

Optimizing Influenza Vaccination for Health Care Personnel to Protect Residents in Long-Term Care Facilities

Amy Behrman, MD, Amy Parker Fiebelkorn, MSN, MPH,
and Kelly McKenna, MA

National Adult and Influenza Immunization Summit
Influenza Working Group Co-Leads



Atlanta Hyatt Regency
October 2, 2018

National Adult and Influenza Immunization Summit (NAIIS)

- **NAIIS mission:** Dedicated to addressing and resolving adult and influenza immunization issues and improving the use of vaccines recommended by the Advisory Committee on Immunization Practices
- **NAIIS organized by:** The CDC, Immunization Action Coalition, and the National Vaccine Program Office
- **NAIIS comprises:** >700 partners, representing more than 130 public and private organizations



National Adult and Influenza Immunization Summit: Influenza Working Group

Mission: Work to improve influenza vaccination coverage and promote best practices

2018- 2019 Working Group Goal:
Develop partnerships and materials to improve influenza vaccination coverage among healthcare personnel (HCP) in long-term care facilities (LTCFs)



<https://phil.cdc.gov/Details.aspx?pid=9348>

Influenza Working Group Goal to Increase Influenza Vaccination of HCP in LTCFs

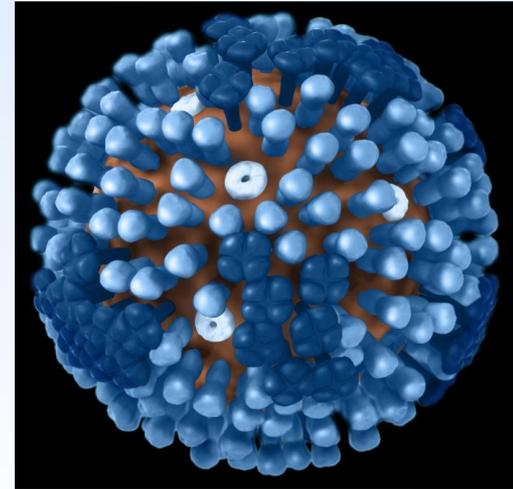
How we have been working to achieve this goal:

- Developed a guidance document for leadership in LTCFs who are considering implementing an influenza vaccination requirement for HCP in their facilities
- Partnered with Gerontological Society of America and participated in the May 2, 2018 meeting focused on increasing influenza vaccination rates of HCP in LTCFs
- Partnered with CMS and presented to Quality Improvement Networks/ Quality Improvement Organizations (QIN/QIOs)
- Today's meeting with LTCF Executives and Stakeholders

Seasonal Influenza

- ❑ Influenza is a contagious respiratory illness caused by influenza viruses
- ❑ Can lead to complications (pneumonia, worsening of chronic medical conditions, such as CHF, asthma, or diabetes) and death
- ❑ Healthy adults may be able to infect others beginning 1 day before symptoms develop and up to 5 to 7 days after becoming sick
 - Best prevention is influenza vaccination
- ❑ 5- 20% of population affected each year
- ❑ Influenza among HCP is common, and 28% – 59% of cases estimated are subclinical
 - Poses a cross-infection risk to patients

3D graphical representation of a generic Influenza virion



<https://phil.cdc.gov/Details.aspx?pid=11874>



1. <https://www.cdc.gov/flu/keyfacts.htm>

2. Wilde JA, McMillan JA, Serwint J, Butta J, O'Riordan MA, Steinhoff MC. Effectiveness of influenza vaccine in health care professionals: a randomized trial. JAMA 1999;281:908–13.

Impact of Seasonal Influenza in Adults ≥ 65 Years

- ❑ 54 – 70% of seasonal flu-related hospitalizations have occurred in people ≥ 65 years
- ❑ Risk is greatest in the oldest age group (≥ 85 years)
 - 16 times more likely than persons 65 – 84 years
- ❑ 70 – 85% of seasonal flu-related deaths have occurred in people ≥ 65 years
- ❑ Case fatality rates in long-term care facilities (LTCF) from influenza complications as high as 55%



