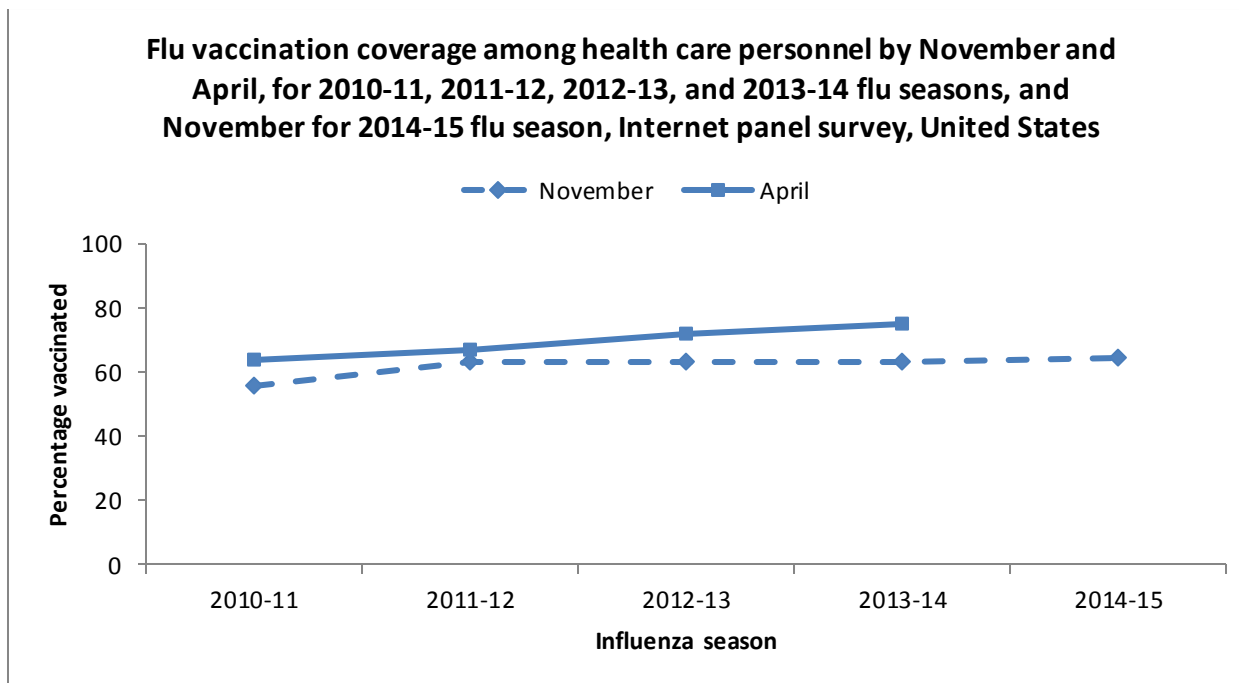


Health Care Personnel and Flu Vaccination, Internet Panel Survey, United States, November 2014

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Figure 1.



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Influenza (flu) among health care personnel (HCP) can result in medical visits and lost work days for the HCP and has the potential to spread flu to patients and other HCP (1), including those with chronic medical conditions, pregnant women, young children, and older people at higher risk of serious flu complications.

- Flu vaccination of HCP has been shown to reduce the risk of flu and absenteeism in vaccinated HCP and reduce the risk of respiratory illness and deaths in nursing home residents (2-5).
 - The Advisory Committee on Immunization Practices (ACIP) recommends that all HCP receive an annual flu vaccination (1).
- Flu vaccination coverage among HCP has improved but remains below the national [Healthy People 2020](#) target of 90% (6).
 - In the 2007–08 flu season, HCP vaccination coverage was 48% based on data from the National Health Interview Survey (NHIS), the data source used to monitor the [Healthy People 2020](#) objective (7).
 - By the 2011–12 flu season, vaccination coverage among HCP increased to 67% (CDC, unpublished data).
 - Vaccination coverage measured using Internet panel surveys* was 67% during the 2011–12 season, 72% during the 2012–13 season, and 75% during the 2013–14 season (7, 8).

CDC analyzed data from an Internet panel survey conducted from October 29–November 12, 2014 among HCP. The results of this survey provide information for use in vaccination campaigns during National Influenza Vaccination Week (December 7–13, 2014). This report provides early flu season (early November) estimates of vaccination coverage among HCP. Final 2014–15 flu season HCP vaccination coverage estimates will be available after the end of the season.

