AMGA

Advancing High Performance Health

AMGA Foundation

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

The Iowa Clinic

West Des Moines, IA

Organizational Profile

The Iowa Clinic, P.C. (TIC) was formed in 1994 and today is the largest physician-owned, multispecialty group in Central Iowa. TIC employs more than 160 physicians and 60 advanced practice providers (APPs) in 40 specialties. TIC's Primary Care Provider (PCP) division includes Internal Medicine and Family Medicine and consists of 48 physicians and five APPs. TIC partners with local medical centers and hospitals in Central Iowa and the capital city of Des Moines to provide leading-edge health care to a population of 1.1 million, averaging 600,000 patient visits each year. Outreach specialty clinics are located in 14 outlying rural areas throughout Iowa, serving the cardiology, vascular, pulmonology, urology, podiatry, and other healthcare needs of these communities.

Executive Summary

Adult immunizations are proven to prevent life-threatening disease and costly hospitalizations. TIC participated in the first round of AMGA's Adult Immunization Best Practices Collaborative (AI Collaborative), and had good success with increasing the pneumococcal and influenza vaccines in its adult population over age 65. In this second AI Collaborative, TIC's focus remained on vaccine-naïve individuals and added the "series completion" of both pneumococcal vaccines to its goals. TIC set out to identify and incorporate best practices to reach a 90% immunization rate among adults seen during the study period.

TIC established an Adult Immunization team (AI Team), which included the following TIC staff:

- Chief Quality Officer
- Chief Medical Officer
- Director of Care Management and Quality
- Associate Quality Director
- Director of Clinical Analytics and an analyst
- Physicians from Internal Medicine and Family Medicine
- Directors from Internal Medicine, Family Medicine, Cardiology, and Pulmonology

TIC's AI Team reviewed their current practices and identified opportunities for improvement. External resources—from sources including Centers for Disease Control and Prevention (CDC), the Advisory Committee of Immunization Practices (ACIP), and the Immunization Registry System (IRIS)—were analyzed to identify best practices and compile educational information. Use of Medicare's Annual Wellness Visit (AWV) as well as the point-of-service dashboard were key to the successful increase of immunization rates for providers and patients. Providers and nursing staff were provided with training and educational materials on:

- CDC and ACIP's adult pneumonia immunization recommendations, including the need for pneumococcal series completion
- Accessing immunization data from IRIS
- Documenting immunizations in Allscripts, TIC's electronic medical record (EMR)

Staff workflow was redesigned to address each patient's immunization status at the beginning of every visit and administer vaccines as needed according to the CDC schedule. Additional automated outreach was implemented to reach as many patients as possible.

At the end of the AI Collaborative study period, TIC registered the highest rates in the AI Collaborative for improvement in pneumococcal immunization rates, from baseline to final measurement. TIC demonstrated a 2.8% increase from baseline and achieved a 91.5% pneumococcal immunization rate for all pneumonia vaccines in adults ≥65 years. TIC also achieved a 35.7% pneumococcal immunization rate for all pneumonia vaccines in high-risk adults between ages

Acronym Legend

ACIP: Advisory Committee of Immunization Practices

AI Collaborative: AMGA's Adult Immunization Best Practices Collaborative

AI Team: The Iowa Clinic's Adult Immunization Best Practices Collaborative Team

APP: Advanced Practice Provider

CDC: Centers for Disease Control and Prevention

CQS: Continuous Quality System

EMR: Electronic Medical Record

HP2020: Healthy People 2020

IRIS: Immunization Registry System

MIPS: Medicare Inceptive Program

NHIS: National Health Interview Survey

PCP: Primary Care Provider

PPSV23: Pneumococcal Polysaccharide Vaccine

TIC: The Iowa Clinic

19-64 years, with a 16% increase from baseline. Influenza immunization rates in the 2017-19 flu season reached 70.4%.

There was clinic-wide acceptance among providers and staff regarding the need for pneumococcal vaccines in patients over 65, but there remained some variability of acceptance of the "high-risk patients" as defined by the CDC. Education in this Phase Two of the AI focused on series completion of the pneumococcal series and further education regarding the high-risk populations aged 19-64. There was improved consensus and thus vaccine efforts as compared to the first phase of the AI Collaborative, but there remained some challenges in immunizing the high-risk young adult population due to both providers' and patients' acceptance of CDC "high-risk" definitions, resulting in some unwillingness to give or receive the vaccination.

Program Goals and Measures of Success

AI Collaborative Goals

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

The Iowa Clinic Goals

TIC's AI Team reviewed current processes and analyzed external resources to identify best practices and opportunities for improvement. The AI Team established additional goals for this AI Collaborative. Educating the providers and staff on the CDC and ACIP recommendations for adult pneumococcal immunizations was the primary goal. It was determined that all Cardiology, Pulmonology, OB/GYN, and primary care providers and staff would be educated on TIC's continued AI Collaborative participation and thus efforts to improve pneumococcal and influenza vaccine rates by August 1, 2017. Additionally, there was perpetual training of newly hired providers and staff. The training set the foundation for a successful continuation of the AI Collaborative.

Secondary goals included providing immunization educational materials to patients, making information available to patients in each division's waiting areas, sending automated email notifications through Phytel to all patients on the pneumonia immunization list (high-risk patients and adults aged ≥65 years), and administering vaccines in the cardiology, pulmonology, OB/GYN, and primary care locations.

