

Title of Project: Improving Adult Vaccination Practices

Principal Investigator and Team Members:

Activity Director:

Tarek Elsayy, MD, FACP, Former Chief Medical Officer, Cleveland Clinic Community Physician Partnership and the Quality Alliance, Cleveland Clinic

Faculty:

Susan Rehm, MD, Vice Chair, Department of Infectious Disease, Executive Director, Physician Health, Cleveland Clinic

William Schaffner, MD, Chairman, Department of Preventive Medicine, Vanderbilt University

Planning Committee Members:

Linda A. Vopat, RN, BSN, MSM, CPHQ, Cleveland Clinic Community Physician Partnership and the Quality Alliance

T Nadas, MBA, Former Project Manager of Cleveland Clinic Community Physician Partnership and the Quality Alliance

Steven Kawczak, PhD, Cleveland Clinic Center for Continuing Education

Molly Mooney, Cleveland Clinic Center for Continuing Education

Mindi Daiga, MBA, Formerly of Academy for Continued Healthcare Learning

Natasha Mitchner, PhD, Academy for Continued Healthcare Learning

Vanessa Senatore, BA, Academy for Continued Healthcare Learning

Organizations: Cleveland Clinic Foundation Center for Continuing Education, Cleveland Clinic Community Physician Partnership Quality Alliance (QA), The Academy for Continued Healthcare Learning

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STRUCTURED ABSTRACT

Purpose: To reduce the risk of outbreaks, serious illness, and direct medical costs by increasing vaccination rates for influenza and pneumococcal disease in high-risk and older adults in Northeast Ohio.

Scope: The primary audience was community private practice primary and subspecialty care providers within the Cleveland Clinic Community Physician Partnership Quality Alliance network.

Methods: This was a 3-stage performance improvement activity in which learners: assessed current practice and performance; participated in interventions and implemented an action plan; and learned from reassessment, focusing on continuous process and outcomes improvement. A planning committee identified four performance measures for this activity. These measures assessed the percentage of high-risk adults and those aged 65 years and older who received an influenza or pneumococcal vaccination within the study period. Data were also collected for a control group of clinicians who did not participate in the activity.

Results: A total of 273 physicians participated. Of these, 135 completed the interventions and 100 finished the activity. Significant increases in the percentage of adults receiving an influenza or pneumococcal vaccination were observed on all measures in the test group. Vaccination rates also increased on pneumococcal measures in the control group. The intervention (test group) significantly increased vaccination rates for 3 of the 4 measures as compared to the control group. The odds of receiving a vaccine were greater in the test group compared with the control group for both influenza measures and the high-risk pneumococcal vaccination group.

Key Words: PI CME, vaccination; immunization; invasive pneumococcal disease; influenza, high-risk

PURPOSE

This activity was developed in order to reduce the risk of outbreaks, serious illness, hospitalization, death, and direct medical costs by increasing vaccination rates for influenza and pneumococcal disease in high-risk and older adults in Northeast Ohio. Specific goals of this program were to:

- 1) Implement system-based tools to identify and immunize at-risk adults for influenza and pneumococcal disease
- 2) Increase vaccination rates for influenza and pneumococcal disease 10% over baseline in adults seen in the Cleveland Clinic Community Physician Community Partnership Quality Alliance employee and affiliated primary care practices in Northeast Ohio and surrounding areas
- 3) Extrapolate learnings from the regional level activity and disseminate to a wider national audience via publication of toolkit designed to improve the quality of adult vaccination practices

SCOPE

Background and Context

Vaccinations are among the most cost-effective preventive services, yet approximately 50,000 adults die annually in the United States (US) due to vaccine-preventable diseases or associated complications.¹ In fact, respiratory infections, such as pneumonia and influenza, are the eighth leading cause of death in the US.² Influenza also contributes to over 200,000 hospitalizations and 36,000 deaths annually.² Despite established goals and continued educational efforts, adult immunization rates in the US are suboptimal.

The burden of influenza and pneumococcal disease are generally higher in the elderly. For example, patients ≥ 65 years old with pneumococcal disease have more serious disease and medical costs due to hospitalization than younger adults.³ Seasonal flu vaccines typically protect against the three influenza viruses (trivalent) estimated to be most common, and are recommended for all over the age of 6 months.

The Center for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) has long recommended that all adults aged 65 years and older receive a single dose of the 23-valent pneumococcal polysaccharide vaccine (PPSV23).⁴ In 2014, ACIP changed their recommendation to include routine vaccination with a pneumococcal conjugate vaccine (PCV13) in series with PPSV23 in adults aged 65 years and older.⁴

ACIP also recommends that high-risk adults, including those with an immunocompromising or chronic condition, be vaccinated against influenza and pneumococcal disease. Data indicate that vaccine rates in these adults also fall short of established targets. For example, in the 2007-2011 U.S. National Health and Wellness Survey (NHWS), only 54% of those classified as high-risk reported receiving the influenza vaccination, which is well below the *Healthy People 2020* goal to achieve seasonal influenza vaccination rates of 90% in high-risk adults aged 18-65 years.⁵ Further, vaccination rates varied across risk groups; the highest rates were reported in patients with renal/kidney disease (70%) and immunocompromising

conditions (56%).⁵ Rates for pneumococcal vaccination in high-risk adults in the NHWS were even lower, with only 31% of adults classified as high-risk having received the vaccination.⁵

This activity was designed to improve adult immunization rates in Northeast Ohio since data from the Behavioral Risk Factor Surveillance System indicate that rates in the state also fall below established targets.

Setting

The primary audience for this PI activity included community private practice primary and subspecialty care providers within the Cleveland Clinic Community Physician Partnership Quality Alliance (QA) network. This network, the nation's third largest physician network, includes: 1) physicians employed by Cleveland Clinic (CCF), 2) Buffalo Medical Group (BMG) (a physician group in New York), and 3) independent physicians in Northeast Ohio. This network provides a framework for physicians to collaborate in the provision of improved healthcare quality. Their Chief Medical Officer (Elsawy) at the time of the activity served as the Chair for this PI CME activity.