KEY FINDINGS

- Early season 2014–15 flu vaccination coverage among HCP was 64.3%, similar to early season coverage during the 2013–14 season (62.9%).
 - During the previous two seasons, flu vaccination coverage increased by 9–12 percentage points from early season to the end of the season.
- By occupation, early season flu vaccination coverage was highest among pharmacists (86.7%), nurse practitioners/physician assistants (85.8%), physicians (82.2%), nurses (81.4%), and other clinical professionals (72.0%).
 - Flu vaccination coverage was lowest among administrative and non-clinical support staff (59.1%) and assistants or aides (46.6%).
- By work setting, early season flu vaccination coverage was highest among HCP working in hospitals (78.7%).
 - Flu vaccination coverage was lowest among HCP working in long-term care facilities (54.4%).
- Early season flu vaccination coverage was higher among HCP whose employers required (85.8%) or recommended (68.4%) that they be vaccinated compared to those HCP whose employer did not have a policy or recommendation regarding flu vaccination (43.4%).
- Among unvaccinated HCP who did not intend to get the flu vaccination during this flu season, the most common reason reported for not getting vaccinated was that they don't think that flu vaccines work. The second most common reason was that they don't need the vaccine.

Conclusion/recommendation:

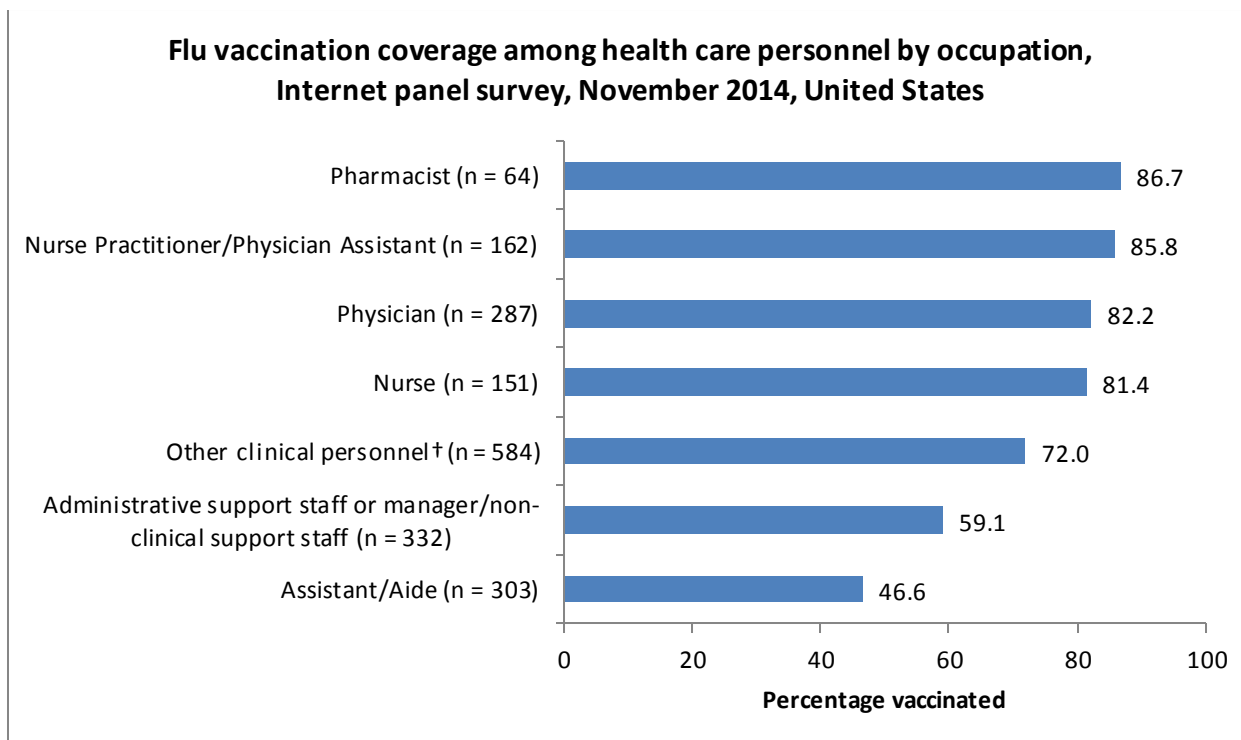
- While overall HCP flu vaccination improved in the last several years, vaccination continued to be low among of assistants, aides, non-clinical support staff, and HCP working in long-term care.
- Targeted efforts are needed to improve coverage among these HCP groups, including ensuring convenient access to flu vaccine at the workplace at no cost to the HCP.