Data Documentation and Standardization

At the initiation of the AI Collaborative, Optum One analyzed the potential areas of immunization documentation sources for the groups in this collaborative and determined that immunizations were captured in:

- Rx Tables
- Rx Patient Reports
- Immunization Tables
- Health Maintenance Tables
- CPT/G codes
- ICD-9 codes/ICD-10 codes

Significant variation in documentation patterns can be seen across groups, resulting from variations in the EMR provider and configuration, immunization documentation protocols, and adherence to documentation protocols. For the groups in the AI Collaborative, pneumococcal and influenza immunizations were most commonly documented in Immunization Tables, Health Maintenance Tables, and CPT/G codes. The least commonly used sources for documentation among the groups were Rx Tables and Rx Patient Reports. For the AI Collaborative groups that demonstrated documentation between multiple sources, the Optum team provided this data so that groups could determine a standardized documentation best practice internally.

The Clinical Analytics Director utilized the Optum data to produce individual weekly and monthly reports for the providers, staff, and the Care Management team (see Appendix). The weekly reports provided information on the number of patients who had received a visit within the past week and the number of vaccines administered. The providers received a weekly report indicating the number of vaccines missed on eligible patients. This report flagged the high-risk patients aged <65 years, noting the high-risk condition, which provided additional support of the CDC and ACIP recommendations for high-risk identification.

The Care Managers also received a weekly list of upcoming appointments for the AI Collaborative population. Monthly

reports provided year-to-date and monthly information on the immunization rates for TIC overall, as well as by individual providers.

Population Identification

TIC's AI Collaborative involved 10 primary care locations, as well as the Pulmonary and Cardiology groups within TIC. The Central Iowa communities of Altoona, Ankeny, Des Moines, Indianola, Johnston, Urbandale, Waukee, and West Des Moines are covered by 53 primary care providers. TIC's Cardiology and Pulmonology teams include 10 and nine providers, respectively, and provide care to Central Iowa as well as 14 outlying rural communities.

There was considerable variability among the providers at TIC in the acceptance of the CDC and ACIP high-risk patient definition. The providers did not all agree with the CDC and ACIP recommendations for identification of high-risk patients for pneumococcal infection. Optum Analytics/Humedica identified 45,226 primary care patients as vaccine-eligible. The cohort group included any patient 18 and older treated by a TIC PCP at least three times within the last 18 months. The cohort was then categorized as either low- or high-risk based on the current diagnosis in Allscripts, with subcategories of adults aged 18-64 or adults aged ≥65 years for each adult immunization group.

The following diagnoses identified a patient at high-risk for pneumococcal infection:

- Immunosuppression
  - Congenital disease
  - HIV/AIDS
  - Leukemia
  - Lymphoma
  - Multiple myeloma
  - Hodgkin's
  - General malignancy
- Long-term immune suppressants
- Organ or bone marrow transplant
- Therapy with alkylating agents, antimetabolites, or systemic corticosteroids
- Chronic renal failure
- Nephrotic syndrome
- Asplenia
  - Anatomic
  - Functional
  - Cochlear implants
  - Cerebral spinal fluid leaks
- Chronic heart or lung disease
  - Chronic obstructive pulmonary disease
  - Asthma
  - Cystic fibrosis
  - Congenital
  - Congestive heart failure
- Sickle cell

Residents of nursing homes or other long-term care facilities, as well as patients with any of the following diagnoses, made up the high-risk population for influenza:

- Pregnancy, including up to two weeks post-partum
- Chronic lung disease
  - Chronic obstructive pulmonary disease
  - Asthma
  - Cystic fibrosis
- Heart disease
  - Congenital
  - Congestive heart failure
- Blood disorders/sickle cell
- Diabetics & other metabolic disorders
- Kidney disorders
- Liver disorders
- Metabolic disorders (inherited and mitochondrial)
- Weakened immune system
  - HIV/AIDS
  - Cancer
  - Chronic steroid use
- Morbid Obesity
- Neurologic/neuromuscular
  - Cerebral palsy
  - Epilepsy
  - Cerebral vascular accident
  - Mental retardation and developmental delay
  - Muscular dystrophy
  - Spinal cord Injury

See the Appendix for a depiction of the population numbers for each category and subcategory.

Intervention

TIC's adult immunization information is stored electronically in Allscripts, which is TIC's EMR, and is periodically entered manually into IRIS, the state registry system. The Care Team identified each patient's immunization needs at the point of service by utilizing the Continuous Quality System (CQS) dashboard within Allscripts. The provider would order the vaccine upon identification of the need. The clinical nurse would administer the vaccine, then enter the immunization information into the vaccine history section of Allscripts and in IRIS. Additionally, TIC's strong routine use of Medicare's AWV would highlight deficient vaccines at point of service when a patient presented to have an AWV done. The baseline compliance rates for adult immunizations were obtained through Optum Analytics/Humedica by the Quality Analytics Director and are listed in the Appendix.

Clinical Standards and Algorithms

TIC implemented the CDC and ACIP recommendations for adult immunizations (these algorithms can be found in the Appendix). Some of the providers implemented standing orders for patients to receive an influenza and/or pneumonia vaccine according to the CDC and ACIP recommendations. This change improved efficiencies since the patient received the vaccine at the start of the visit and did not have to remain in the office to receive the vaccine after the provider visit.

Modifications to Existing Workflow and Staffing

Having participated in Phase 1 and 2 of the AI Collaboration, pneumococcal and influenza vaccines were already a routine focus of the primary care offices as well as Pulmonology, Cardiology, and OB/GYN. As a participant in the Medicare Shared Savings Program, these vaccines were part of the quality measures recorded clinic-wide for reporting to the Centers for Medicare & Medicaid Services (CMS). Given this, all departments would inquire to eligible patients as to their vaccine status and encourage vaccines if needed. The vaccines were still administered by the same departments as before, but every specialty was engaged in the inquiry and data entry of vaccines at each point of service visit with every eligible patient. Every department received training on the patient inquiry and data entry and departments who administer the vaccines were then further trained to record the vaccines given into the chart and the state vaccine registry.