Participants

Almost 300 physicians from the QA were invited to participate in this PI CME activity. Personal invitations via email and at two live Medicines Institute staff meetings came from Dr. Elsayy. Ultimately 273 physicians participated, of those, 135 (BMG n=8, CCF n=113, Independent n=14) moved through Stage B and 100 (BMG n=4, CCF n=87, Independent n=9) moved through Stage C, completing the entire activity. The QA managed participant recruitment and communications throughout the activity for ongoing engagement.

Activity Planners

The QA physician network served as the primary audience for this PI activity. The QA staff managed participant recruitment, ongoing participant communications and engagement, and the coordination of the data extraction. The Quality Alliance Planning Committee members reviewed performance and determined appropriate system-based interventions for learners.

As an educational collaborator and logistics partner, ACHL led the instructional design, faculty management, coordination of all interventions and education, and development of the activity portal.

As the accredited provider, Cleveland Clinic Foundation Center for Continuing Education managed the ACCME criteria for CME, provided general oversight and strategy for this initiative, and led ongoing strategy calls among the partners.

Incidence

Data from the 2011 BRFSS indicate that only 61% of older Ohioans received the influenza vaccination during the previous year.⁶ In 2013, this rate increased to 63%.⁶

In 2011, 70% of Ohioans aged 65 years and older reported ever having received the pneumococcal vaccination.⁶ In 2013, the rate was 71.2%.⁶

Prevalence

In an analysis of data from the Cleveland Clinic Community Physician Partnership Quality Alliance in 2012, the setting for this PI activity, 59% of adults aged 65 years and older had received the PPSV23 vaccine.

METHODS

Study Design

The well-established PI model employed in this activity consisted of 3 Stages:^{7,8} A) assessing current practice and performance; B) intervention and action plan implementation; and C) learning from reassessment, with a focus on continuous process and outcomes improvement. Each learner reviewed a minimum of 25 patient charts.

The timing of the activity was designed considerate of the influenza season. The initial baseline performance data reviewed during Stage A were from the 2013-14 season; participants began reviewing these data in October 2014. The Stage B interventions were shared with participants to coincide with the fall and winter months. Interventions and action plans were implemented October 2014-March 2015. Performance, based on data from the 2014-15 season, was re-measured in July 2015 during Stage C.

Measures

The planning committee identified four performance measures to be used as the basis for this activity:

- Percentage of patients aged 65 and older who have documentation of receiving seasonal influenza annually: NQF 0039, Flu Shots for Adults Ages 50 and Over
- Percentage of high-risk patients aged 18-64 with documentation of receiving seasonal influenza annually: *Healthy People 2020* goal IID-12.6
- Percentage of patients aged 65 or older with documentation of ever receiving the pneumococcal vaccine: National Quality Foundation (NQF) 0043, Pneumococcal Vaccination Status for Older Adults
- Percentage of high-risk patients aged 18-64 with documentation of receiving pneumococcal immunization: NQF 0617, High Risk for Pneumococcal Disease - Pneumococcal Vaccination

The planning committee collaborated with Dr. Elsayy to align the identified performance measures with data compiled in the EMR systems. This was a critical step in selecting the measures for this activity,

identifying inclusion/exclusion criteria for the measures, and mapping out data to be extracted from their EMR systems.

Patient records were included if there was documentation of an office visit within previous two years. Patients with a contraindication to influenza or pneumococcal vaccination were excluded from the data collection. If a patient received vaccination by other healthcare professionals outside of the QA/network, and their record included documentation, it was counted in the measures as having documentation of vaccine.

Since the QA's electronic medical record systems did not exactly align to all ACIP recommended high-risk groups, identifiable diagnoses served as a proxy for identifying high-risk status as follows:

- Diagnosis of coronary heart disease (congestive heart failure, cardiomyopathy, myocardial infarction, angina, arrhythmia)
- Diagnosis of chronic lung disease (chronic obstructive pulmonary disease, chronic bronchitis, emphysema, or asthma)
- Diagnosis of diabetes mellitus (excluded if steroid-induced or gestational diabetes)
- Diagnosis of liver disease (chronic liver disease, cirrhosis, hepatitis B, or hepatitis C)
- Diagnosis of human immunodeficiency virus infection
- Diagnosis of renal disease (chronic kidney disease or moderate-to-severe renal disease)

Stage A: Data Collection and Assessment

The 273 participants were provided direct access to a customized web-based portal developed by ACHL, allowing participants to confirm their profile information, view their performance (baseline Stage A data and post-intervention), as well as view aggregated performance of other participants, respond to reflection questions, view webinars, access guidelines and resources, complete an activity evaluation, and receive certificates.

Because all participants were part of a closed system, participant profile information and patient data were extracted directly from the QA's electronic medical record (EMR) systems, and imported into the activity portal. The QA underwent an EMR shift during the life cycle of this activity allowing for one comprehensive, combined data aggregation of EMRs.

Upon logging into the web-based activity the first time, participants' already-completed profiles were shared with them, and their performance was summarized in a dashboard (Figure 1) for their review and reflection. Participants were prompted to set their performance goal for at least 2 measures before moving on to respond to a series of reflection questions. Once participants shared insights including their current practices and barriers they were directed to Stage B.

Figure 1. Participant Dashboard of Performance

Performance Measure	National Target*	Your Stage A Baseline Performance	Peer Stage A Baseline Performance	Performance Goal	Final measurement in Stage C	Baseline measurement in Stage C For Peers
Adults ages 65 or older in the measurement year: evidence of pneumococcal vaccine ever received.	90%	93%	77%	<u>95%</u>	93%	76%
Percentage of high-risk patients aged 18-64 who have documentation of receiving pneumococcal immunization.	60%	51%	36%	<u>60%</u>	59%	40%
Percentage of patients aged 65 and older who have documentation of receiving seasonal influenza annually.	70%	66%	50%	<u>70%</u>	74%	52%
Percentage of high-risk patients aged 18-64 who have documentation of receiving seasonal influenza annually.	70%	44%	37%	<u>54%</u>	58%	38%

*Participant provided performance goal and Peer Stage A Baseline Performance in chart above includes all registered participants, regardless of stage B/C completion.

