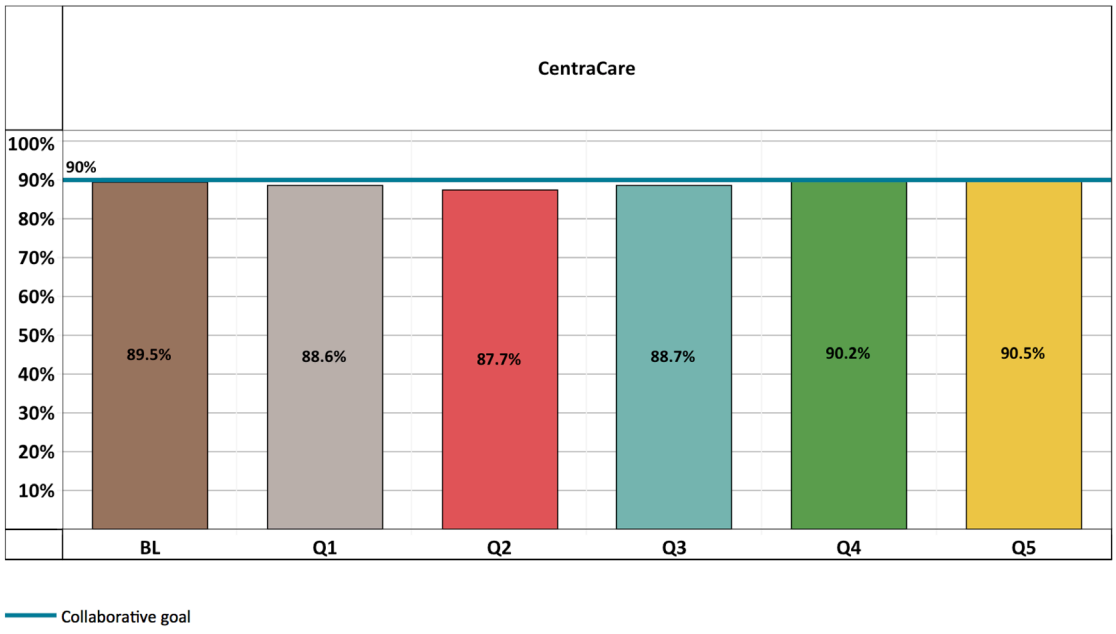
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* 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.

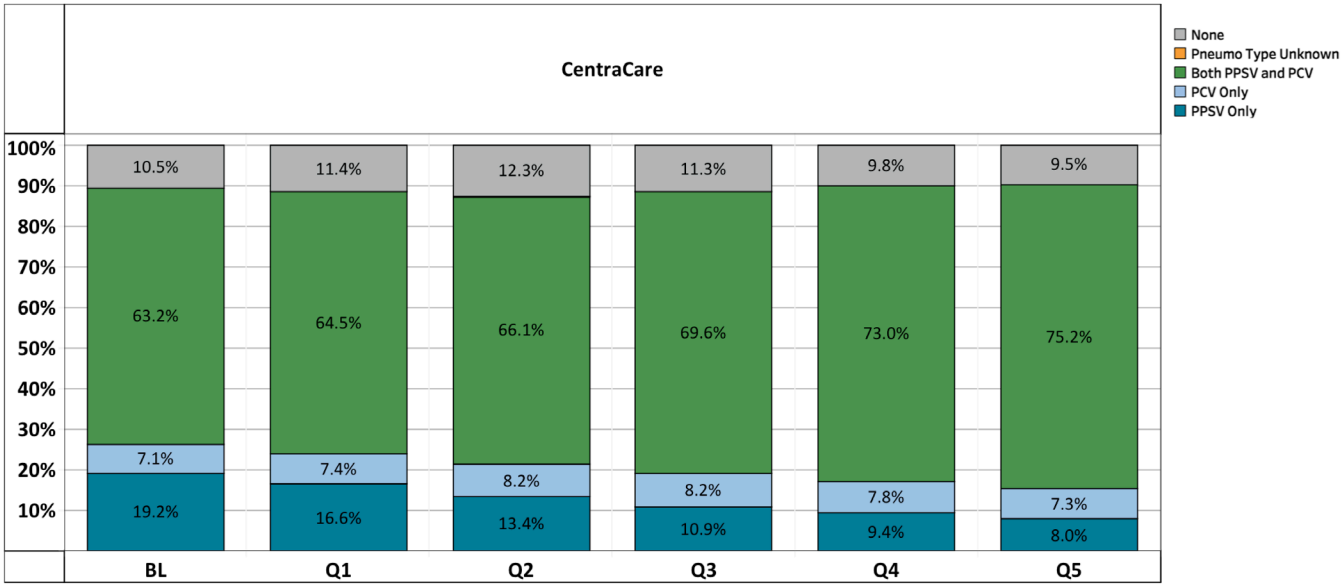
*** 70% for all patients, 90% for Medicare patients