The Care Management team, consisting of clinical (RN and Certified Medical Assistant) Care Managers, became imperative members of the Care Team. The Care Managers reviewed the Optum Analytics reports to validate the accuracy of the data, conducted outreach to high-risk patients to provide education on the vaccines, and scheduled patients for preventive care visits to receive the vaccines. The Care Managers conducted outreach to pharmacies and other clinical settings and accessed IRIS to obtain immunization information in order to enter the information into Allscripts. Entering the immunization information into discrete data fields improved reporting accuracy and increased efficiencies at the point of service.

Automated outreach was implemented through the use of Phytel. This outreach consisted of an automated email sent to over 13,000 high-risk patients informing the patients of the need for the pneumonia vaccine based on their clinical diagnosis. Patients responding to the messages were scheduled to receive the vaccine(s). High-risk patients who did not respond received live personal contact by the Care Managers in an attempt to schedule an appointment to receive the vaccine(s).

The widespread use of Medicare's AWV in the primary care department was a crucial point of service tool to help clinical staff and providers easily identify missing vaccinations. Given that the AWV checklist included both recommended pneumococcal vaccines, this enabled staff and providers to easily identify patients requiring a single pneumococcal vaccine a well as those who needed the second, to complete the recommended series.

Information Technology

At the point of service, the Care Team accessed the CQS dashboard within Allscripts to identify adult patients' immunization needs. IRIS immunization data had already been accessed and entered into discrete data fields, therefore the Care Team could rely on the Allscripts CQS dashboard for up-to-date information.

Measurement

The Clinical Analytics Director utilized the Optum data to produce individual weekly and monthly reports for the providers, staff, and the Care Management team (see Appendix). The weekly reports provided information on the number of patients who had received a visit within the past week and the number of vaccines administered. This

information allowed the providers not only to track their individual immunization rates, but raised awareness on the issue of vaccinating patients at the point of service.

This report also flagged high-risk patients aged <65 years, noting the high-risk condition that placed the patient in the risk category. This provided additional support of the CDC and ACIP recommendation for high-risk identification.

The Care Managers received a weekly list of upcoming appointments for the AI Collaborative population, which allowed them to prepare the Care Team for the patient's arrival and assist in vaccinating the patient at the point of service.

The monthly reports provided year-to-date and monthly information on the immunization rates for TIC overall, as well as by individual providers. The monthly reports were shared at the individual department meetings and offered transparency on the status of each provider.

Provider and Staff Education

The TIC AI Team attended the individual department meetings for Primary Care, Cardiology, Pulmonology, and OB/GYN throughout the AI Collaborative period. At the outset, the providers and staff received background information on the AI Collaborative and the new CDC and ACIP recommendations for pneumonia immunizations, as well as clinical education regarding high-risk patients aged <65 years who should receive the pneumococcal vaccine. The measurement reports were reviewed monthly and additional education was provided to the Care Teams as needed. A focus on "series completion" of both recommended pneumococcal vaccines was a focus of the primary care providers and their clinical staff. They were educated regarding the AWV process and to check for missing vaccines and to administer the vaccine at point of service where applicable.

Patient Education

In collaboration with the TIC Marketing Team, the TIC AI Team developed patient educational materials to be placed in the patient waiting areas and exam rooms. The patient educational materials provided information on the influenza and pneumococcal vaccines, as well the conditions indicating an at-risk patient. Samples of patient educational materials provided in the Appendix.

Outcomes and Results

Baseline data provided by the AI Collaborative indicated 89.0% of TIC's patients aged ≥65 years had received at least one pneumococcal vaccination, while 30.8% of the at-risk patients aged ≥19 years had received at least one pneumococcal vaccination. Patients aged ≥65 having received both recommended pneumococcal vaccines started with a baseline of 57.3%. During the 2016-2017 flu season (July 2016-January 2017), 79.7% of the adult population had received an influenza vaccine.

Final results provided by the AI Collaborative showed TIC had increased the pneumococcal vaccine rate in the ≥65 group to 91.5%, a 2.8% increase to above the collaborative and national Healthy People 2020 goal of 90%. At-risk patients ≥19 years increased by 16% to a rate of 35.7% of patients receiving at least one pneumococcal vaccine.

As compared to all groups with the AI Collaborative, TIC registered the highest vaccination rate adults aged ≥65 years, receiving at least one pneumococcal vaccine, exceeding the AI Collaborative and national goal to be at or above 90%.

Focusing on series completion of both recommended pneumococcal vaccines, TIC went from a baseline of 57.3 % to 65.3%, a 14% increase. This also exceeded the AI Collaborative goal of 60%.

During the 2017-2018 flu season, TIC documented 70.4% of their adult population having received an influenza vaccine. TIC demonstrated the highest level of influenza vaccination rates among collaborative participants.

Lessons Learned and Ongoing Activities

Having participated in the first AI Collaborative, there was some ease in continuing the project and focus on vaccines. It remained important to train all new clinic employees regarding the vaccine efforts and the standard workflows and processes. A higher focus was placed in this Phase 3 on pneumococcal series completion and education was focused regarding that with providers and clinical staff. In the primary care departments, a great contributing factor to the 16% increase seen was due to the use of the AWV. Over

85% of TIC's Medicare patients did an AWV with their primary care provider and both pneumococcal vaccines are listed on the AWV checklist, making any potential gap evident and quickly identifiable at the visit. This particular workflow had the vaccine data available in typed standard format on paper for the provider at the time of the visit, negating the need for the provider to have to either remember the vaccine or hunt for it in the EMR.