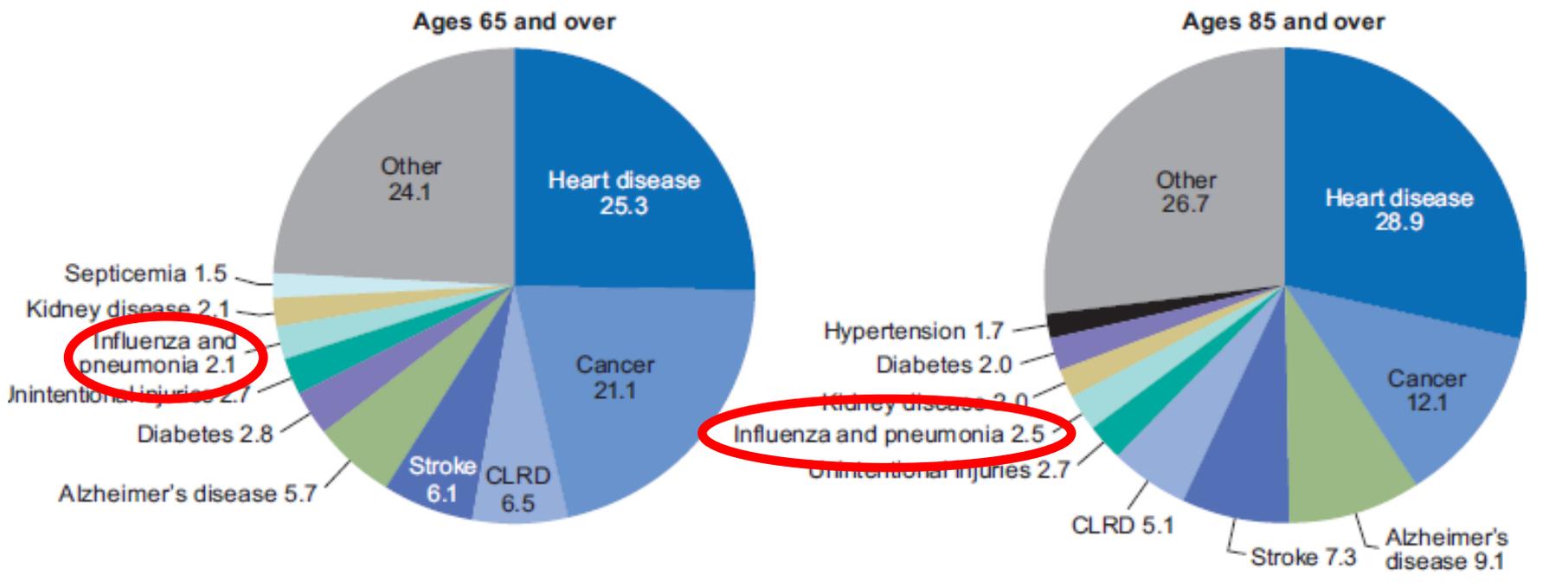
1. <https://www.cdc.gov/flu/about/disease/65over.htm>

2. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr59e0729a1.htm>

3. Nace DA, Drinka P, Mann J, Poland GA. LTC Information Series: Immunization in the Long-Term Care Setting. 2nd ed. Columbia, MD: American Medical Directors Association; 2010.

4. Morens DM, Rash VM. Lessons from a nursing home outbreak of influenza A. Infect control Hosp Epidemiol. 1995; 16(5):275-80.

Top Ten Leading Causes of Death in the United States for Adults ≥65 Years and ≥85 Years



Influenza Vaccination

- CDC preliminary adjusted vaccine effectiveness (VE) estimates for the 2017-2018 flu season in U.S.:
 - 40% vaccine VE overall
 - 20% VE among adults ≥ 65 years
- During the 2016-2017 influenza season, flu vaccine prevented (VE was 40% overall):
 - 5.3 million influenza illnesses
 - 2.6 million medical visits
 - 85,000 influenza-associated hospitalizations
- Increasing vaccination coverage among persons aged 18- 64 yrs could greatly reduce adult illness and work absenteeism



<https://phil.cdc.gov/Details.aspx?pid=5401>



1. 2017- 2018 Flu VE estimates presented at ACIP on June 20: <https://www.cdc.gov/vaccines/acip/meetings/live-mtg-2018-06.html>
2. <https://www.cdc.gov/flu/about/season/flu-season-2017-2018.htm>