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

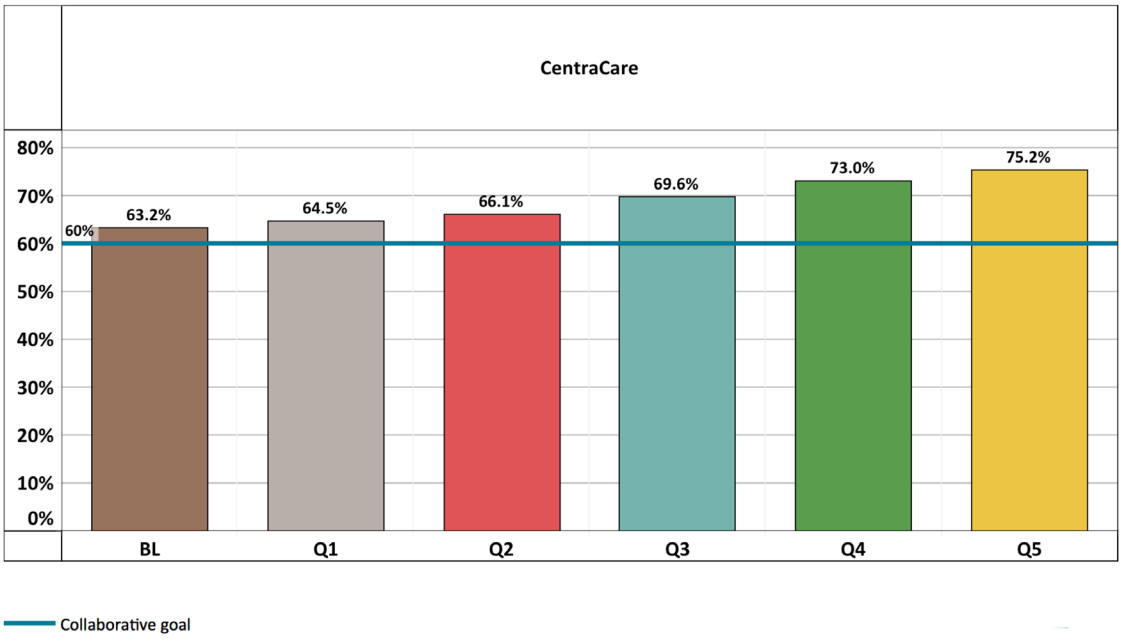


Appendix

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

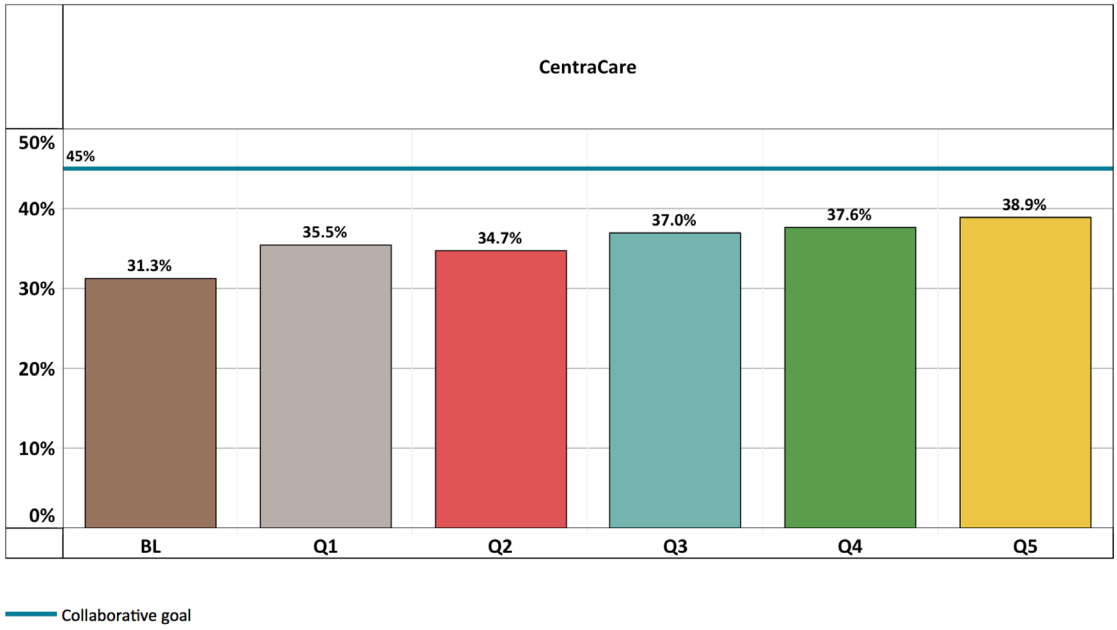


Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65

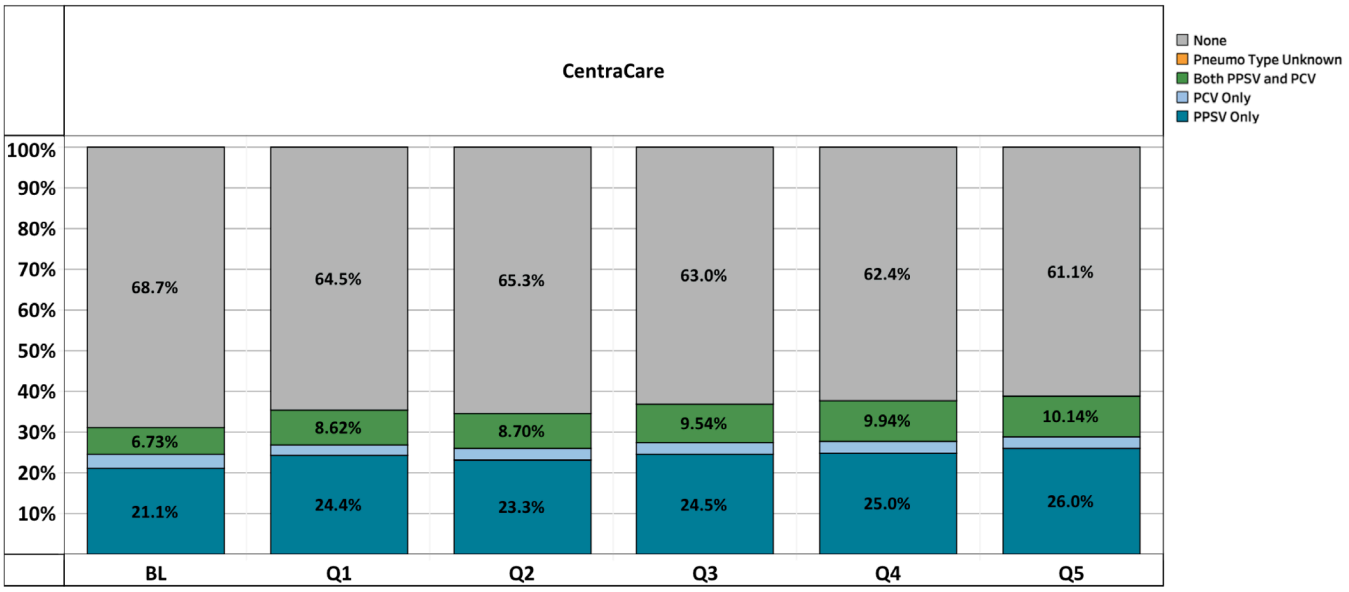


Appendix

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

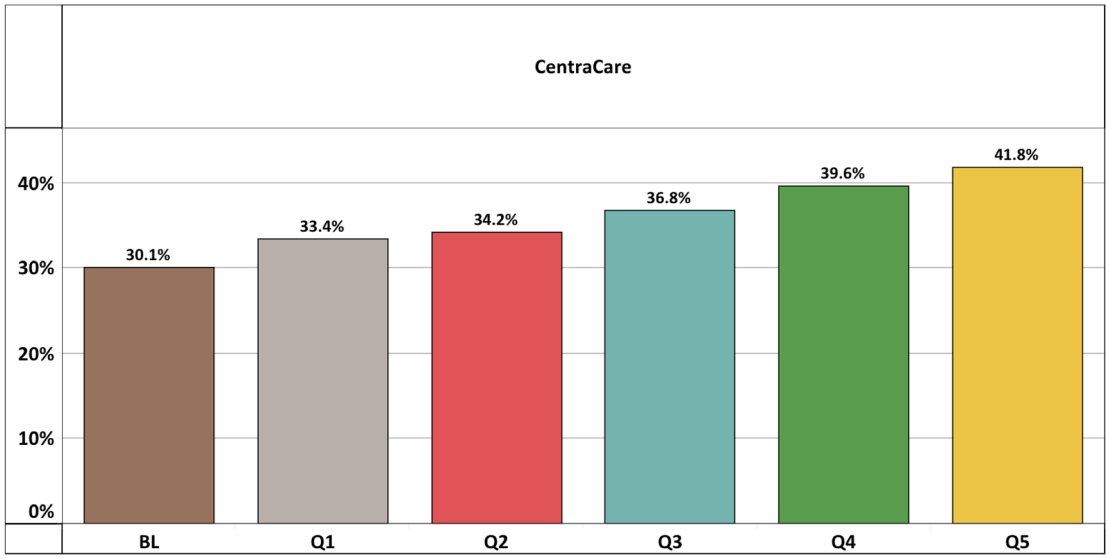


Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions

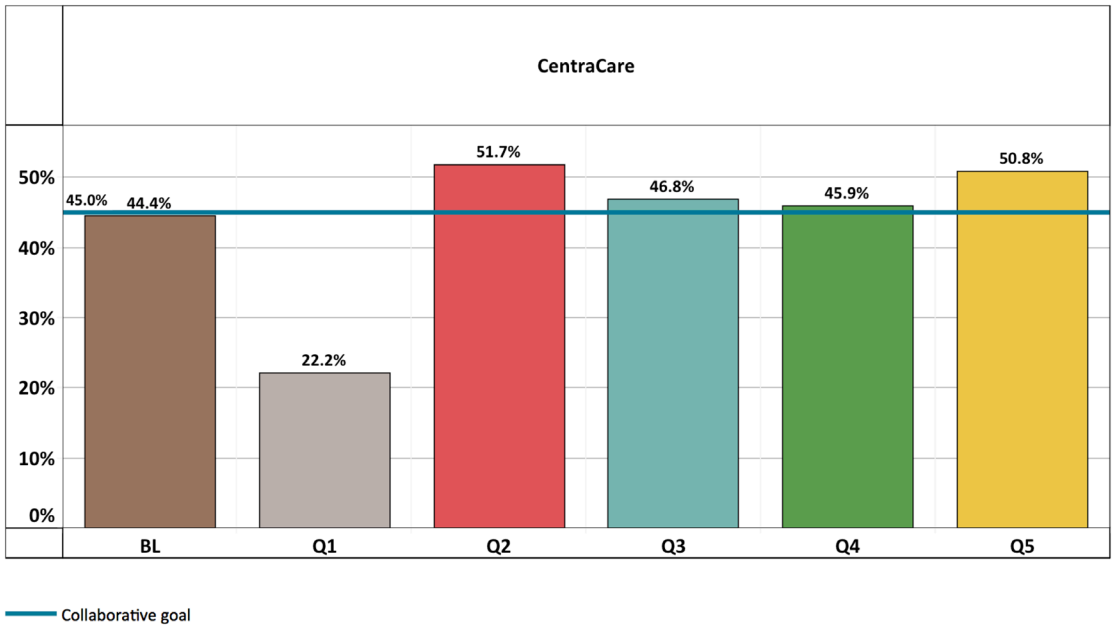