WHO WAS VACCINATED?

Coverage by Occupation

- Early season flu vaccination coverage was higher among pharmacists (86.7%), nurse practitioners and physician assistants (85.8%), physicians (82.2%), nurses (81.4%), and other clinical personnel (72.0%) compared to administrative/non-clinical support staff (59.1%) and assistants or aides (46.6%).
- Flu vaccination coverage increased from early season 2013–14 to early season 2014–15 by 8.0 percentage points among nurse practitioners and physician assistants and by 5.1 percentage points among administrative/non-clinical support staff. Coverage for other occupational groups was similar in early season 2013–14 and early season 2014–15.

Figure 2.

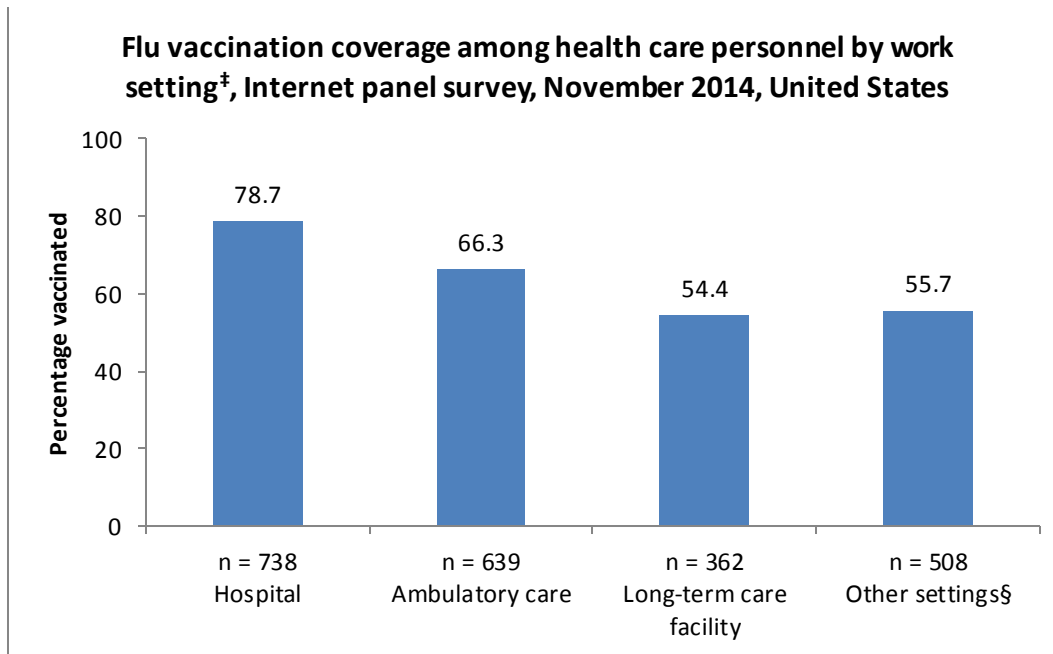


[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

Coverage by Work Setting

- Early season flu vaccination coverage varied by work setting and was highest among HCP working in hospitals (78.7%) and lowest among HCP working in long-term care facilities (54.4%).
- Coverage among HCP working in ambulatory care settings increased by 5.8 percentage points from early season 2013–14 to early season 2014–15. Coverage in all other work settings was similar in early season 2013–14 and early season 2014–15.

Figure 3.