The recorded influenza vaccination rate was noted to have fallen from the previous year. While not certain of precise cause, it was noted that there were far more local pharmacies offering incentives to patients to do their influenza vaccines at the pharmacy and there were more local employers offering influenza vaccines at the sites of employment. It is a greater ongoing effort now to encourage patients to report their influenza vaccinations to TIC, regardless of where administered. Further, efforts are underway with local pharmacies to send reports of the vaccines more consistently.

There is currently a pilot with TIC and one local pharmacy to share vaccine data on their joint patients, in efforts to increase vaccination rates and proper recording of such.

While TIC is at the highest level of pneumococcal vaccination rates among those in the collaborative and currently above the Heathy People 2020 goal, patients age into the vaccination categories every day. Persistent vigilance by maintaining standard workflows, educating new providers, training new staff and ongoing reporting remain a constant focus to keep up this high vaccination rate and to raise the series completion rate to that of the Healthy People 2020 goal as well.

References

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

Collaborative Goals

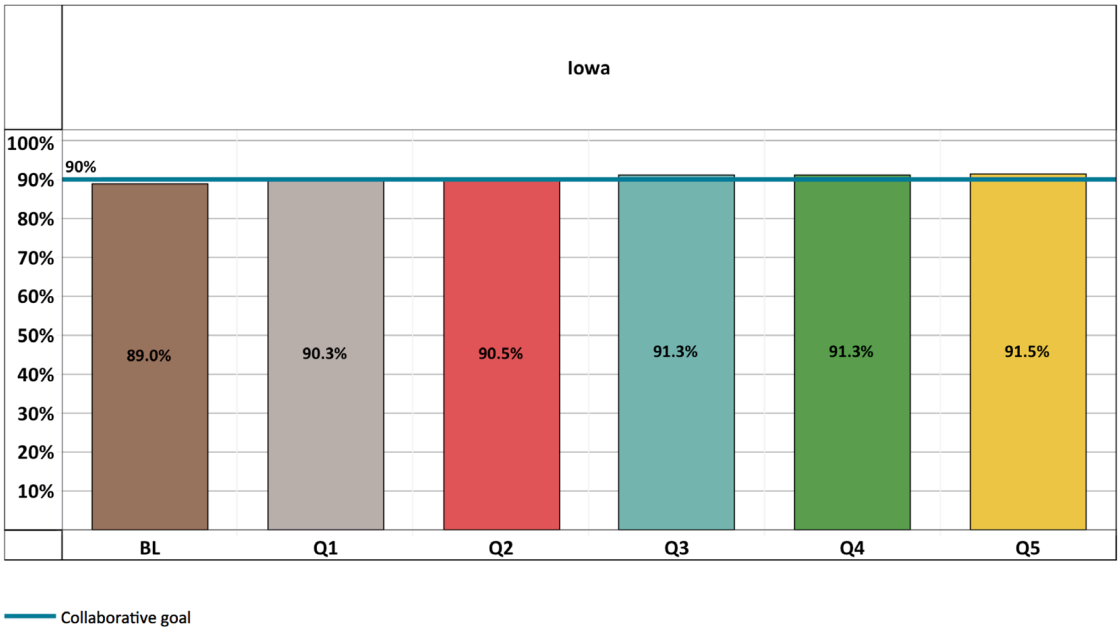
Measure	Healthy People 2020	Collaborative Goal
Measure 1 (65+) Any	90%	90%
Measure 1 (65+) Both PPSV and PCV*	90%	60%
Measure 2 (High-Risk)	60%	45%
Optional Measure 2a (At-Risk)**		
Measure 3 (Flu)	70%/90%***	45%

* 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.

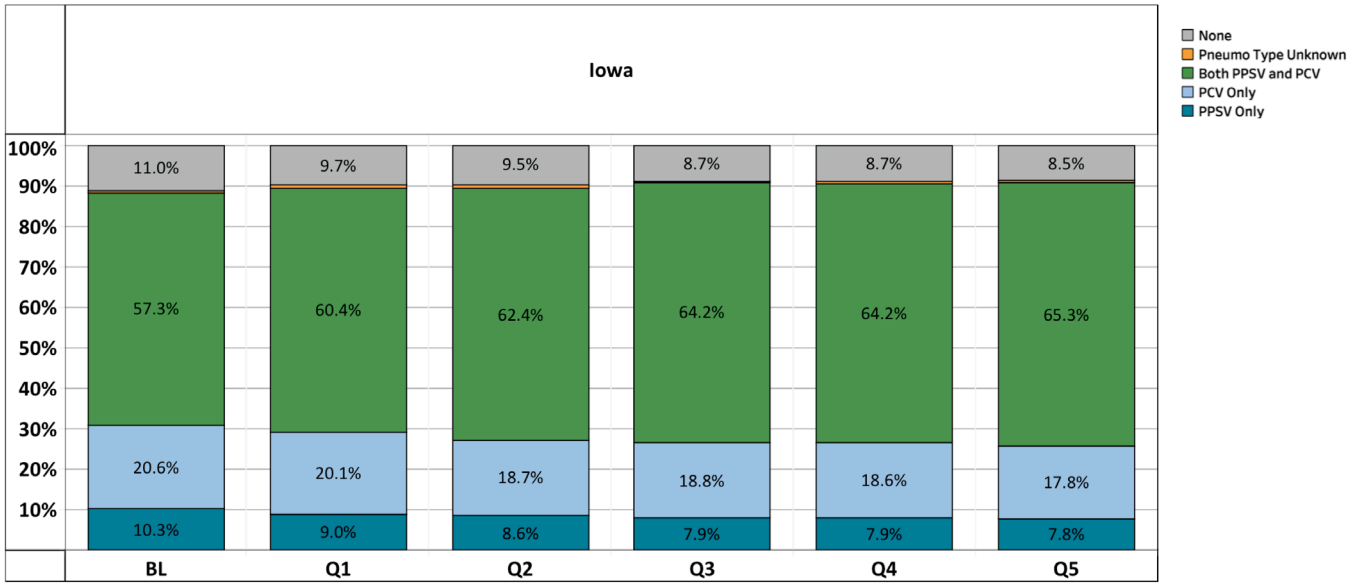
*** 70% for all patients, 90% for Medicare patients