Benefits of Influenza Vaccination

- ❑ Influenza vaccination has resulted in **reduction in death and ICU admissions**, and shortened ICU and hospital stays in adults hospitalized with laboratory-confirmed influenza (2013- 14 season)
 - Greatest benefit was among adults ≥ 65 yrs
- ❑ From 2012– 2015, flu vaccination among adults reduced the risk of an ICU admission with influenza by 82%
- ❑ Vaccination has been associated with **lower rates of some cardiac events** among people with heart disease
- ❑ Flu vaccination associated with **reduced hospitalizations among people with diabetes and chronic lung disease**



Influenza Outbreaks in Long-Term Care Facilities (LTCFs)

- ❑ Influenza outbreaks in LTCFs are common
 - In 2017-2018, from select states:
 - Minnesota had 184 confirmed influenza outbreaks in LTCFs
 - Kentucky had 124 confirmed influenza outbreaks in LTCFS
- ❑ Factors contributing to outbreaks in these settings:
 - Close living proximity
 - Immune senescence in older adults
 - Comorbidities
 - Reduced immune response to vaccine



Sign from Ottawa Health



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<http://www.health.state.mn.us/divs/idepc/diseases/flu/stats/flustats10.pdf>

<https://healthalerts.ky.gov/Documents/fluactivity.pdf>

Influenza Outbreaks in LTCFs Associated with Low Vaccination Rates among Health Care Personnel

- ❑ Influenza outbreaks in LTCFs have been associated with low vaccination rates among health care personnel (HCP)

- ❑ Randomized controlled studies on the impact of HCP vaccination on resident morbidity and mortality in LTCFs have demonstrated substantial decreases in:
 - All-cause mortality
 - Influenza-like illness

1. Saito R, Suzuki H, Oshitani H, et al. The effectiveness of influenza vaccine against influenza a (H3N2) virus infections in nursing homes in Niigata, Japan, during the 1998-1999 and 1999-2000 seasons. *Infect Control Hosp Epidemiol* 2002;23:82-6.
2. Lemaitre M, Meret T, Rothan-Tondeur M, et al. Effect of influenza vaccination of nursing home staff on mortality of residents: a cluster-randomized trial. *J Am Geriatr Soc* 2009;57:1580-6.
3. Carman WF, Elder AG, Wallace LA, et al. Effects of influenza vaccination of health-care workers on mortality of elderly people in long-term care: a randomised controlled trial. *Lancet* 2000;355:93-7.
4. Hayward AC, Harling R, Wetten S, et al. Effectiveness of an influenza vaccine programme for care home staff to prevent death, morbidity, and health service use among residents: cluster randomised controlled trial. *BMJ* 2006;333:1241.
5. Potter J, Stott DJ, Roberts MA, et al. Influenza vaccination of health care workers in long-term-care hospitals reduces the mortality of elderly patients. *J Infect Dis* 1997;175:1-6.

Why Focus on Vaccinating Health Care Personnel against Influenza in LTCFs?

- ❑ CDC recommends that HCP should be vaccinated annually against influenza
 - This recommendation includes *a continued emphasis on vaccinating HCP who work in LTCFs*, because their patient population is at high risk for serious complications from influenza, and due to the risk of influenza outbreaks in these facilities



1. Grohskopf LA, Sokolow LZ, Broder KR, et al. Prevention and control of seasonal influenza with vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2017-18 Influenza Season. *MMWR Recomm Rep.* 2017;66(2):1-20.