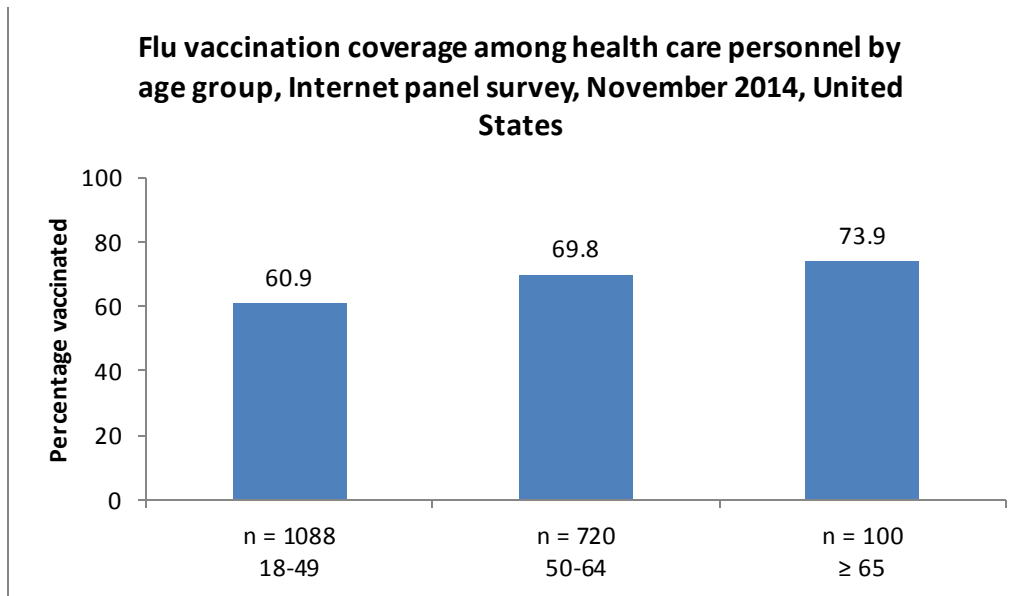


[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

Coverage by Age Group

- Early season flu vaccination coverage among HCP varied by age, ranging from 60.9% among HCP 18–49 years to 73.9% in HCP 65 years and older.
- Coverage in early season 2014–15 increased by 6.3 percentage points among HCP 50–64 years and by 6.1 percentage points among HCP 65 years and older compared to early season 2013–14. Coverage among HCP 18–49 years was similar in early season 2013–14 and early season 2014–15.

Figure 4.

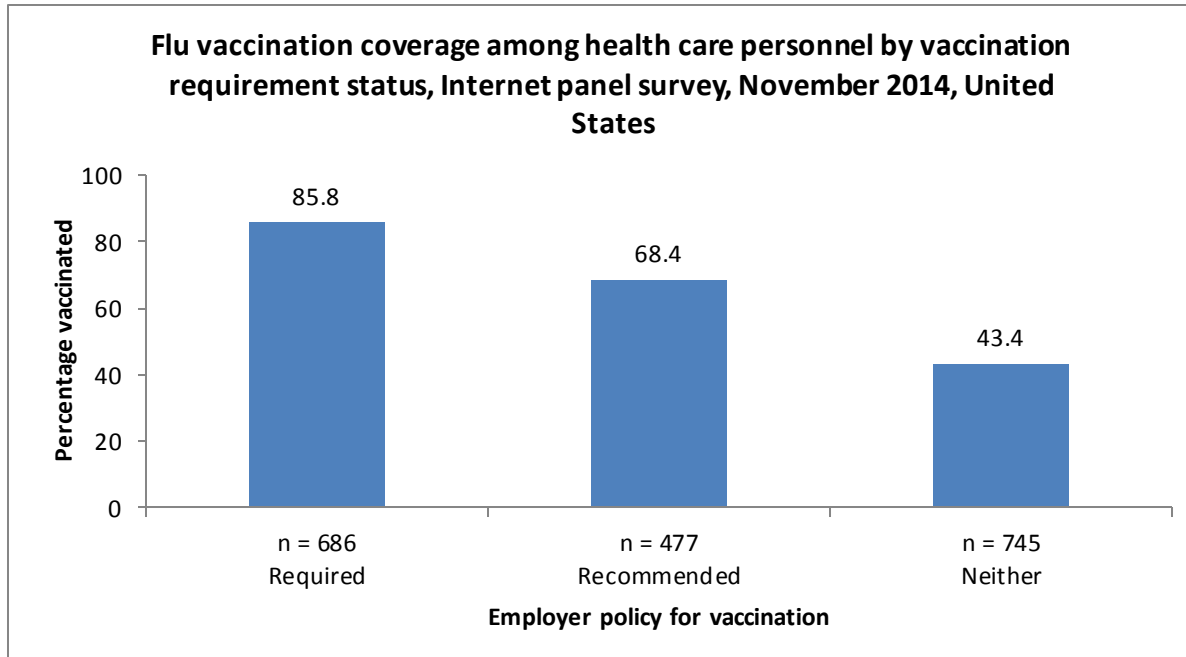


[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

Coverage by Employer Requirement or Recommendation

- Early season flu vaccination coverage was highest among HCP with an employer requirement for vaccination (85.8%). Vaccination coverage was higher among HCP with an employer recommendation for vaccination but no requirement (68.4%) compared to those whose employers had neither a requirement nor a recommendation for vaccination (43.4%).