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

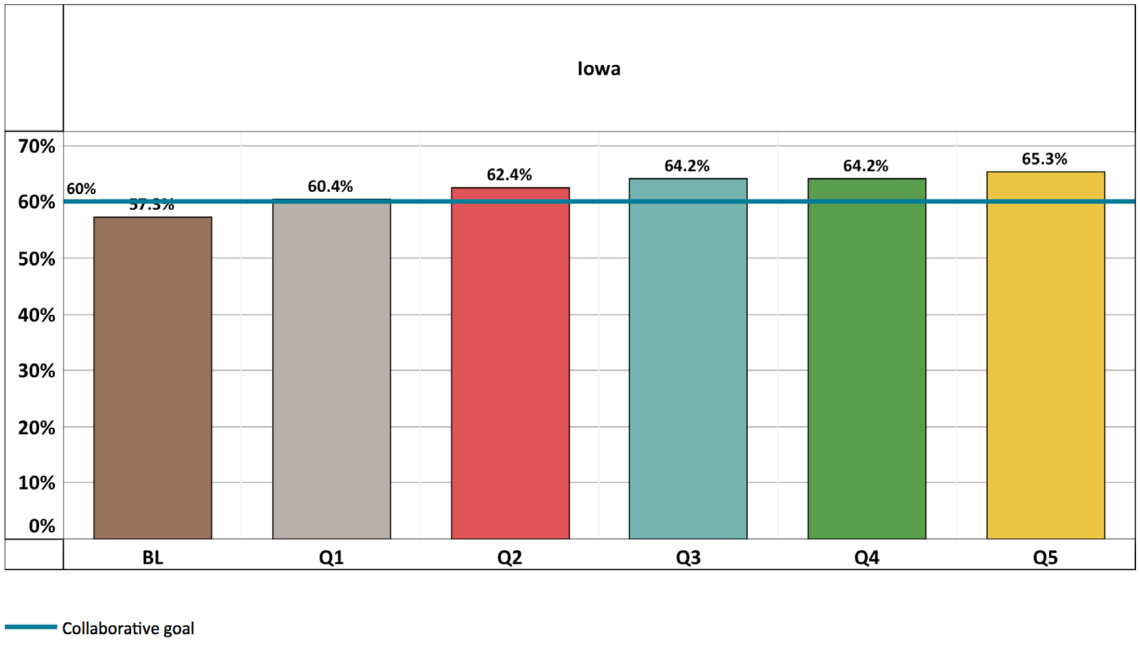


Appendix

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

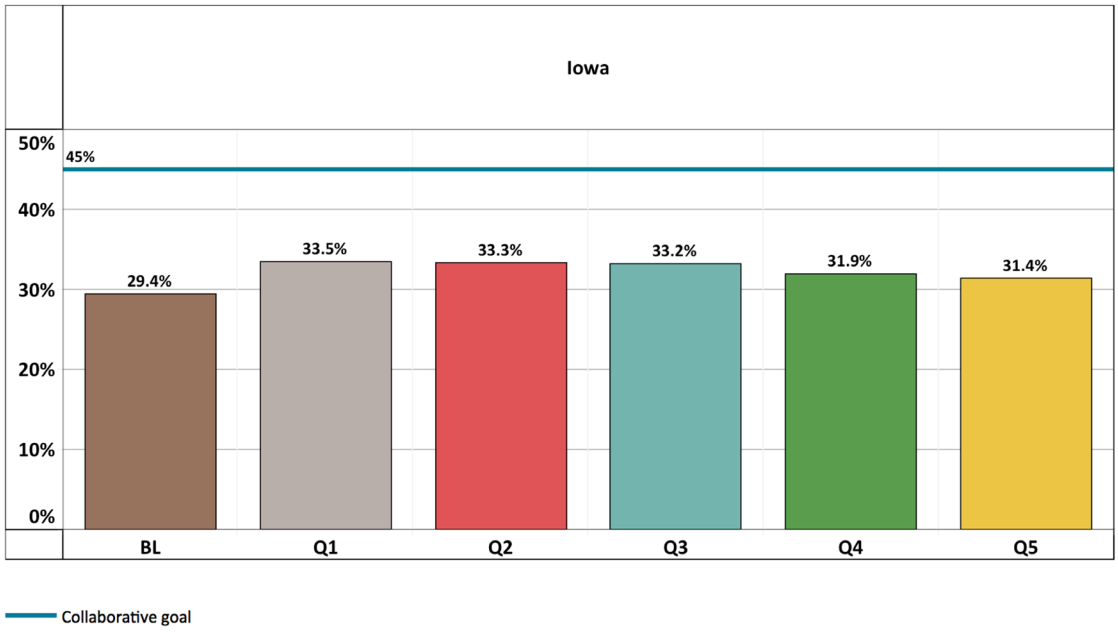


Measure 1 – Both PPSV and PCV Immunization for Adults Ages ≥ 65

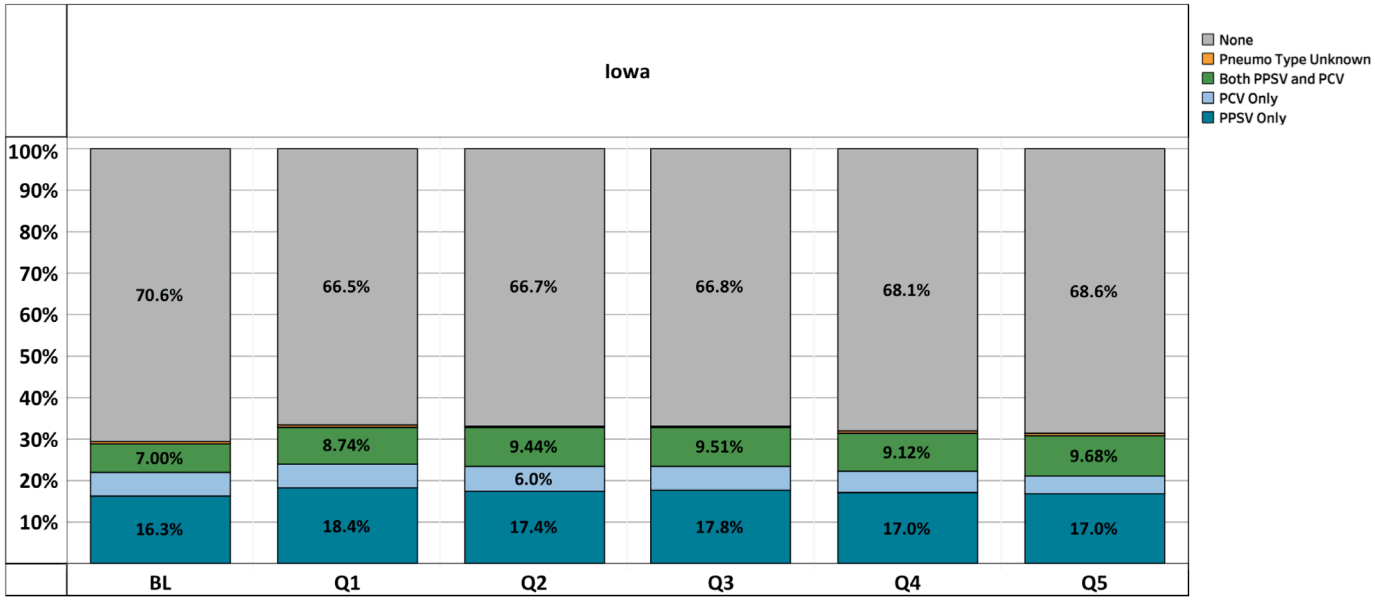


Appendix

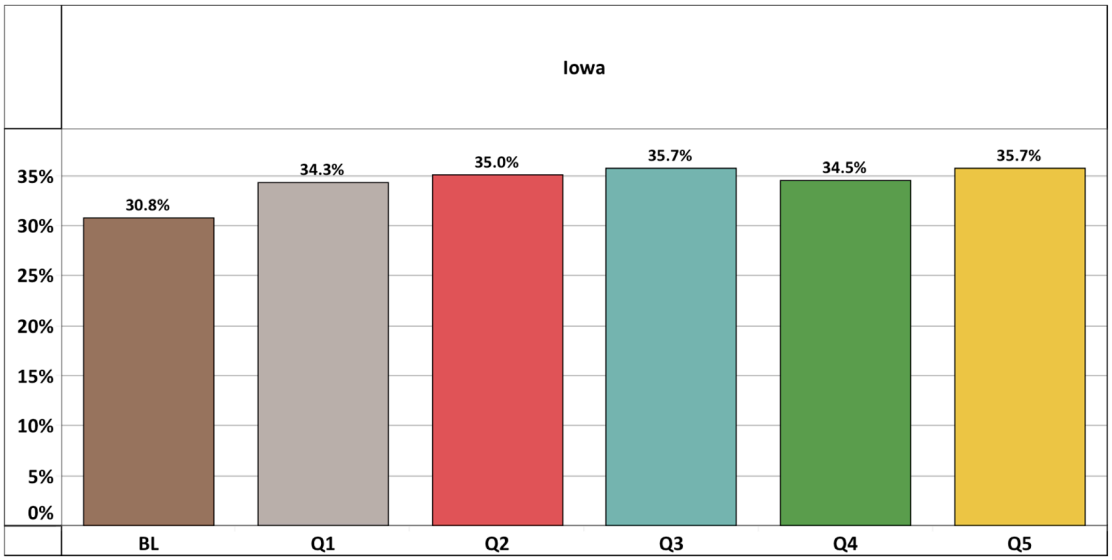
Measure 2 – Pneumococcal (Any) Immunization for Adults Ages 19–64 with High-Risk Conditions



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