Data collected for performance measure calculation

1. Record number (1 of 20, 2 of 20, etc): _____
2. Date of Birth: _____
3. Gender: Male Female
4. Ethnicity: African American Asian Caucasian Latino/Hispanic Other
5. * Is the patient 65 years of age or older? (calculate from question 2)
 Yes No
6. * Does the patient's chart/record document the pneumococcal vaccination was given?
 Yes No [If No, skip to question 9]
7. If yes, what type of pneumococcal vaccine was administered?
 PPSV23
 PCV13/Prevnar
 Don't know
8. Date of pneumococcal vaccine administered?
9. * Does the patient's chart/record document the influenza vaccination was given?
 Yes No [If No, skip to question 12]
10. If yes, what type of influenza vaccine was administered?
 Live
 Attenuated
 Don't know
11. Date of **most recent** influenza vaccine administered?
12. Diagnosis of coronary heart disease
 Yes No
(identify if: congestive heart failure, cardiomyopathy, myocardial infarction, angina, arrhythmia)
13. Diagnosis of chronic lung disease
 Yes No
(identify if: chronic obstructive pulmonary disease, chronic bronchitis, emphysema, or asthma)
14. Diagnosis of diabetes mellitus
 Yes No

(Exclusions: Steroid induced diabetes; Gestational diabetes)

15. Diagnosis of liver disease

Yes No

(identify if: chronic liver disease, cirrhosis, hepatitis B, or hepatitis C)

16. Diagnosis of human immunodeficiency virus infection

Yes No

17. Diagnosis of renal disease

Yes No

(identify if: chronic kidney disease or moderate-to-severe renal disease)

18. *Is the patient high risk? (YES if question 12, 13, 14, 15, 16 or 17 were answered Yes)

Yes No

Exclusions: Contraindications

Stage B: Interventions

During Stage B several educational interventions were developed for this activity, including 3 30-minute webcasts:

- Preventing Pneumococcal Disease in Your High-Risk and Older Patients by Susan J. Rehm, MD, FACP, FIDSA; Department of Infectious Disease at the Cleveland Clinic
- Influenza Prevention: The 2014-2015 Season and Beyond by William Schaffner, MD; Professor, Preventive Medicine; Department of Health Policy; Professor, Division of Infectious Diseases; Vanderbilt University School of Medicine
- Developing an Action Plan for Your Practice by Drs. Rehm and Schaffner

Resources such as CDC vaccination schedules, the ACIP and CDC recommendations, surveillance data from the Ohio Department of Health, and patient education materials were also provided on the portal. The QA sent regular e-mail reminders about the activity to participants, including updated resources posted to the portal. These communications also included notifications of updated ACIP recommendations and news related to vaccinations (see appendix).

As a final step in Stage B, participants identified an action plan (Figure 2) for improvement on specific measures, and later indicated if they followed through with each self-identified action.

Figure 2. Action Plan Development

Stage B: Implement interventions based on your performance in Stage A.

In Stage B, you will have access to educational interventions developed specifically to supplement this PI activity, additional resources from the public domain or within your health system, and the ability to develop a personal Action Plan. You must view 2 of the educational webcasts listed below and identify at least 1 change under the Action Plan section before being able to receive credit for this Stage and proceed with the activity.

Educational Webcasts | **Resources** | **Develop Action Plan** | **Get Certificate**

You have completed this stage on February 28, 2015. Click on Get Certificate tab to download, print or view your certificate.

Actions for Performance Improvement

Reflecting on your performance goals, please identify at least 1 change related to your desired performance goals. Please document each component in the action plan by clicking the 'Add Change' button. An example is provided.

In a few months, the QA will provide you with a mid-program performance check-in to review and assess the progress of your improvement and identify additional interventions or changes to help meet your goals.

Related Performance Measure	Change To Be Made	Potential Barriers	Team Members Involved	Resources Needed	Timeline/ Benchmarks
<i>Pneumococcal vaccination in adults aged 65 years and older</i>	<ul style="list-style-type: none"> • Improve education of older patients and families about importance of pneumococcal vaccine 	<ul style="list-style-type: none"> • Time constraints • Vaccine hesitancy • Language barriers 	Staff providing education will include: <ul style="list-style-type: none"> • Person 1 • Person 2 	<ul style="list-style-type: none"> • Identify educational tools • Determine how to disseminate tools • Educational brochures/posters • Photocopying 	<ul style="list-style-type: none"> • Reassess at six months

Stage C: Data Collection and Reassessment

After 6 months of the intervention and apply period, patient data were extracted directly from the QA's EMR system, and imported into the activity portal. In July 2015, participants were directed to the portal to view their post-intervention performance, respond to another series of reflection questions, and complete an activity evaluation. Reflection questions requested that participants share insights into their practice, including their barriers and changes implemented.

For comparison, data were also collected for a control group, which was comprised of QA clinicians who opted out of participating in this activity.

Participants were eligible to receive up to 20 AMA PRA credits for completion of the activity. As an added value and incentive to learners, they were also eligible to receive MOC Part IV credit; it was approved through the Cleveland Clinic's Portfolio program as fulfilling program requirements for ABFM and ABIM MOC Part IV credit. The 100 Stage C completers were submitted to the Cleveland Clinic Portfolio program for MOC Part IV credit.

Statistical Analysis

A propensity score 1:1 matched Test:Control cohort was generated to adjust potential differences in test and control subjects due to age, gender, and risk group adherence. In the 1:1 matched cohort, stage differences in vaccination rates were generated separately for test and control and were tested with a Chi-square test.

A logistic regression model was performed and the odds ratio and 95% confidence interval (CI) of the odds ratio are provided within stage (Table 2). An odds ratio greater than 1 indicates greater odds of vaccination for the test group versus control group. The odds ratios were compared between stages in the matched pair cohort and tested for statistical significance utilizing the Breslow-Day test for homogeneity of the odds ratio.

For all summaries and statistical analyses, results are presented separately within the 4 subgroups identified by vaccine type and age risk categories.

Limitations

Participants who elected to focus on vaccination rates in their practice through this activity may have been highly motivated, resulting in selection bias. For example, Stage A vaccination rates in the test group were higher than rates in the control group for all 4 measures, suggesting higher performance at initiation of the activity in the participant group.