Figure 5.



[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

- HCP working in hospitals were more likely to report an employer requirement for vaccination than HCP working in ambulatory care, long-term care facilities, and other settings (Table 1).

Table 1. Percentage of HCP with an employer requirement for vaccination and percentage of HCP vaccinated with and without an employer requirement for vaccination, by work setting[‡], Internet panel survey, November 2014, United States

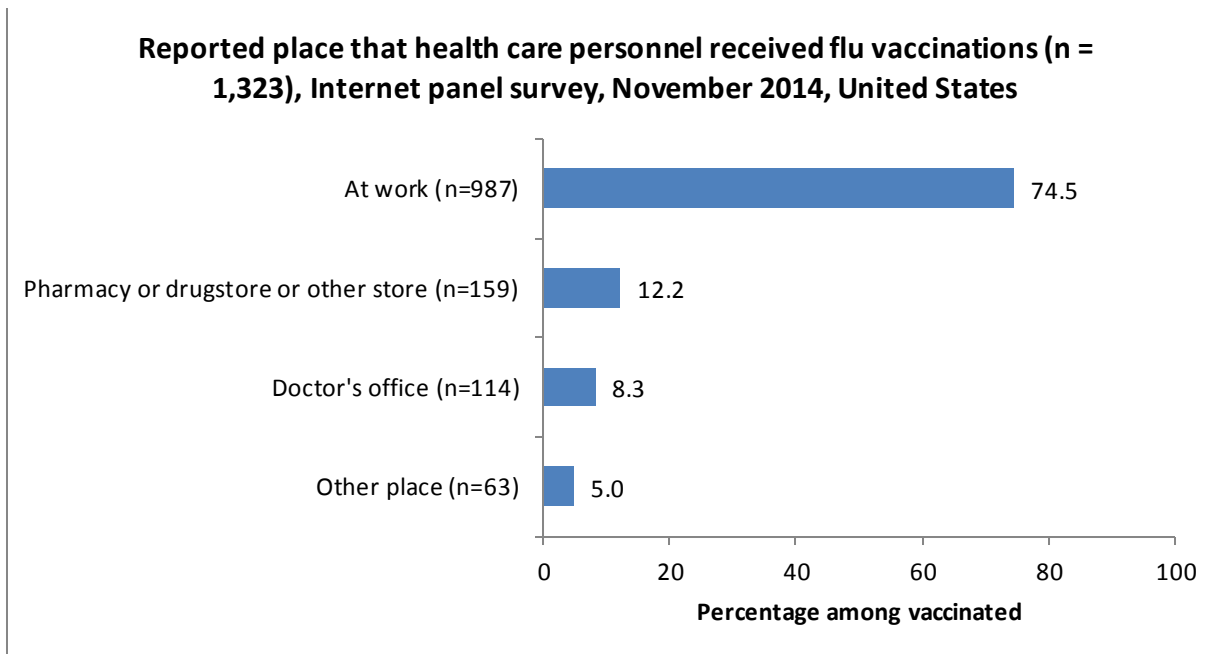
	Percentage vaccinated among HCP with and without an employer requirement for vaccination			
	Percentage of HCP with an employer requirement for vaccination		Required	Not required
	Unweighted n	Weighted %	Weighted %	Weighted %
Hospital	457	56.0	85.5	70.2
Ambulatory care / Physician office	262	37.7	91.5	51.1
Long-term care facility	83	17.7	84.1	48.0
Other setting [§]	108	20.9	89.1	46.8
Total	686	33.9	85.8	53.2

[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

Place of Vaccination

- Similar to the past three seasons, most HCP (74.5%) received the flu vaccination at their workplace.

Figure 6.