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



Vaccine Reports

Adult Immunizations
Weekly Report – Score Card

Adult Immunizations - Weekly Report
Week ending 10/17/2015

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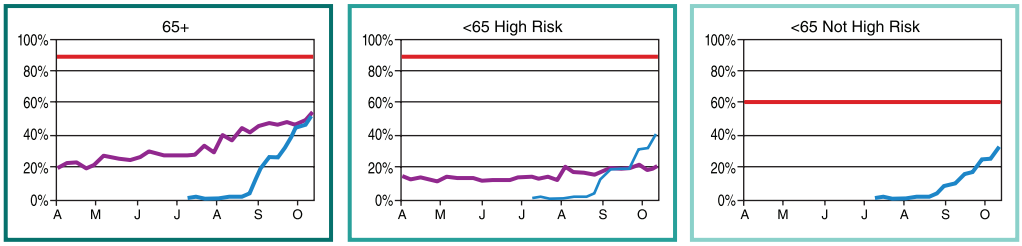
Last Week's Performance	65+	<65 High Risk	<65 Not High Risk
# Pts Seen Last Week	826	605	926
Flu Vaccine Since 7/1	460 (56%)	251 (41%)	315 (34%)
Pneumo @ Guidelines	454 (55%)	126 (21%)	
# of Missed Opportunities	Flu 366 Pneumo 372	354 479	611