RESULTS

Stage A Reflection

A large number of participants reported using clinical practice guidelines to support their decision making at the initiation of this activity. The vast majority (over 90%) reported having an SOP in place for their team to query patients about vaccination status, but 20% said the procedure was seldom or never followed and only 11% said it was always followed. Further:

- 66% reported not having a system to provide educational materials to patients who refuse vaccinations
- 26% reported not sharing print resources (patient education) and relied on counseling alone

Prior to participating in this CME PI activity, the top reported barriers between baseline and desired performance included:

- Not properly documenting vaccinations received outside of the clinic (e.g., office, retail pharmacy, etc.) or poor patient recall on whether they had received a vaccination outside of the clinic
- Time and staffing constraints: time devoted to treating primary patient issue at time of visit; not enough time to discuss vaccinations
- Patient barriers: cultural bias, low acumen/education levels, patient refusal
- Poor processes: failure to identify high risk patients and inconsistent practices in recommending vaccinations

The most frequently reported self-identified improvement opportunities during Stage A were improved SOPs and system-based changes, followed by staff education.

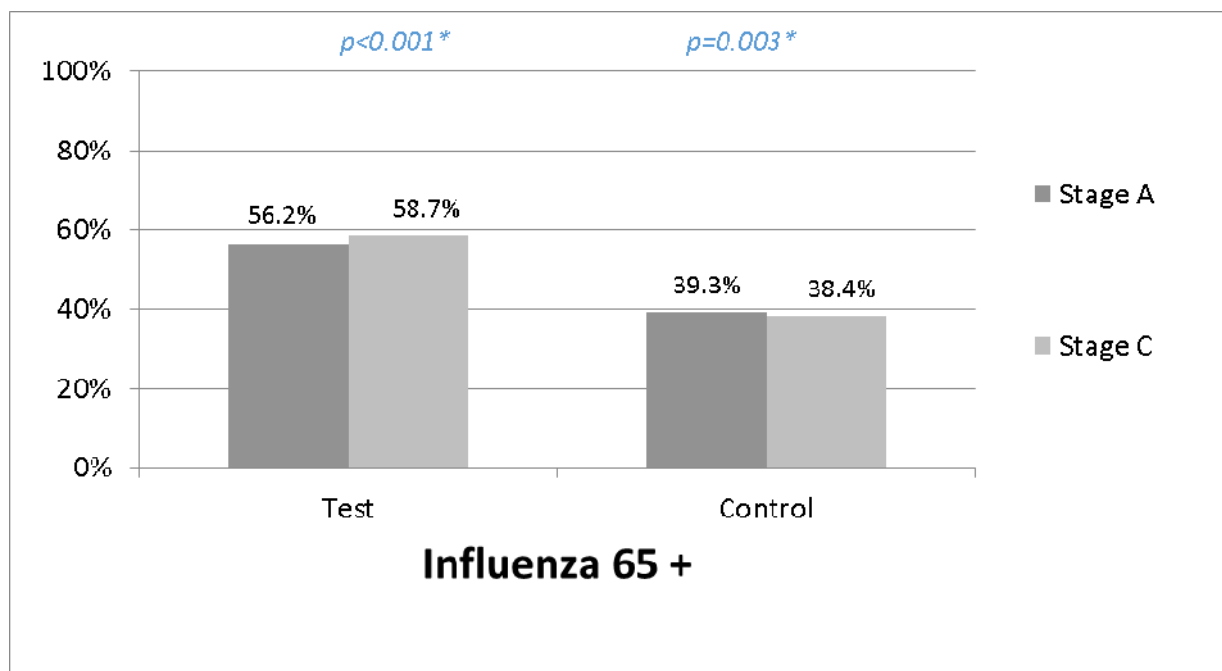
Principle Findings and Outcomes

273 physicians participated, of those, 135 moved through Stage B and 100 moved through Stage C and ultimately completed the activity. The number of patient records analyzed are reflected in Table 1.

Table 1: Number of patient records analyzed

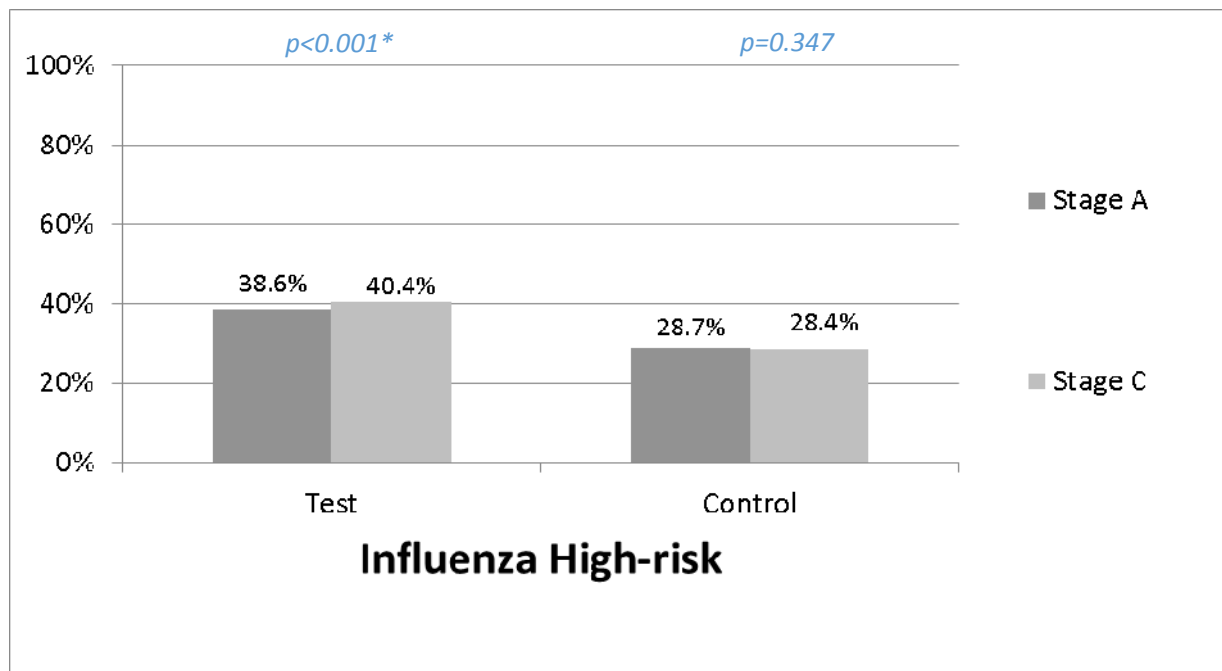
Measure	Total Stage A	Total Stage C
Influenza: patients aged 65 and older	98,064	104,906
Influenza: high-risk patients aged 18-64	73,028	75,890
Pneumococcal: patients aged 65 and older	98,084	104,758
Pneumococcal: high-risk patients aged 18-64	73,130	75,974

Figure 3. Measure: Percentage of patients aged 65 and older who have documentation of receiving seasonal influenza annually.