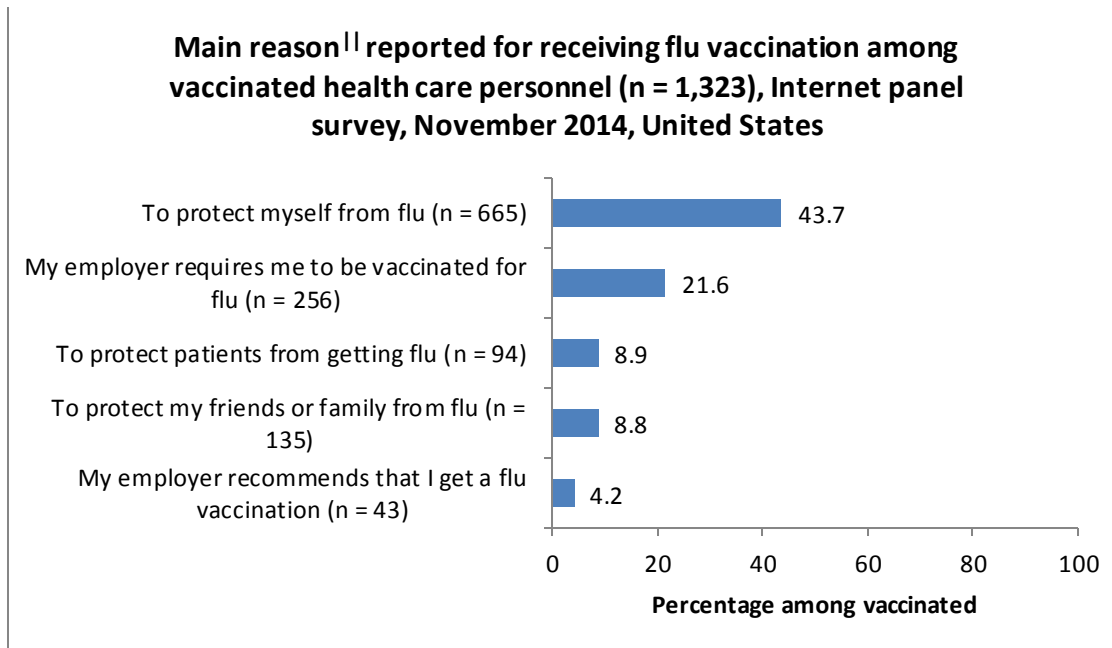


[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

Main Reason for Receiving Vaccination

- Protecting themselves from flu was the most common main reason reported by vaccinated HCP for receiving the flu vaccination.
- An employer requirement for flu vaccination was the second most commonly reported main reason why HCP were vaccinated.

Figure 7.