Weekly Trends

Flu Resets @ 0% Each July 1



Goal = 90% | Goal = 90% | Goal = 60%

Vaccine Reports

Current Due Pneumonia This Week (Care Management Team Report)

Patients Due for Pneumonia Vaccine CONFIDENTIAL - Internal Use Only

Data Thru 11/1/2015

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Atzen, Angelia — CM: Jenni Fisher

MRN	DOB	Name	HRReasons	LastAppt	NextAppt
	6/10/31		65+ Hrt DM Lung	10/14/15	11/2/15
	8/9/39		65+ Onc Hrt DM	5/28/15	11/2/15
	11/15/65		Hrt DM	10/29/15	11/2/15
	12/19/42		65+	6/15/15	11/2/15
	8/1/61		Immun	8/18/15	11/2/15
	12/8/69		Lung	9/21/15	11/2/15
	1/3/57		Hrt	4/13/15	11/2/15
	9/3/45		65+ Liver DM	10/27/15	11/3/15
	8/2/55		DM	9/17/15	11/3/15
	2/2/72		Immun DM Lung	10/27/15	11/4/15
	12/14/67		Lung	10/15/15	11/5/15
	6/10/57		Hrt	9/29/15	11/5/15
	11/24/55		Neph Onc Hrt DM	9/11/15	11/6/15
	4/25/64		Liver DM Lung	8/13/15	11/6/15
	11/29/56		Hrt Lung	3/17/15	11/6/15
	2/23/35		65+ Hrt DM	7/14/15	11/9/15
	3/3/58		Liver DM	9/29/15	11/10/15
	5/9/47		65+	6/16/15	11/10/15

Vaccine Reports

Adult Immunizations
Monthly Report – Score Card

Adult Immunization Scorecard
October 2015

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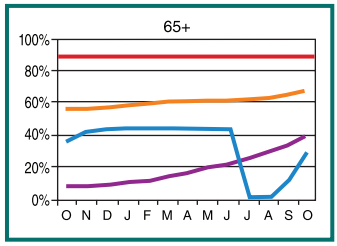
Current Performance

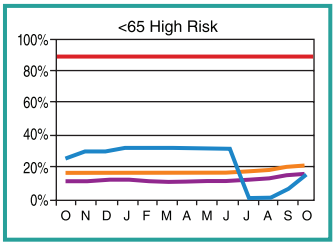
	65+	<65 High Risk	<65 Not High Risk
Population	**826**	**8,115**	**23,796**
Flu Vaccine Since 7/1	460 (56%)	1,431 (18%)	2,376 (10%)
Pneumo - Any	7,738 (67%)	1,733 (21%)	–
Pneumo - Guidelines	4,573 (40%)	1,305 (16%)	–

Trends

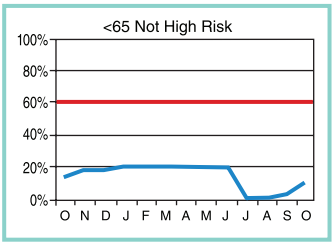
Flu Resets @ 0% Each July 1



Goal = 90%



Goal = 90%



Goal = 60%

Compare

65+

	Fully Compliant Flu and Pneumo	Flu	Pneumo-Any	Pneumo-Guidelines
Ankeny	28%	35%	69%	56%
Urbandale	27%	34%	74%	53%
Johnston	26%	36%	72%	49%
FM West L	25%	27%	66%	50%
Downtown	18%	30%	67%	37%
IM West L	18%	28%	77%	42%
Indianola	14%	24%	37%	29%
Waukee	14%	26%	37%	24%
Altoona	12%	18%	36%	17%
Center St.	4%	15%	57%	10%

