

INTRODUCTION

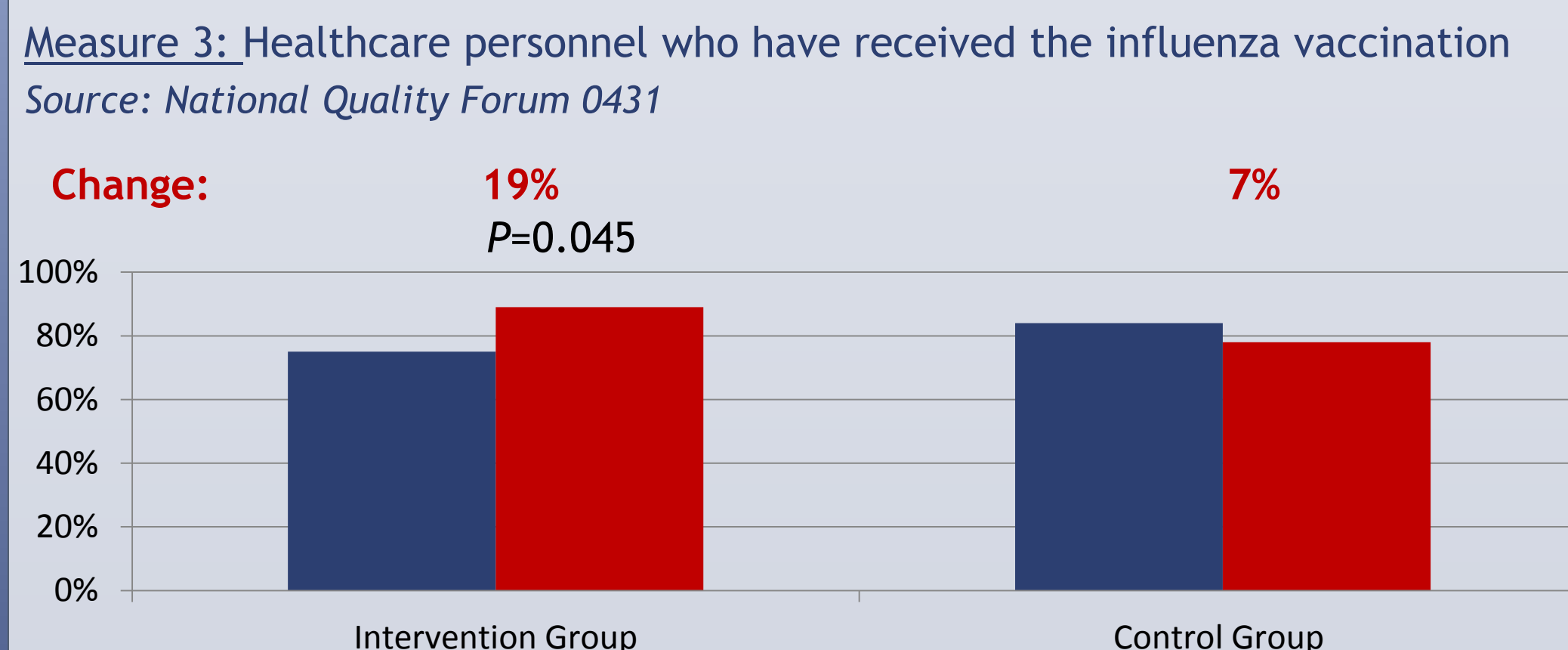
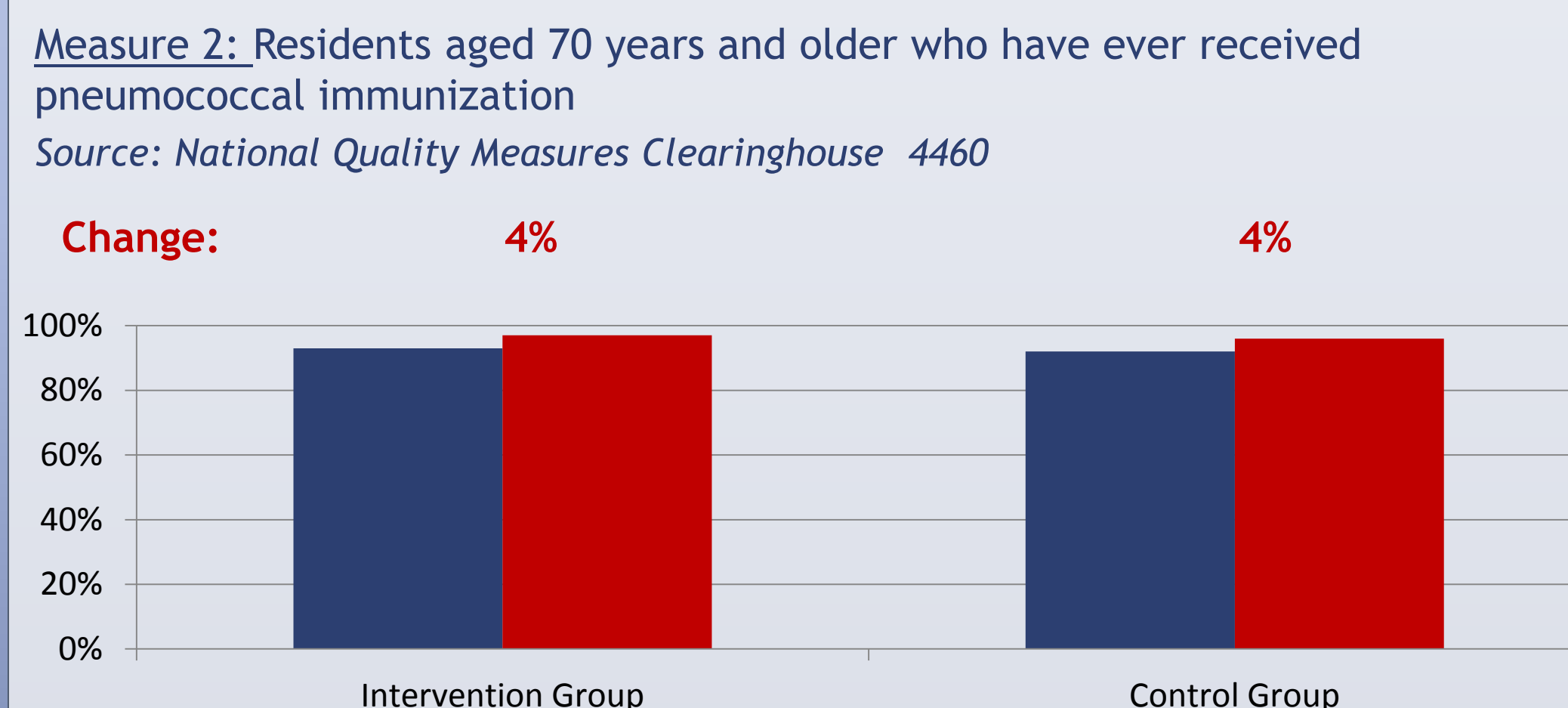
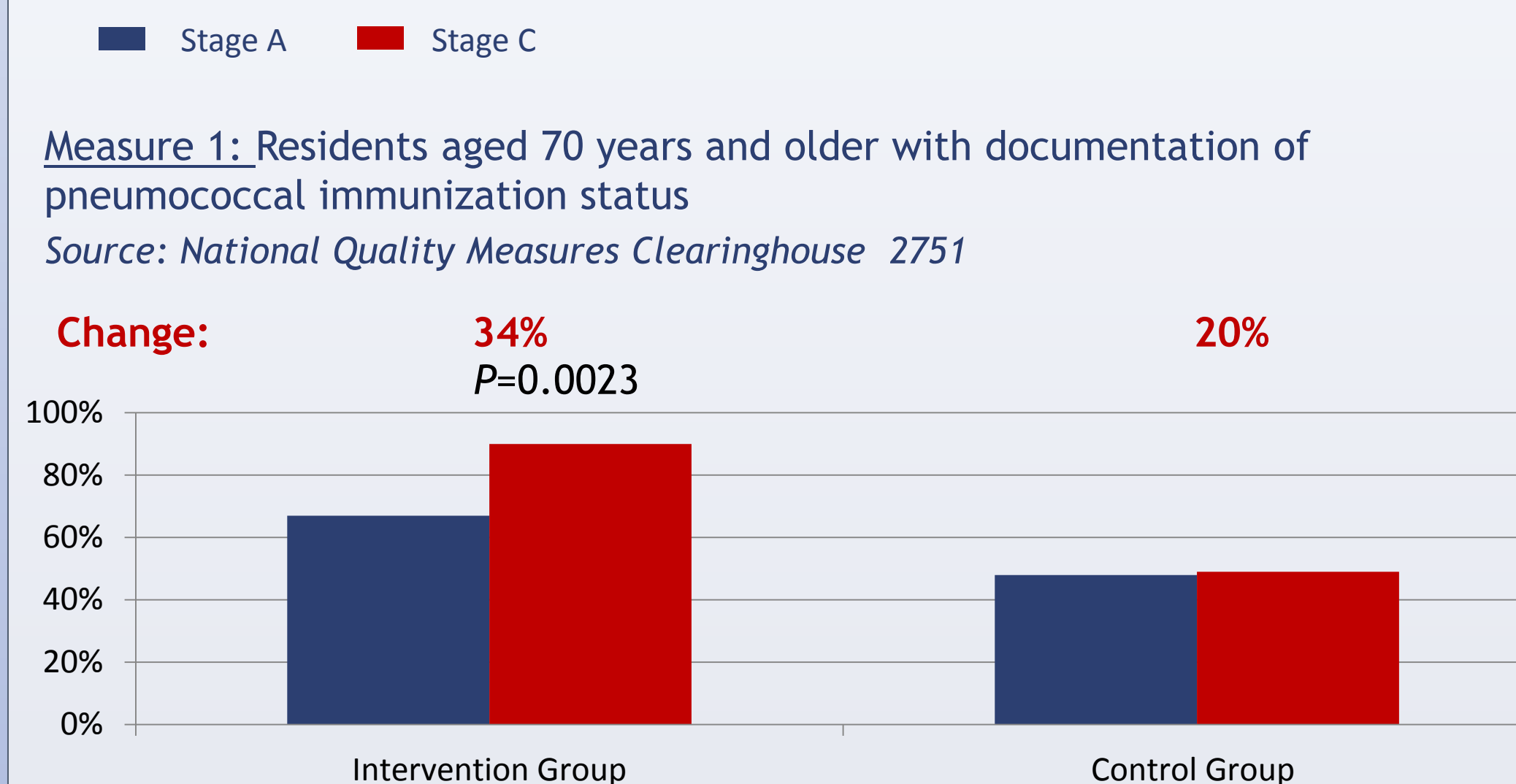
Vaccine-preventable diseases such as pneumonia remain a substantial cause of morbidity and mortality even in the era of routine vaccination. Most notably, within patients ≥ 65 years old, the 2004 total U.S. burden of pneumococcal disease was estimated to have caused 242,000 hospitalizations, 1.4 million hospital days, 194,000 emergency department visits, 374,000 outpatient visits, and 16,000 deaths. (Huang 2011) Recent CDC data reveal that at least one third of persons aged 65 years and older have not received a pneumococcal vaccination, indicating a need to continue to improve vaccination coverage in this population. (MMWR 2012) Indiana was ranked 25th among the United States for pneumococcal vaccination rates for adults aged 65 years and older (mean of 66.9% based on 2006-2008 BRFSS data); this substantial geographic variation in vaccination rates suggests a state-based need for considerable quality improvement of pneumococcal vaccination within the elderly population. While vaccination rates among residents of long term stay nursing homes are high, likely due to the CMS mandate to administer routine vaccinations, licensed assisted living facilities (ALFs) and Continuing Care Retirement Communities (CCRCs) are not bound by these mandates and consequently have much lower vaccination rates. Immunization for senior care staff is just as important, if not more so, than getting vaccination to the residents, because the staff can easily carry infections into the elderly community.