*statistically significant by Chi-square test (p<0.05)

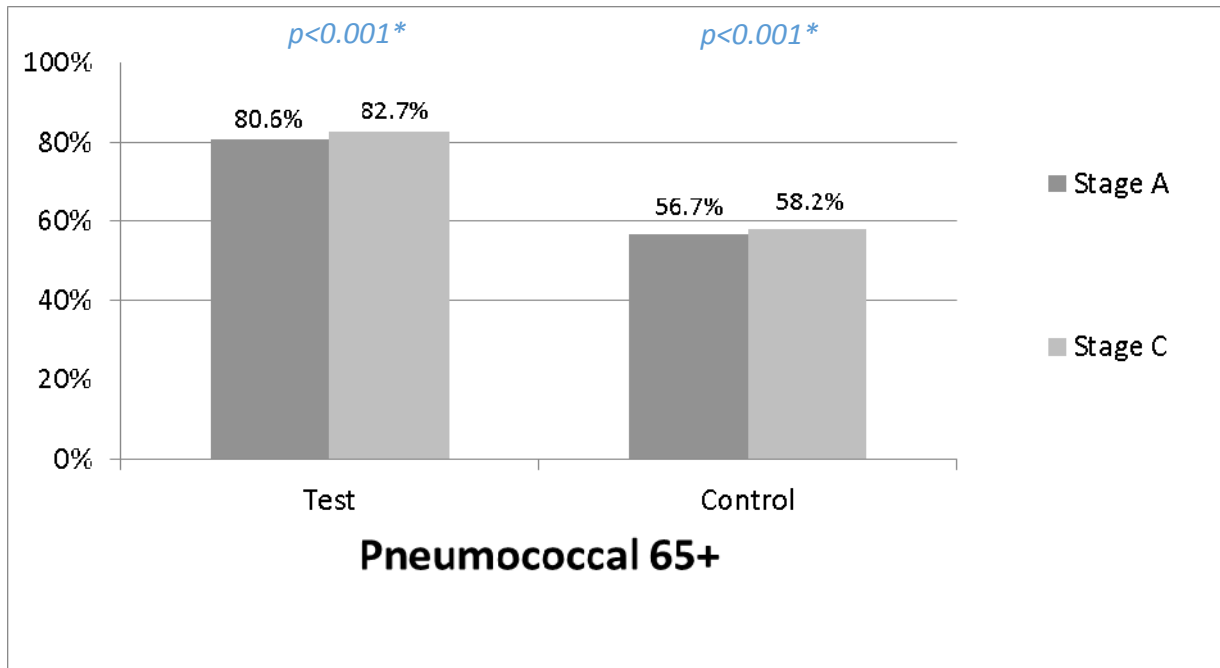
Figure 4. Measure: Percentage of high-risk patients aged 18-64 with documentation of receiving seasonal influenza annually.



*statistically significant by Chi-square test ($p < 0.05$)

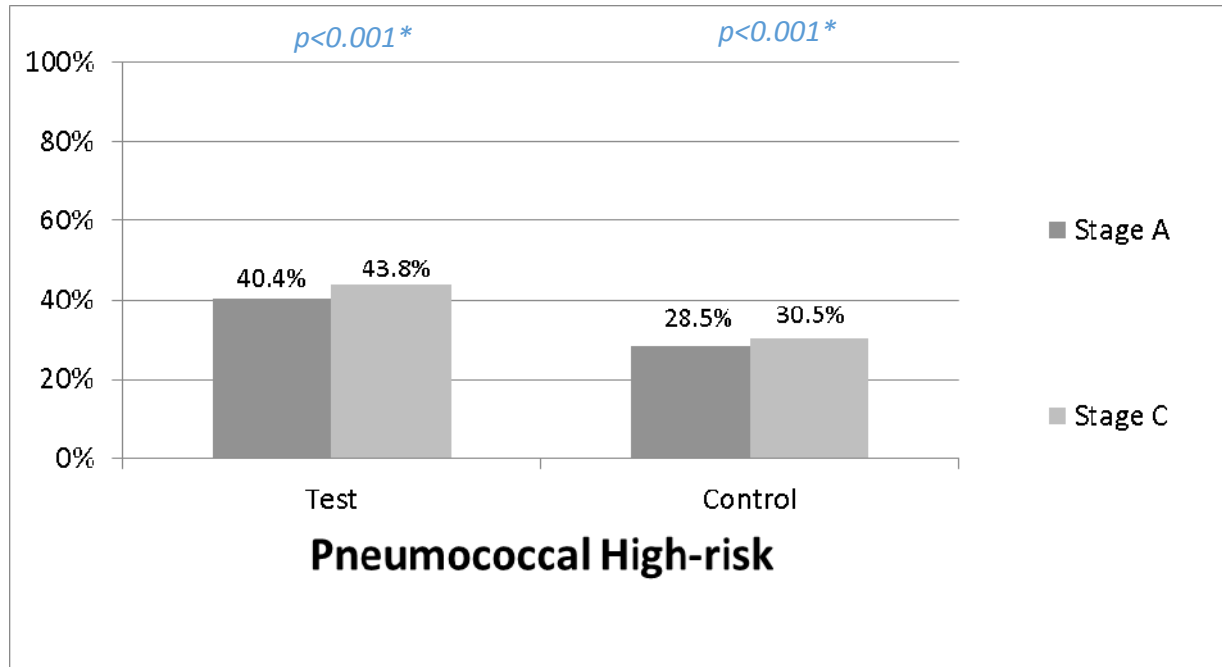
The percentage of high-risk patients who had received an influenza vaccine at Stage A was highest in patients with human immunodeficiency virus (56% at Stage A) and renal disease (55% at Stage A); comparable vaccination rates in these groups were also observed in Stage C. Rates were lowest in patients with chronic lung disease (39% at Stage A), with an increase observed in Stage C (41%).