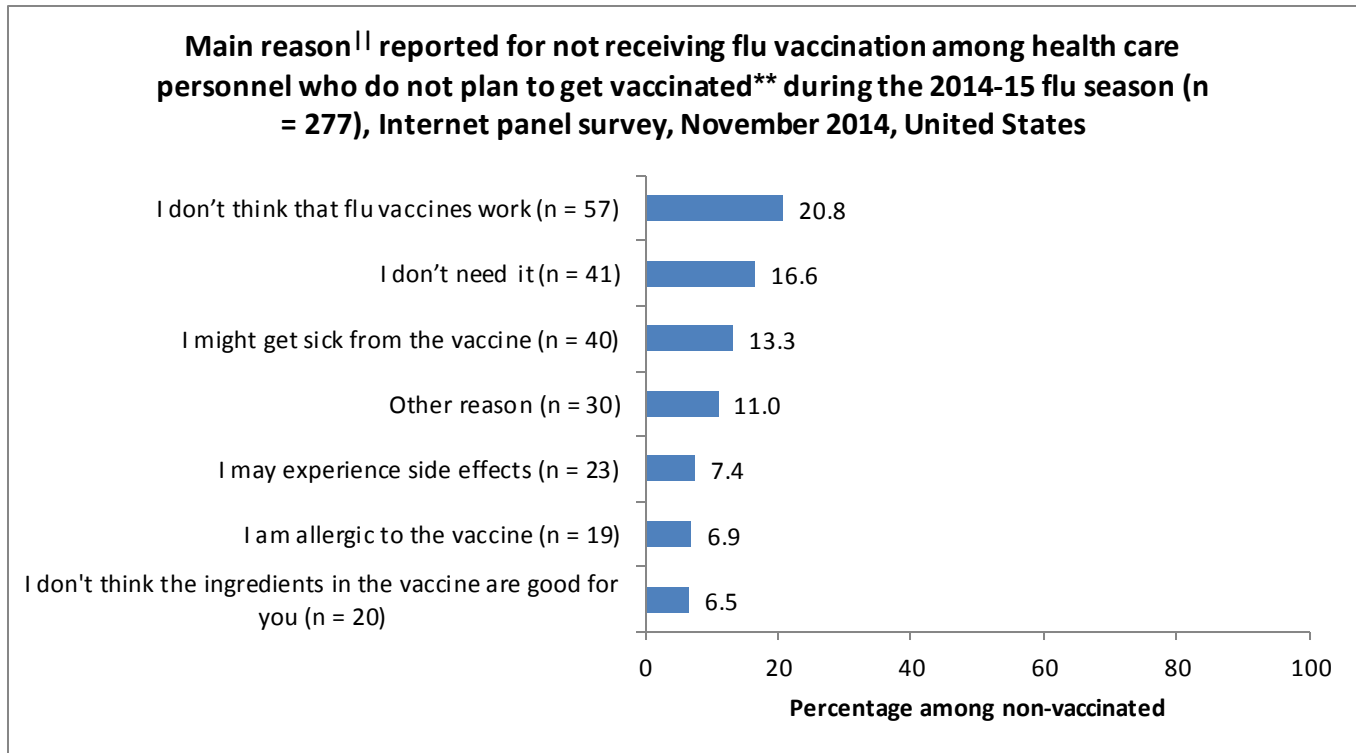


[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

Main Reason for Not Receiving Vaccination

- Among unvaccinated HCP who reported that they did not intend to get flu vaccination during this flu season, the most commonly reported main reason[¶] was that they do not think that flu vaccines work.
- Other reasons commonly reported for not receiving flu vaccination included thinking that they do not need the vaccine and that they might get sick from the vaccine.

Figure 8.



[Footnotes](#) | [Data Source and Methods](#) | [Limitations](#) | [Previous Year](#)

WHAT CAN BE DONE? (Recommendations)

Overall, the early season estimate of flu vaccination coverage among HCP in 2014–15 (64.3%) was similar to early season coverage in 2013–14 (62.9%). Flu vaccination coverage among HCP working in hospital settings, and among pharmacists, nurse practitioners, physician assistants, physicians, nurses, and other clinical personnel across all work settings was substantially higher than coverage among HCP working in long-term care facilities and other work settings and among HCP working in other occupations. The success of vaccine promotion in raising coverage in the hospital work setting and among these occupation groups should serve as an example for HCP in the work settings and occupation groups with lower coverage.

Additional efforts are needed to improve vaccination coverage among HCP in work settings other than hospitals, especially in long-term care facilities, and among assistants and aides and administrative and non-clinical support staff in all work settings. Continued efforts are needed to ensure all HCP are vaccinated as soon as possible during every flu season, including:

Implementing interventions to promote flu vaccination among HCP each season:

- Employers can reduce barriers to HCP vaccination by offering flu vaccination:
 - Onsite over multiple days and shifts,
 - Free of charge, and with
 - Active promotion.
- Employers and health care administrators should make use of the Guide to Community Preventive Services, which provides guidance on effective interventions to increase the uptake of flu vaccination among HCP ([9](#)).
- Measurement and feedback of vaccination coverage is recommended by the Task Force on Community Preventive Services to increase uptake of recommended vaccinations ([9](#)). Measures such as recent requirement by U.S. Center for Medicare & Medicaid Services (CMS) for acute care hospitals to report their facilities' HCP influenza vaccine coverage rates may be useful for this purpose ([10](#), [11](#)).

The November internet panel survey of HCP is designed to provide estimates of national flu vaccination coverage among HCP and to assess the effectiveness of current vaccination efforts. The follow-up survey in April 2015 will provide end-of-season flu vaccination coverage estimates.

DATA SOURCE & METHODS

CDC collected data from two pre-existing web-based panels from October 29–November 12, 2014. Clinical personnel were recruited from the membership of Medscape, a web portal managed by WebMD Professional Services, and non-clinical personnel were recruited from SurveySpot, a general population Internet panel. The sample was weighted to reflect the demographic composition of the target population of U.S. HCP. Survey items included vaccination during the current flu season, vaccination history, and knowledge, attitudes, and beliefs concerning flu and flu vaccination. There were 1,952 HCP who were eligible for and entered the survey and 1,908 (97.7%) of those completed the survey. Weighted estimates were calculated based on each occupational group by age, gender, race/ethnicity, health care work setting, and Census region to be generalizable to the U.S. population of HCP.

