

# Improving Adult Vaccination Practices

## Final Outcomes

**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.

### Conclusions:

▪ Statistically significant increases in the percentage of adults receiving an influenza or pneumococcal vaccination were observed on all measures in the test group.

Increase in Vaccination Rates from Stage A to Stage C—Intervention (Test) Group	
Influenza Over 65	4.4%
Influenza High Risk	4.6%
Pneumococcal Over 65	2.6%
Pneumococcal High Risk	8.4%

▪ Vaccination rates 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.

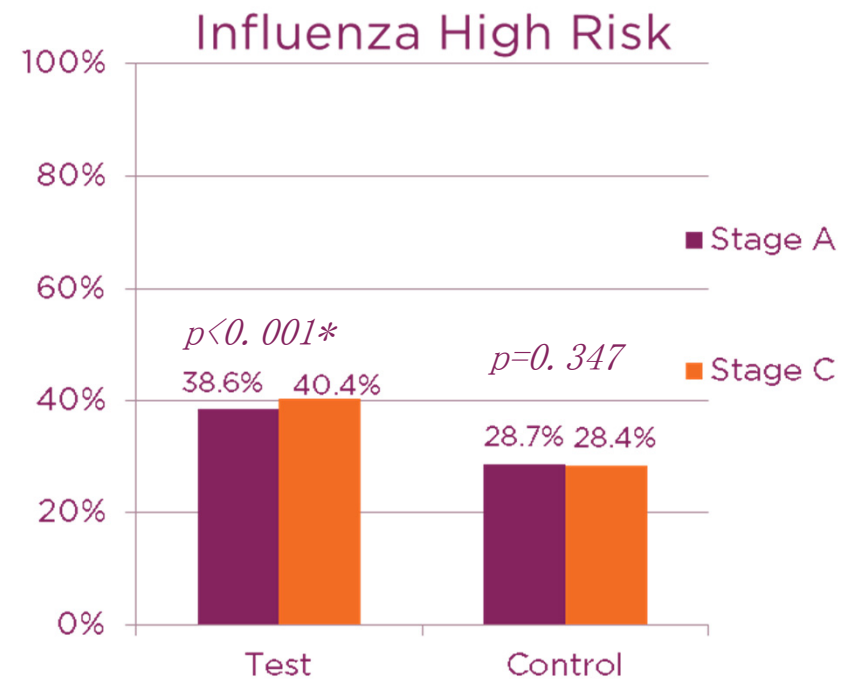
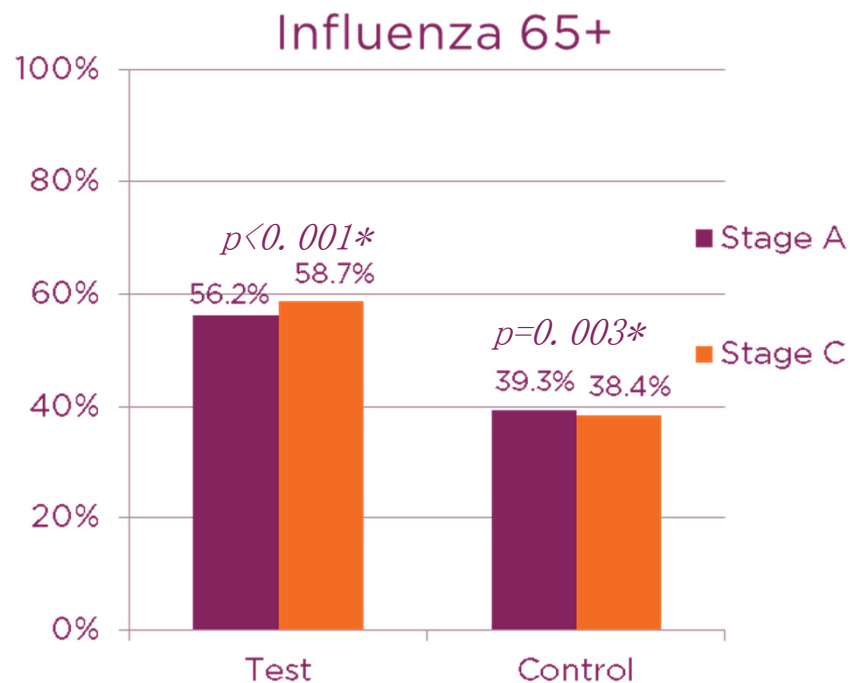
- The odds of receiving a vaccine were greater in the test group compared with the control group for both influenza measures and the high-risk pneumococcal vaccination group.