Figure 5. Measure: Percentage of patients aged 65 or older with documentation of ever receiving the pneumococcal vaccine.



*statistically significant by Chi-square test ($p < 0.05$)

Figure 6. Measure: Percentage of high-risk patients aged 18-64 with documentation of receiving pneumococcal immunization.



*statistically significant by Chi-square test ($p < 0.05$)

The percentage of high-risk patients who were vaccinated against pneumococcal disease at Stage A and C was highest in patients with human immunodeficiency virus (66% at Stage A and 71% at Stage C) and diabetes mellitus (66% at Stage A and 68% at Stage C). Rates were lowest in patients with coronary heart disease (35% at Stage A) with an increase in rates of vaccination at Stage C (38%).

Table 2. Impact of the intervention on the vaccination rates for test and control subjects

Vaccine	Population	Stage A Odds Ratio (95% CI)	Stage C Odds Ratio (95% CI)	p Value
Influenza	>65 years	1.98 (1.93-2.03)	2.27 (2.22-2.33)	<0.0001*
	High-risk	1.56 (1.51-1.61)	1.70 (1.65-1.76)	<0.0001*
Pneumonia	>65 years	3.16 (3.07-3.25)	3.43 (3.34-3.53)	NS
	High-risk	1.70 (1.65-1.75)	1.77 (1.72-1.83)	<0.0001*

*statistically significant by Breslow-Day test for homogeneity of the odds ratio ($p < 0.05$); CI=confidence interval; NS=not significant

Stage C Reflection

At the end of the activity, 83% of participants noted that they had interpreted their performance data to assess the impact of the educational interventions. Further, 88% said that they had worked with team members to implement interventions and 72% reported having made appropriate course corrections in their improvement efforts.

Participants stated that the improvements to their patient care as a result of completing this PI CME activity were: improved vaccination rates and reduced disease burden, system-based improvements including fewer hospital admissions, better data collection efforts, better work flow, and heightened clinical awareness. The top barriers encountered during participation in the activity were patient factors and system-based/lack of staffing resources.

In terms of learnings/takeaways from participating in this PI, top responses were: recognizing the benefits of a team approach with good communication practices, the value of a sound process and documentation strategy, the importance of ongoing reinforcement and monitoring of introduced practices, and the critical role of patient education.

Discussion and Conclusions

Statistically significant increases in the percentage of adults receiving an influenza or pneumococcal vaccination were observed on all measures in the test group. Vaccination rates also significantly increased on both pneumococcal measures in the control group, potentially due to changes in the pneumococcal vaccination recommendations released by ACIP at the initiation of this activity. The Stage B intervention (test group) significantly increased vaccination rates for 3 of the 4 measures as compared to the control group. The odds of receiving a vaccine were greater in the test group compared with the control group for both influenza measures and the high-risk pneumococcal vaccination group. Positive gains in vaccination rates were observed; yet, these did not achieve the 10% arbitrary goal set at the beginning of the project.

In August 2014, immediately prior to the Stage A data extraction for this activity, ACIP changed their recommendation for pneumococcal vaccinations to include routine vaccination with PCV13 in series with PPSV23 in adults aged 65 years and older. This may account for the high rate of pneumococcal vaccinations in adults aged 65 years and older observed in Stage A (80.4%) compared with the QA's 2012 determination that 59% of adults aged 65 years and older had received the PPSV23 vaccine. When the full recommendation with guidance on the sequential administration and recommended intervals for both vaccinations was published in the September 19 issue of *MMWR*, participants were alerted via the activity portal and the Stage B webcasts were updated.⁴ Nonetheless, participant comments suggest that this change in recommendations resulted in confusion which may have impacted the results of this activity and lack of an effect observed on pneumococcal vaccination rates in adults aged 65 years and older.

Initial characterization of the influenza viruses collected at the start of the 2014-2015 season revealed that approximately one-half of the influenza A (H3N2) viruses were antigenically different (drifted) from the H3N2 virus included in the 2014-2015 seasonal vaccine.⁹ This potential for reduced effectiveness of the 2014-2015 vaccine was widely reported in the media despite advisories from the CDC urging vaccination.(CDC 2014) Such reports may have attenuated the number of adults seeking influenza

vaccination during the 2014-2015 season. It is not possible to determine how other concurrent national and state vaccine initiatives may have influenced the results.

The closed system environment allowed for high volume data extraction from the EMR systems which facilitated physician access to data and improved participation. However, data collection was limited to information fields already captured in the EMR systems. As discussed previously, not all of the high-risk factors outlined by ACIP were captured in the system (ie, cochlear implants, asplenia). Further, specification of vaccination type administered (ie, PCV13 vs. PPSV23) and documentation of vaccinations in nontraditional settings (ie, a pharmacy) were not required fields in the EMR system, precluding full analysis of these influencers.

Significance and Implications

Prior to participating in this initiative, the QA was only tracking vaccination with PPSV23. Involvement in the activity prompted the QA to update their EMR health maintenance tab in Q4 of 2014 to begin tracking PCV13 administration. Based on participant comments, continued education on the updated ACIP recommendations for the administration and timing of PCV13 and PPSV23 in older adults may be warranted. Patient factors and lack of awareness also continue to prevent achievement of vaccination targets. Given the variances in vaccination rates observed in high-risk patients, specialty-specific education should be considered to review vaccination guidelines for these patients.

LIST OF PUBLICATIONS AND PRODUCTS

These outcomes data, findings and recommendations will be disseminated by the QA to its constituents and partner organizations. A toolkit has been developed and submitted to Agency for Healthcare and Research Quality (AHRQ) for posting, currently it can be found:

www.achlpicme.org/adultvaccines/Toolkit.aspx. This toolkit was developed to share strategies and tools with others to implement a similar project within their practice. Finally, a manuscript will be submitted to *Open Forum Infectious Diseases* for consideration of publication, to share learnings and outcomes based on our findings.