<65 High Risk

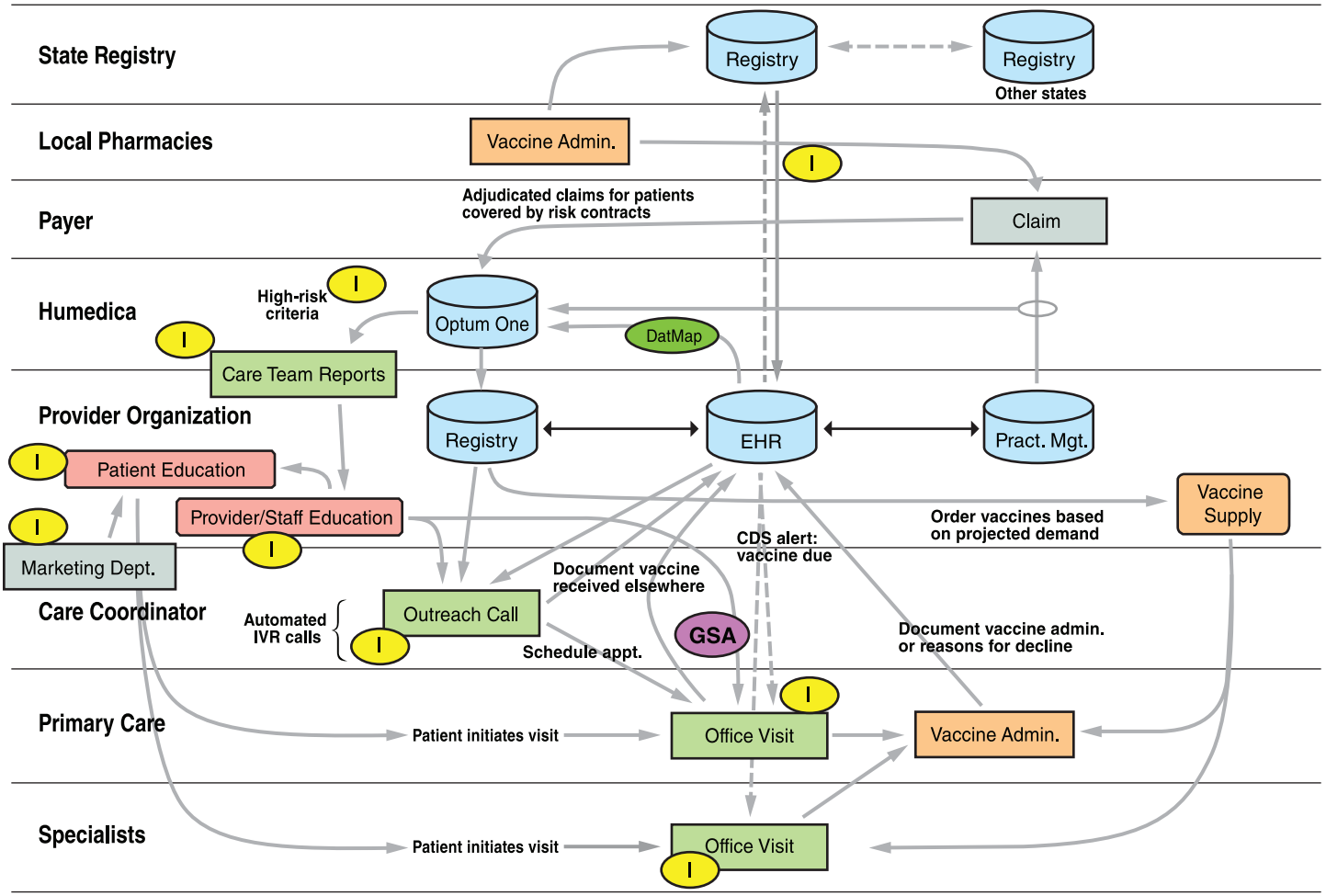
	Fully Compliant Flu and Pneumo	Flu	Pneumo-Any	Pneumo-Guidelines
Ankeny	10%	21%	30%	23%
Urbandale	8%	23%	22%	16%
FM West L	7%	18%	24%	17%
Altoona	7%	15%	23%	20%
Indianola	6%	14%	13%	10%
Waukee	5%	13%	17%	14%
IM West L	5%	17%	19%	14%
Downtown	4%	17%	23%	17%
Johnston	4%	20%	15%	12%
Center St.	1%	4%	20%	16%

<65 Not High Risk

	Flu
Urbandale	13%
Johnston	12%
Downtown	11%
Ankeny	11%
IM West L	11%
FM West L	9%
Altoona	8%
Waukee	6%
Center St.	6%
Indianola	5%

Appendix

Immunization Data/Process Flow



Vaccine Algorithms

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Age 65 Years or Older - Everyone

If PCV13 was given before age 65 years, no additional PCV13 is needed.

No history of pneumococcal vaccine		**PCV 13** Prevnar 13®	12 month interval	**PPSV 23** Pneumovax® 23
Received PPSV23 (Pneumovax® 23) before age 65	1 year interval	**PCV 13** Prevnar 13®	12 month interval (and at least 5 years after prior dose of PPSV23)	**PPSV 23** Pneumovax® 23
Received PPSV23 (Pneumovax® 23) at age 65 or older	1 year interval	**PCV 13** Prevnar 13®		

Age 19-64 Years - Underlying High-Risk Conditions

// Prior doses count towards doses recommended below and do not need to be repeated.

// If PPSV23 (Pneumovax® 23) was given previously, wait one year before giving PCV13 (Prevnar® 13) and when dose indicated, wait at least five years before giving a second dose of PPSV23 (Pneumovax® 23).

Current smoker, long-term facility resident or other chronic conditions:

// Heart disease (excluding hypertension) // Liver disease (including cirrhosis) // Alcoholism
// Lung disease (including asthma, COPD) // Diabetes

PPSV 23 Pneumovax® 23

Vaccine Algorithms

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iowaclinic.com

Pneumococcal Vaccine Timing

Age 65 Years or Older - Everyone

If PCV13 was given before age 65 years, no additional PCV13 is needed.

No history of pneumococcal vaccine		PCV 13 Prevnar 13®	12 month interval	PPSV 23 Pneumovax® 23
Received PPSV23 (Pneumovax® 23) before age 65	1 year interval	PCV 13 Prevnar 13®	12 month interval (and at least 5 years after prior dose of PPSV23)	PPSV 23 Pneumovax® 23
Received PPSV23 (Pneumovax® 23) at age 65 or older	1 year interval	PCV 13 Prevnar 13®		

Age 19-64 Years - Underlying High-Risk Conditions

- Prior doses count towards doses recommended below and do not need to be repeated.
- If PPSV23 (Pneumovax® 23) was given previously, wait one year before giving PCV13 (Prevnar® 13) and when dose indicated, wait at least five years before giving a second dose of PPSV23 (Pneumovax® 23).

Current smoker, long-term facility resident or other chronic conditions:

- Heart disease (excluding hypertension)
- Lung disease (including asthma, COPD)
- Liver disease (including cirrhosis)
- Diabetes
- Alcoholism

PPSV 23 Pneumovax® 23

Patient Education Materials

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What's the big deal with vaccines?

Vaccines don't just apply to children – adults need them too. Up to **50,000** U.S. adults die from vaccine-preventable diseases each year. Talk with your provider about your personal vaccination needs.

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