To improve this identified need of improving pneumococcal vaccination rates within the elderly population in Indiana, a state-based quality improvement (QI) activity was implemented by Indiana University (accredited provider), ACHL (educational strategy and implementation partner), and LeadingAge Indiana. 15 ALFs and CCRCs participated in a 3-stage process which included measuring their baseline performance relative to three vaccination quality measures (Stage A), participating in a live preceptorship program with individualized curricula aligned to their educational needs, and re-measuring their performance several months later (Stage C).

METHODS

- Intervention Group was comprised of 15 facilities that participated in live preceptorships facilitated by a faculty expert and received supplemental educational tools/reminders. A Control Group of 3 facilities was used for comparison
- Performance data was collected by a Champion at each facility and input into an online activity portal
- Initial baseline performance data was collected in advance of influenza season, interventions and action plans were implemented Sept - Feb, and performance was re-measured in March (following influenza season)
- Each facility was requested to provide data on 20 resident charts (aged ≥70 years) and 10 staff for each Stage (see cumulative amount of records in next column)
- 145 learners attended live preceptorship meetings; 65% of participants of these attendees were nurses. Meetings included:
 - Review of their performance data and goals
 - Guided discussion of their practices
 - Education on pneumococcal disease and influenza disease; vaccinations; included CDC posters and resources from the state of Indiana
 - Development of an action plan for the facility
- To promote engagement, six emails were sent to Champions following the preceptorships that included reminders such as vaccination fact sheets, posters to post in public areas or on staff boards, vaccination guidelines, and general activity reminders (intervention group only)

PERFORMANCE MEASURES



The following number of records were collected and analyzed, reflected in the data above:

| | Intervention | | Control | |
|---------|---------------|-----------|--------------|----------|
| Stage A | 350 residents | 152 staff | 60 residents | 30 staff |
| Stage C | 324 residents | 110 staff | 61 residents | 30 staff |

RESULTS

- Significant improvement was seen in facility documentation of residents receiving pneumococcal vaccine from stage A to stage C in the intervention group (P=0.0023)
 - the rate increased from 67.4% to 90.1%
 - odds of documentation increased from 1.9 to 5.5
- Significant improvement was seen in staff receiving influenza vaccine from stage A to stage C in the intervention group (P=0.045)
 - the rate increased from 74.6% to 89.1%
 - odds of receiving influenza vaccine increased from 3.0 to 7.8
- Our study sample was primarily Caucasian (95%), older than 70 years (89%) and mostly women (63% at stage A and 55% at stage C)
- Residents of age at least 70 in the intervention and control groups were similar in gender and ethnicity (P>0.20) both at stage A and stage C
- The denominator included residents with chart documentation on ever receiving pneumococcal vaccine but excluded those residents who refused or had contraindication of receiving vaccine
- Following the preceptorship meetings, 98% perceived that the changes they would make as part of their facility's action plan would have an impact on residents. Action plans included the following: identify new ways to communicate to staff and residents, post information in break rooms, implement mandatory staff vaccinations, enter vaccine status into system on day of admission.

OBSERVATIONS

- As evidenced by only 67.4% with documentation of vaccination status in Stage A (Measure 1), ALFs and CCRCs do not routinely have vaccination records for their residents. Facilities who participated in the activity seem to have implemented processes to improve documentation of vaccinations.
- Observed rates of pneumococcal vaccination at baseline in study were higher than other reports in the state of Indiana. One explanation is that rather than record if a patient has received the vaccine, facilities may just collect and capture positive documentation from an outside physician or nontraditional setting. Another explanation is that residents who enter an ALF or CCRC might visit a care provider and receive preventive care prior to admission.
- 80% indicated 'interaction with colleagues' as very or extremely important as a reason for attending the preceptorship meetings. This reinforces the desire for team and system-based approaches to care, which match what this activity was designed to address (system processes, operations and barriers).
- Engaging secondary stakeholders outside the clinical practice setting to improve patient care was the basis of this quality improvement approach. A partner such as LeadingAge Indiana was able to offer insights into to target audience, as well as provide connections with facilities
- Findings from this project will be published as a Toolkit; to be available for other ALFs and CCRCs to learn and implement their own quality improvement activity (available soon at <http://achlqicme.org/pne/toolkit.aspx>; journal manuscript also to be published with results and findings)

ACKNOWLEDGEMENT

This quality improvement activity was supported by an educational grant from Pfizer, Inc.

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