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Appendix

Portal Screen Shots



- Stage A: Assess
- Performance Data Dashboard
- Reflection
- Get Certificate
- Stage B: Apply**
- Educational Webcasts
- Resources
- Develop Action Plan
- Get Certificate
- Stage C: Re-Assess
- Performance Data Dashboard**
- Action Plan



Performance Data Dashboard

Stage C: Compare your performance in Stage C to your performance in Stage A. Measurement is based on information extracted from your EMR.

Review and reflect on your current performance related to your influenza and pneumococcal vaccination rates. Click on "Add Goal" to indicate your desired performance level. Please add at least 2 performance goals to move to the next Stage of the activity.

If the dashboard shows 0% for any measures, performance data was not available. Please use the "Peer Stage A Baseline Performance" percentage as your baseline comparison throughout the activity for these measures.

Performance Measure	National Target*	Your Stage A Baseline Performance	Peer Stage A Baseline Performance	Performance Goal	Final measurement in Stage C	Baseline measurement in Stage C For Peers
Adults ages 65 or older in the measurement year: evidence of pneumococcal vaccine ever received.	90%	94%	77%	95%	93%	76%
Percentage of high-risk patients aged 18-64 who have documentation of receiving pneumococcal immunization.	60%	42%	36%	70%	43%	40%
Percentage of patients aged 65 and older who have documentation of receiving seasonal influenza annually.	70%	66%	50%	50%	77%	52%
Percentage of high-risk patients aged 18-64 who have documentation of receiving seasonal influenza annually.	70%	54%	37%	40%	66%	37%

- Get Certificate
- Stage B: Apply
- Educational Webcasts**
- Resources
- Develop Action Plan
- Get Certificate
- Stage C: Re-Assess
- Performance Data Dashboard
- Action Plan
- Reflection
- Evaluation
- Get Certificate

In Stage B, you will have access to educational interventions developed specifically to supplement this PI activity, additional resources from the public domain or within your health system, and the ability to develop a personal Action Plan. You must view 2 of the educational webcasts listed below and identify at least 1 change under the Action Plan section before being able to receive credit for this Stage and proceed with the activity.

- Educational Webcasts
- Resources**
- Develop Action Plan
- Get Certificate

Resources: [Ask the Expert](#) [Discussion Board](#)

Ask the Expert/Discussion Board
 At any time you are able to ask the faculty a question via the **Ask the Expert** button found on this screen and found within the webcast screen. Questions will be submitted to the faculty for response directly. Additionally, appropriate questions and responses will be posted to the Discussion Board as an added resource for all learners within this Stage.

General Resources

- Ohio Department of Health Influenza Surveillance [Show](#)
- Ohio Department of Health, Vaccine Information, Patient Education [Show](#)
- National Foundation for Infectious Diseases [Show](#)
- Immunization Action Coalition [Show](#)
- QA Communication Center [Show](#)
- Dr. Rehm Pneumococcal Webcast Slides [Show](#)
- Dr. Schaffner Influenza Webcast Slides [Show](#)

- Stage A: Assess
- Performance Data Dashboard
- Reflection
- Get Certificate
- Stage B: Apply
- Educational Webcasts
- Resources
- Develop Action Plan
- Get Certificate
- Stage C: Re-Assess
- Performance Data Dashboard**
- Action Plan
- Reflection

- Stage A: Assess
- Stage B: Apply**
- Stage C: Re-Assess

Performance Data Dashboard

Stage C: Compare your performance in Stage C to your performance in Stage A. Measurement is based on information extracted from your EMR.

Review and reflect on your current performance related to your influenza and pneumococcal vaccination rates. Click on "Add Goal" to indicate your desired performance level. Please add at least 2 performance goals to move to the next Stage of the activity.

If the dashboard shows 0% for any measures, performance data was not available. Please use the "Peer Stage A Baseline Performance" percentage as your baseline comparison throughout the activity for these measures.

Performance Measure	National Target*	Your Stage A Baseline Performance	Peer Stage A Baseline Performance	Performance Goal	Final measurement in Stage C	Baseline measurement in Stage C For Peers
Adults ages 65 or older in the measurement year: evidence of pneumococcal vaccine ever received.	90%	94%	77%	95%	93%	76%
Percentage of high-risk patients aged 18-64 who have documentation of receiving pneumococcal immunization.	60%	42%	36%	70%	43%	40%
Percentage of patients aged 65 and older who have documentation of receiving seasonal influenza annually.	70%	68%	50%	50%	77%	52%
Percentage of high-risk patients aged 18-64 who have documentation of receiving seasonal influenza annually.	70%	54%	37%	40%	66%	37%

* Healthy People 2020

Invention communications



November 5, 2014

Dear Colleagues:

We have begun our project around *Improving Adult Vaccination Practices*. You are receiving this email as we were recently informed the welcome email sent with login and portal access information may have not been received by all clinicians who are participating. Thank you once again for participating in the Quality Alliance and Cleveland Clinic Foundation's *Improving Adult Vaccination Practices* PI initiative. This educational activity is designed to be an assessment and improvement process to provide you and other clinicians within the Quality Alliance network with education and tools to increase pneumococcal and influenza vaccination rates.

Below is your login ID and password to access the online management portal which will be used throughout this activity. Please log-in now to review your current vaccination performance rates and identify next steps.

The portal is available 24/7 via this link:

<http://www.achlpicme.org/adultvaccines/default.aspx?username=LTC>

Login ID: your email address (i.e. name@domain.com)

Password: adultvaccines

After logging in the first time, you can change your password in the "Update Profile" section.

As a reminder this activity has been approved for 20 *AMA PRA Category 1 Credits™* and fulfills program requirements for ABIM and ABFM Maintenance of Certification Part IV credit through the Cleveland Clinics Portfolio program.

If you have any questions throughout this project, please email nadast@ccf.org, or call 216-312-5499.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tarek Elsayy', written in a cursive style.