Weighted analyses were conducted using SAS v9.2 survey procedures. Because the opt-in Internet panel sample is based on those who self-selected for participation in the panels rather than a random probability sample, statistical measures such as calculation of confidence intervals and tests of differences cannot be performed ([12](#)). A difference of 5 percentage points was considered a notable difference.

Sample Demographics

- A total of 1,908 HCP were included in the survey.
 - By age, 1,088 (57.0%) were 18–49 years, 720 (37.7%) were 50–64 years, and 100 (5.2%) were 65 years and older.
 - For additional occupational characteristics, [please see the attached table](#).
 - For additional work setting characteristics, [please see the attached table](#).

LIMITATIONS

These results are preliminary and should be interpreted with caution. The follow-up survey in April 2015 will assess flu vaccination coverage at the end of the flu season. National coverage estimates from National Health Interview Survey (NHIS) will be provided later for comparison to the Internet panel survey estimates.

The findings in the report are subject to several limitations.

- The sample was not necessarily representative of the approximately 18 million HCP in the United States. The survey was conducted among a much smaller group of volunteer HCP (a non-probability sample) who had already enrolled in Medscape or SurveySpot rather than a randomly selected sample.
- Some bias may remain in estimates after weighting the sample to improve representativeness, given the exclusion of individuals with no Internet access and the self-selection processes for entry into the panels and participation in the survey. Estimates might be biased if the selection processes for entry into the Internet panels and the decision to participate in this particular survey were related to receipt of vaccination.
- All vaccination results are based on self-report and are not verified by employment or medical records.
- The definition of HCP used in this Internet panel survey (persons who worked in a medical care setting or whose work involved hands-on care of patients) might vary from definitions used in other surveys of vaccination coverage.
- Occupational categories could not always be separated because of small sample sizes, questionnaire design, or other limitations.
- The 2014–15 estimates from this survey might not be directly comparable to estimates from population-based surveys.
 - The estimates of flu vaccination coverage among HCP from the Internet panel surveys and the NHIS differed for the 2009-10 (63.4% versus 57.5%), 2010–11 (63.5% versus 55.8%), 2011-12 (66.9% versus 62.4%), and 2012-13 (72.0% versus 66.9%) seasons ([7](#), CDC, unpublished data).

Despite these limitations, Internet panel surveys are a useful surveillance tool for timely early season and post-season evaluation of flu vaccination coverage and vaccination-related knowledge, attitude, practice, and barrier data among HCP.

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RELATED LINKS

- Influenza vaccination coverage: [FluVaxView](#)
- [2013-14 end-of-season MMWR](#)
- [2012-13 end-of-season MMWR](#)
- [2012-13 early season online report](#)
- [2011-12 end-of-season MMWR](#)
- [2011-12 early season online report](#)
- [2010-2011 end-of-season MMWR](#)
- [2010-2011 early season online report](#)
- [ACIP flu vaccination recommendations for health care personnel](#)
- [Flu.gov for Health Professionals](#)
- [Influenza Vaccination Information for Health Care Workers](#)
- [NIVW Resources for Health Professionals and Partners](#)
- [SSI](#)
- [SurveySpot](#)
- [Follow CDC Flu on Twitter: @CDCFlu](#)
- [A Toolkit for Long-Term Care Employers: Increasing Influenza Vaccination among Healthcare Personnel in Long-term Care Settings](#)

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FOOTNOTES

* The methods used in the Internet panel survey differ from those of the NHIS; thus, results from the Internet panel survey should not be directly compared to the *Healthy People 2020* target.

† Includes allied health professionals, dentists, technicians, technologists, emergency technicians, EMTs, and paramedics.

‡ Respondents could specify working in more than one setting.

§ Includes dental offices, pharmacies, emergency medical services locations, and other health care settings.

|| Single top main reason.

¶ Among respondents, 21.0% initially selected "I just don't want the vaccine" as their main reason for not being vaccinated. When these persons were asked in a follow-up question to identify a more specific reason for not wanting the vaccine, 40.7% replied "I don't need it," 30.9% said "I don't think the ingredients in the vaccine are good for you," 16.7% said "I don't think that flu vaccines work," and 10.5% said "I might get sick from the vaccine."

** Includes respondents who have not received the flu vaccine since July 2014 and who reported that they probably or definitely do not intend to be vaccinated in the 2014–15 flu season.