# Impact of Intervention on Vaccination Rates

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*

# Influenza Measures: Test vs Control

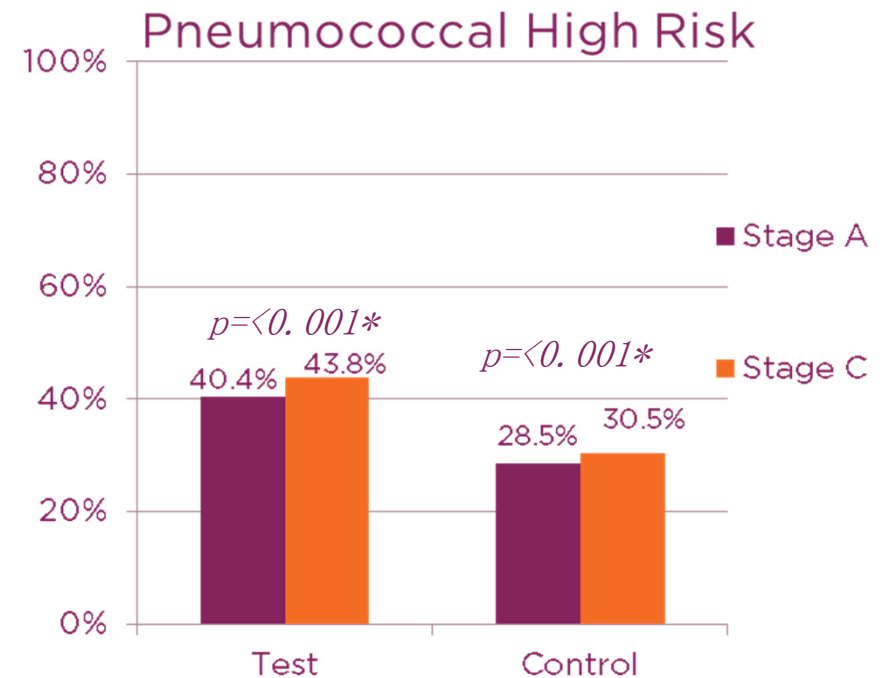
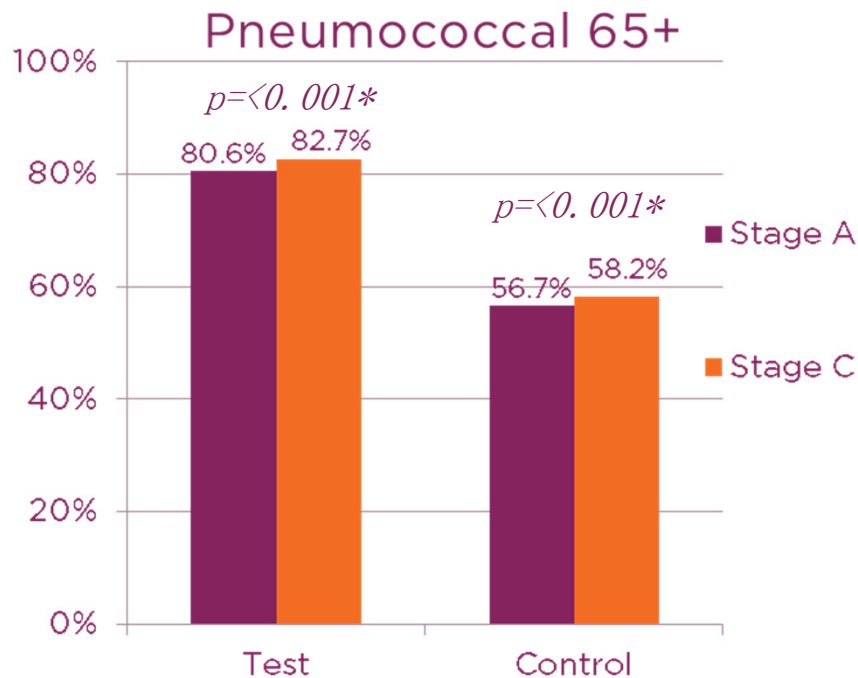


The percentage of high-risk patients who had received an influenza vaccine at Stage A was highest in patients with human immunodeficiency virus (56% at Stage A) and renal disease (55% at Stage A); comparable vaccination rates in these groups were also observed in Stage C. Rates were lowest in patients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

\**p* < 0.05 by Chi-square test

Table 6

# Pneumococcal Measures: Test vs Control



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%).

*\* $p < 0.05$  by Chi-square test*

# Overall Impact

- Involvement in the activity prompted the Cleveland Clinic Community Physician Partnership Quality Alliance to update their EMR health maintenance tab in Q4 of 2014 to begin tracking PCV13 administration.
- 83% of participants noted that they had interpreted their performance data to assess the impact of the educational interventions. 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 improvements to their patient care as a result of completing this 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.
- Participants recognized the benefits of a team approach with good communication practices, the value of a sound process and documentation strategy, the importance of ongoing reinforcement/monitoring of introduced practices, and the critical role of patient education.

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.