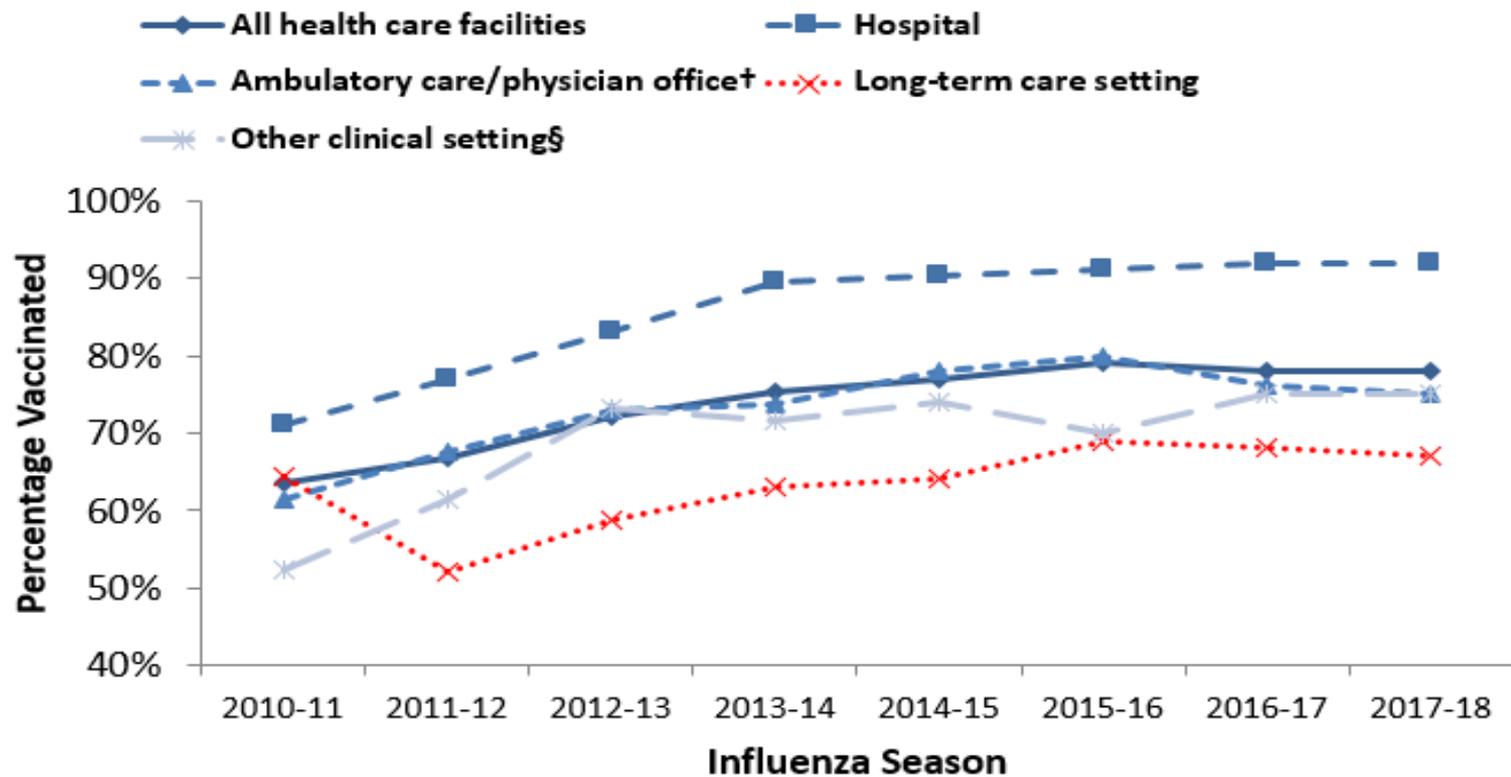
Why Focus on Health Care Personnel in LTCFs? (Continued)

- ❑ Protects residents who are high-risk due to age and co-morbid conditions
 - HCP can serve as vectors
 - HCP have high contact with residents
- ❑ Improves quality of care by decreasing HCP absenteeism
 - Absenteeism in LTCFs is associated with reduced quality of care (measured by physical restraint use, catheter use, pain management, and pressure sores)
- ❑ Benefits employees (personal protection of HCP and their families)
- ❑ Professional societies support it (e.g., AMDA)