Tarek Elsayy, MD, FACP
Chief Medical Officer, CPP & Quality Alliance

11/17/14

Subject line: Improving Adult Vaccination Practices—MOC Requirements and Common Side Effects of the Flu Vaccine

Dear Colleague:

We continue to appreciate your participation in the Improving Adult Vaccination Practices PI project. To fulfill program requirements for ABIM and ABFM **Maintenance of Certification Part IV** credit through the Cleveland Clinics Portfolio program a mid-program chart pull will take place at the **end of 2014**, we encourage you to get started with Stage A and Stage B before the end of the year.

By now you should have:

- Received your welcome email with log-in details
- Logged-into the portal to review and reflect on your performance
- Begun reviewing resources and interventions apart of Stage B

Take a moment to read up on the latest released in the US Pharmacist Weekly News Update about common side effects of the flu vaccine:

http://www.uspharmacist.com/weekly_news_update/nl/50987

As a reminder you will find many helpful resources under Stage B on the PI portal

<http://www.achpicme.org/adultvaccines/default.aspx?username=LTC>

We thank you for your time during this project and appreciate your participation!

Sincerely,

The Quality Alliance

Please contact T Nadas, Project Manager, at the Quality Alliance with any questions related to this activity at nadast@ccf.org or call 216-445-5564.

11/24/14

Subject line: Improving Adult Vaccination Practices—MOC Requirements and 2014-2015 ACIP Influenza Immunization Recommendations

Dear Colleague:

We continue to appreciate your participation in the Improving Adult Vaccination Practices PI project. Get started with Stage A and Stage B before the end of the year! In order to fulfill program requirements for ABIM and ABFM **Maintenance of Certification Part IV** credit through the Cleveland Clinics Portfolio program a mid-program chart pull will take place at the **end of 2014** to see how your performance has been tracking.

By now you should have:

- Received your welcome email with log-in details
- Logged-into the portal to review and reflect on your performance
- Begun reviewing resources and interventions apart of Stage B

Check out the latest ACIP Influenza Immunization Practice recommendations for the 2014-2015 flu season <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6332a3.htm>

As a reminder you will find many helpful resources under Stage B on the PI portal <http://www.achlpicme.org/adultvaccines/default.aspx?username=LTC>

We thank you for your time during this project and appreciate your participation!

Sincerely,

The Quality Alliance

Please contact T Nadas, Project Manager, at the Quality Alliance with any questions related to this activity at nadast@ccf.org or call 216-445-5564.

2/24/15

From: [Nadas, T](#)
To: [Elsawy, Tarek](#)
Subject: RE: On Behalf of Tarek Elsawy re: Improving Adult Immunization
Date: Tuesday, February 24, 2015 1:59:54 PM
Attachments: [imaoe001.png](#)

Colleague,

As a reminder you have not finished entering in an action plan for the Adult Immunization performance improvement project.

We would ask that you please complete through Stage B **by the end of the month otherwise you will not be able to qualify for the MOC IV credit.**

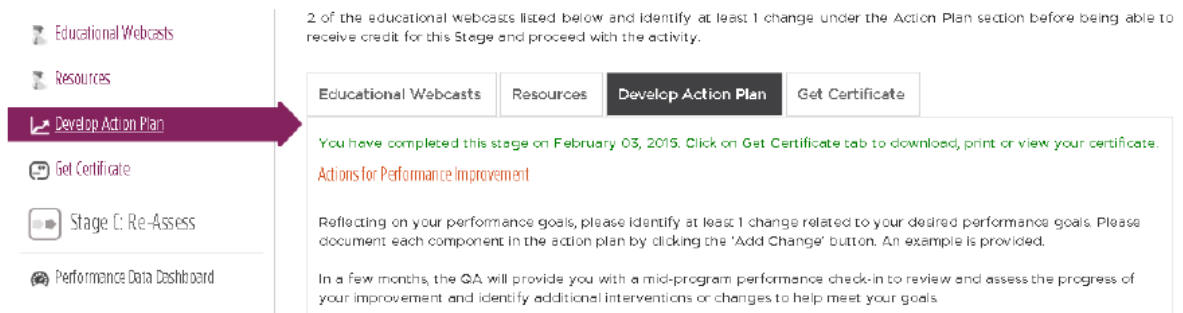
See screen shot below as a guide for where to go to submit action plan.

Please take a few minutes to login and continue this activity at the following [link](#).

Feel free to reach out to T Nadas, the project manager supporting this activity at nadast@ccf.org with any questions.

Thanks!

Tarek Elsawy



2 of the educational webcasts listed below and identify at least 1 change under the Action Plan section before being able to receive credit for this Stage and proceed with the activity.

Educational Webcasts	Resources	Develop Action Plan	Get Certificate
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You have completed this stage on February 03, 2015. Click on Get Certificate tab to download, print or view your certificate.

Actions for Performance Improvement

Reflecting on your performance goals, please identify at least 1 change related to your desired performance goals. Please document each component in the action plan by clicking the 'Add Change' button. An example is provided.

In a few months, the QA will provide you with a mid-program performance check-in to review and assess the progress of your improvement and identify additional interventions or changes to help meet your goals.

5/6/15

From: Nadas, T
Sent: Wednesday, May 06, 2015 12:27 PM
Cc: Elsayy, Tarek
Subject: On Behalf of Tarek Elsayy: Improving Adult Vaccination Practices—Final Data Review

Dear Colleague,

We appreciate your ongoing participation in the Improving Adult Vaccination Practices PI project. The final stage of this program is quickly approaching!

Now your final chance to log into the portal and finalize your action plan based on your mid program performance, please do so by Monday, May 11th. Final data will be gathered May 15, 2015.

The portal will be closed from **(May 12, 2015 to June 8, 2015)** in order to update your final performance data. Once this is completed, you will receive an email prompting you to log in one final time to complete the program. Expect this email to come in early June.

At that time you will be asked to:

- Log into the portal to review and reflect on your Stage A and Stage C performance
- Complete the evaluation and gather your final credit certificates. You will be awarded 10 AMA PRA credits for this final step!

We thank you for your time during this project and appreciate your participation! Highlights of how performance has improved, and ultimately impacted our patients, will be shared as it becomes available as well!

Sincerely,

Tarek Elsayy