Appendix

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

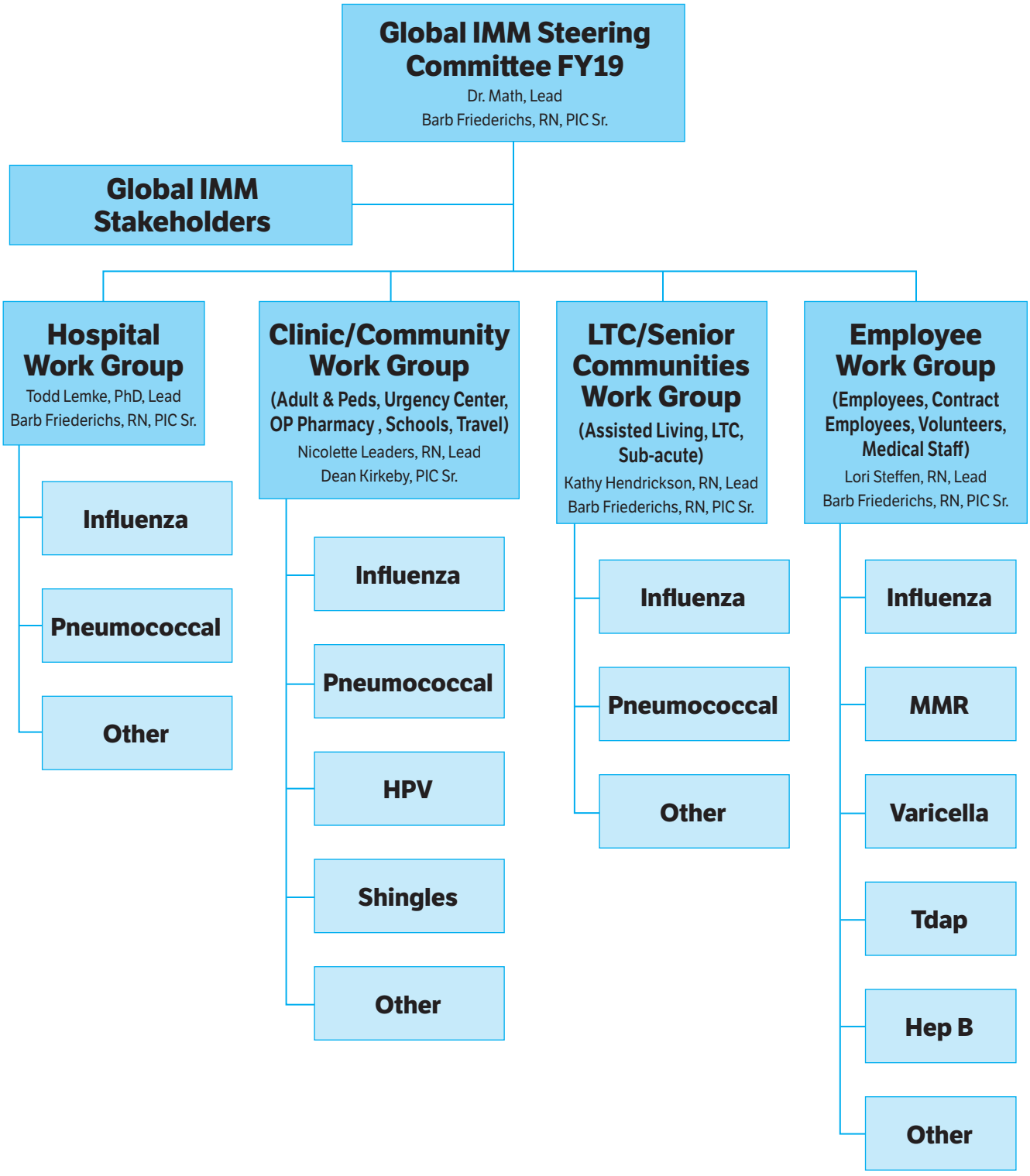


Measure 3 – Influenza Immunization, Age ≥ 18



Appendix

CentraCare Health Project Chart



CCH Core Team. From left: Dean Kirkeby, Angela Nathan, Barb Friederichs, Patrick Ilboudo.

Project Team

Barb Friederichs, M.S.N., R.N.
Performance Improvement Clinical Consultant & Collaborative Lead

Dean Kirkeby
Performance Improvement Consultant

Patrick Ilboudo, M.B.A.
Quality Data Analyst

Angela Nathan, CPHQ
Quality Data Analyst

Sarah Abdul Jabbar, M.B.B.S.
Internal Medicine Provider

Michelle Templin, B.S.N., R.N.
Case Manager

Renee Doetkott, M.S.N., R.N.
Ambulatory Nursing Practice Director

Todd Lemke, Pharm.D.
Pharmacy Services Manager

James Mahowald, Pharm.D.
Hospital Pharmacy Services Director

Keith Karsky, Pharm.D.
Retail Pharmacy Coordinator

Sandy Hamilton, M.L.S.
Outpatient Application System Analyst

Holly Kockler, B.S.N., R.N.
Inpatient Application System Analyst

Thomas Math, M.D.
Infectious Disease Provider, Immunization Lead/Chair

George Morris, M.D.
Physician Vice President Performance Excellence, Executive Sponsor

AMGA™
Advancing High Performance Health

AMGA Foundation

One Prince Street
Alexandria, VA 22314-3318

amga.org/foundation

OPTUM®

AMGA's Distinguished Data and Analytics Collaborator

Pfizer

This project was sponsored by Pfizer Inc. Pfizer was not involved in the development of content for this publication.