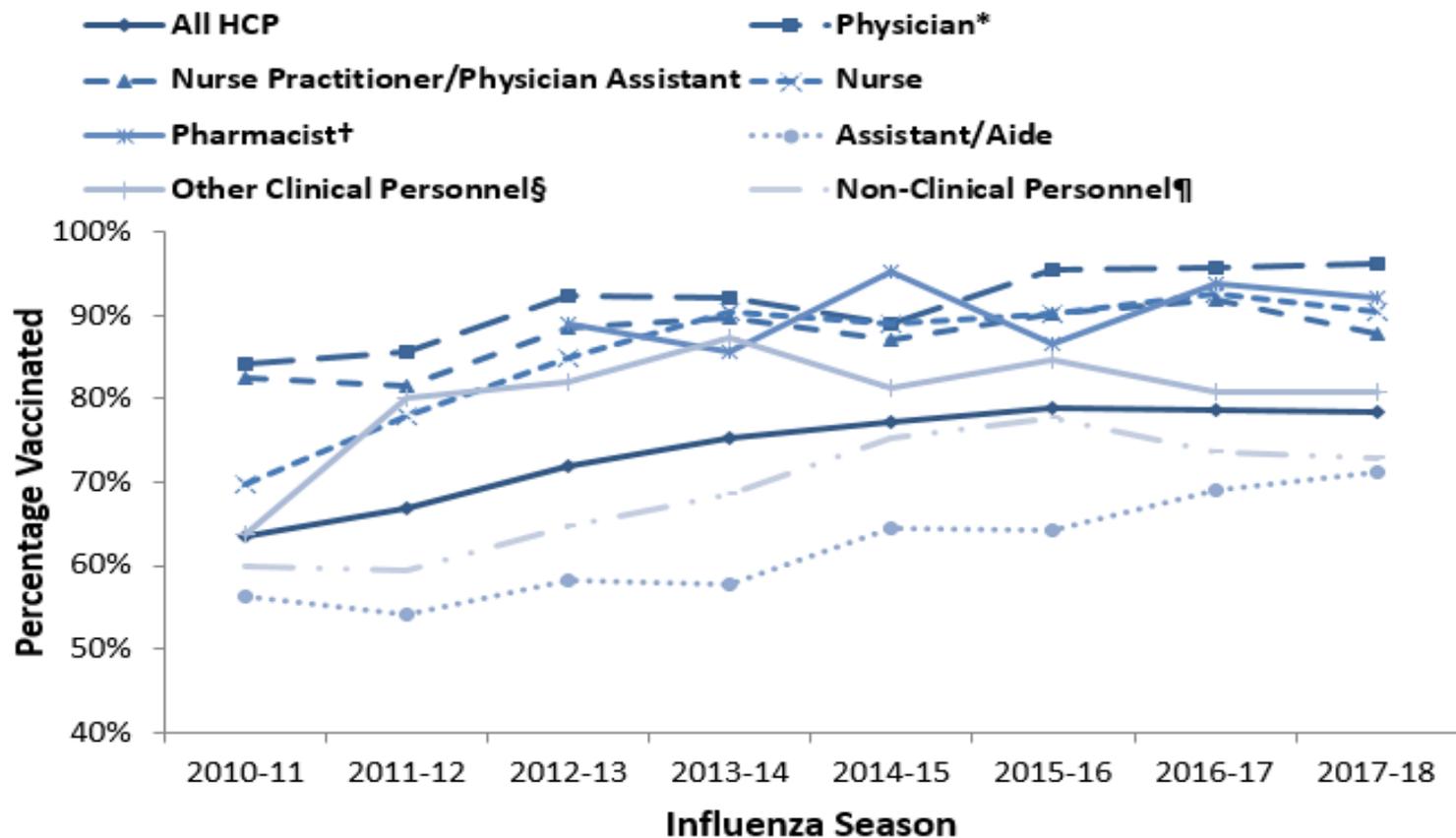
Influenza Vaccination Coverage of HCP by Facility Type

Figure 1. Percent of HCP vaccinated by work setting*, Internet panel surveys, United States, 2010-11 through 2017-18 influenza seasons



Influenza Vaccination Coverage by HCP Occupation

Figure 2. Percent of HCP vaccinated by occupation, Internet panel surveys, United States, 2010-11 through 2017-18 influenza seasons



Black CL, Yue X, Ball SW, et al. Influenza Vaccination Coverage Among Health Care Personnel — United States, 2017–18 Influenza Season. *MMWR*. 2018; 67(38):1050-4. DOI: <http://dx.doi.org/10.15585/mmwr.mm6738a2>



Misconceptions about Influenza Vaccination from HCP

- ❑ Studies show that a large percentage of HCP in LTCFs hold inaccurate beliefs about the influenza vaccine: **~40% HCP disagreed with the following statement: “Vaccine does not cause influenza.”**
 - Vaccination rates are almost 30 percentage points higher among HCP who believe that the vaccine is effective
 - Vaccination rates are 12 percentage points higher among HCP who believe that the vaccine does not cause influenza

- ❑ When asked why they do not receive the vaccine, HCP typically cite:
 - A fear of needles
 - Worries of side effects
 - Concerns about contracting the virus from the vaccine
 - A belief that they are not at risk of contracting influenza
 - A desire to avoid medications



Strategies for Improving HCP Vaccination Rates in LTCF

- ❑ Vaccination rates among HCPs at LTCFs increase and HCP absenteeism decrease after:
 - Multifaceted interventions that engage stakeholders
 - Focus on creating an environment that supports risk reduction

- ❑ Education programs have a limited impact on vaccination rates
 - However, compared with nurses who did not receive educational interventions, nurses exposed to the interventions were:
 - More likely to encourage others to be vaccinated, and
 - More likely to discuss vaccination with residents

Other Strategies for Success

- ❑ Cede Vaccination Policy to Pharmacy Control
 - Place the responsibility of administering and tracking vaccinations out of the hands of HCP located in LTCFs who might have high turn-over rates and competing demands
- ❑ Standing Orders
- ❑ Eliminate Consent Forms
- ❑ Require Declinations

- ❑ Although rates at LTCF sites improved influenza vaccination coverage of HCP with voluntary measures, it remains a challenge to meet the Healthy People 2020 goals and might require mandatory programs to reach 90% or higher levels



1. Nace DA, Handler SM, Hoffman EL, et al. Impact of the raising immunizations safely and effectively (RISE) program on healthcare worker influenza immunization rates in long-term care settings. J Am Med Dir Assoc. 2012;13(9): 806-10.
2. <https://innovations.ahrq.gov/taxonomy-terms/influenza-virus-vaccine>

AMDA's 2018 Updated Policy

- ❑ AMDA - The Society for Post-Acute and Long-Term Care Medicine (the Society) supports mandatory annual influenza vaccination for all post-acute and long-term care HCP unless there is a medical contraindication
- ❑ All HCP should be included in mandatory influenza vaccination programs, as all HCP, even those with indirect contact, have the potential to be in close proximity with residents, which can allow for transmission of infection



Other Professional Societies' that Support Influenza Vaccination Requirements of HCP

- American Academy of Family Physicians (AAFP)
- American College of Physicians (ACP)
- American Hospital Association (AHA)
- American Nurses Association (ANA)
- American Pharmacists Association (APhA)
- American Public Health Association (APHA)
- Infectious Diseases Society of America (IDSA)
- National Foundation for Infectious Diseases (NFID)
- National Patient Safety Foundation (NPSF)
- Society for Healthcare Epidemiology of America (SHEA)
- Association for Professionals in Infection Control and Epidemiology (APIC)

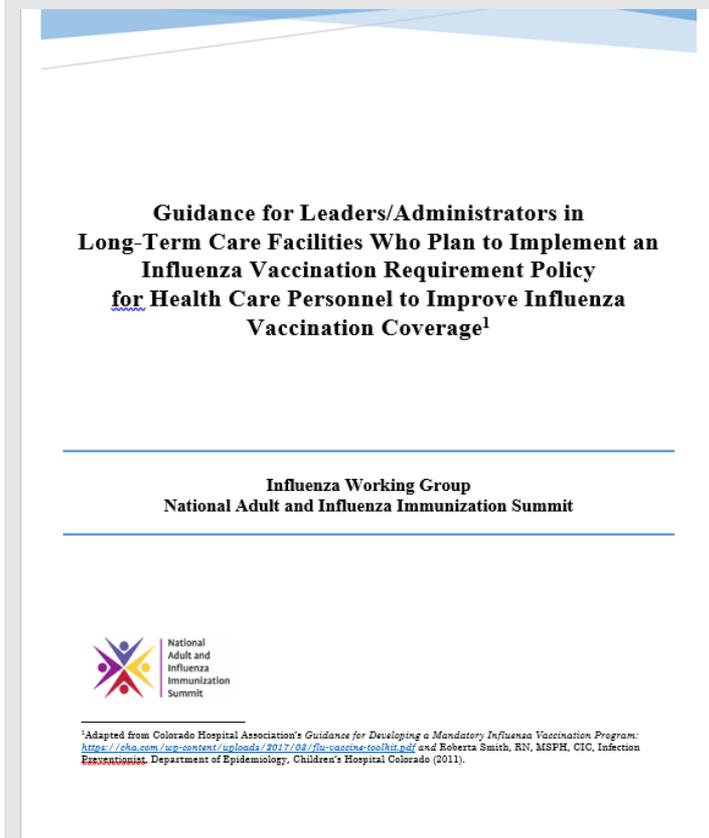
Why Focus on Influenza Vaccination Requirements?

- ❑ Voluntary measures have generally NOT been successful in raising HCP influenza vaccination coverage to the Healthy People 2020 goal of $\geq 90\%$ coverage
- ❑ In a national survey, the percentage of HCP in LTCFs who were vaccinated (by employer approach to influenza vaccination):
 - Work requirement (89%)
 - Promoted by employer (vaccine offered on-site >1 day at no cost to HCP), but not required (59%)
 - No employer requirement or vaccine promotion (42%)



1. Hollmeyer H, Hayden F, Mounts A, Buchholz U. Review: interventions to increase influenza vaccination among healthcare workers in hospitals. *Influenza Other Respir Viruses*. 2013;7(4):604-621.
2. Black CL, Yue X, Ball SW, et al. Influenza Vaccination Coverage Among Health Care Personnel — United States, 2017–18 Influenza Season. *MMWR*. 2018; 67(38):1050-4. DOI: <http://dx.doi.org/10.15585/mmwr.mm6738a2>

NAIS Guidance Document for Developing a Vaccination Requirement for HCP in LTCFs



Purpose of document:

- To provide guidance and information for developing an influenza vaccination requirement policy HCP in LTCFs
- Provides a framework for major areas that should be considered when adopting an influenza vaccination requirement policy



NAIIS Guidance Document for Implementing Influenza Vaccination Requirement for HCP

Includes sections (in modular format) on:

- ❑ Rationale and supporting evidence for HCP vaccination
- ❑ Implementing a vaccination requirement policy
- ❑ Employee engagement
- ❑ Ethical considerations
- ❑ Resources
- ❑ FAQs
- ❑ Sample Policy
- ❑ Sample Exemption Form



Immunization Action Coalition and AMDA Influenza Vaccination Honor Roll

- ❑ The Immunization Action Coalition and AMDA recognize facilities that have influenza vaccination mandates for HCP
- ❑ To be included in this honor roll, a facility's mandate must require influenza vaccination for employees and must include serious measures to prevent transmission of influenza from unvaccinated workers to patients/residents (e.g., mask requirement or reassignment to non-patient-care duties)
- ❑ Currently only 6 LTCF recognized on the honor roll



PA/LTC Influenza Vaccination Honor Roll

The Immunization Action Coalition recognizes PA/LTC settings that require flu vaccines for employees.

<http://www.immunize.org/honor-roll/influenza-mandates/ltc.asp>



National
Adult and
Influenza
Immunization
Summit

Influenza Vaccination Clinics in Non-Traditional Settings

- Satellite, temporary, and off-site vaccination clinics (including workplace clinics) play an important role in improving vaccination coverage rates
- 17% of adults in the U.S. receive their influenza vaccination at their workplace
- Vaccination clinics held in non-traditional settings may lead to unsafe environments, vaccine temperature excursions, and vaccine administration errors
 - Includes vaccination clinics for HCP in hallways, classrooms, cafeterias, etc.



Checklist of Best Practices, the Pledge, and Accompanying Resources

[Checklist of Best Practices](#) for Vaccination Clinics Held at Satellite, Temporary, or Off-site Locations:

- Step-by-step guide to help clinic supervisors overseeing vaccination clinics held at satellite, temporary, or off-site locations follow Centers for Disease Control and Prevention (CDC) guidelines and best practices
- Standardized each step: vaccine shipment, transport, storage, handling, preparation, administration, and documentation

[Pledge](#) for Organizations Implementing Vaccination Clinics Held at Satellite, Temporary, or Off-site Locations:

- For organizations that conduct satellite, temporary, or off-site vaccination clinics to sign annually affirming that they will adhere to best practices
- Organizations that sign the pledge are recognized on the Summit website

Summary

- ❑ Influenza can lead to severe complications in LTCF residents
- ❑ Vaccination is the best method of preventing influenza
- ❑ LTCFs have the lowest vaccination of HCP (of all healthcare facility types)
- ❑ Voluntary measures, easy access to vaccination, staff engagement can help increase rates
 - But generally not enough to reach Healthy People 2020 goal of 90% (and not sustained)
- ❑ Vaccination requirements for HCP are supported by professional societies and might help achieve 90% coverage



Questions?

Interested in joining the Influenza Working Group?

Email Amy Parker Fiebelkorn: dez8@cdc.gov

Back-Up Slides

Peak Flu Season Activity

Peak Month of Flu Activity
1982-1983 through 2017-2018

