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# Seasonal Influenza Vaccine Use by Adults in the U.S.

## A Snapshot as of Mid-November 2009

Katherine M. Harris, Juergen Maurer, and Lori Uscher-Pines

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In mid-November 2009, RAND surveyed a nationally representative sample of adults age 18 and over (n=5,679) to collect data on the receipt of seasonal influenza vaccine in the United States. RAND collected comparable data in mid-November 2008.<sup>1</sup> The results of these efforts will inform public health officials and other stakeholders about progress toward vaccinating adults prior to the end of the vaccination season while action can still be taken to improve uptake.

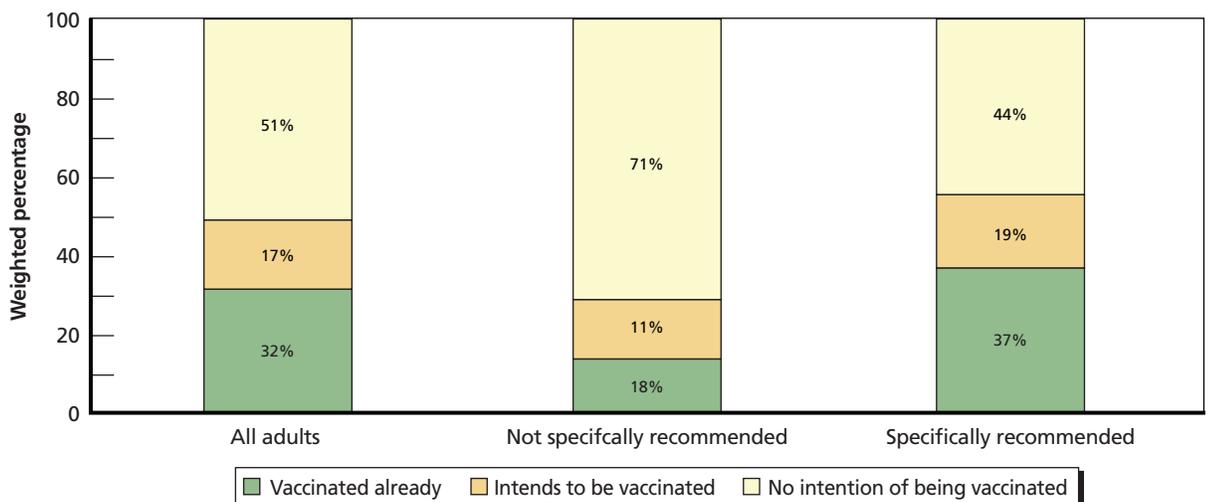
The Advisory Committee on Immunization Practices (ACIP) to the Centers for Disease Control and Prevention (CDC) specifically recommends annual seasonal influenza vaccination for those age 50 or over; persons having certain high-risk medical conditions; health care workers; women who will be pregnant during flu season; residents of nursing homes or other long-term care facilities; and those having close contact with or caring for children under 5 years of age, persons age 50 or over, or other high-risk individuals.<sup>2</sup> Survey data reported here suggest roughly seven in ten U.S. adults are specifically recommended for vaccine. The ACIP also recommends annual vaccination against seasonal influenza for any adult who wants to reduce the risk of becoming ill with seasonal influenza or transmitting it to others.

### By mid-November 2009,

- 32 percent of all U.S. adults had been vaccinated against seasonal influenza
- 37 percent of adults specifically recommended for vaccination had been vaccinated
- 17 percent of all adults intended to receive the vaccine by the end of the vaccination season.

### Actual and Intended Uptake of Influenza Vaccine by Adults Age 18 and Older in the United States, Fall 2009

By mid-November 2009, only three in ten adults were vaccinated against seasonal influenza, and one in six intended to receive a vaccine during the remainder of the season. Slightly more than one-third of adults specifically recommended for vaccination and one-fifth of adults not specifically recommended for vaccination had received the seasonal influenza vaccine by mid-November. Less than one in five of those specifically recommended for vaccination intended to be vaccinated during the remainder of the season. By contrast, one in ten adults not specifically recommended intended to be vaccinated.

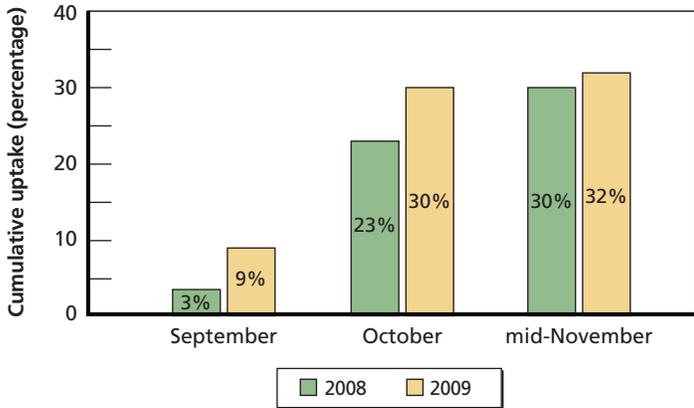


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### Comparing Vaccine Uptake in Fall 2008 and Fall 2009

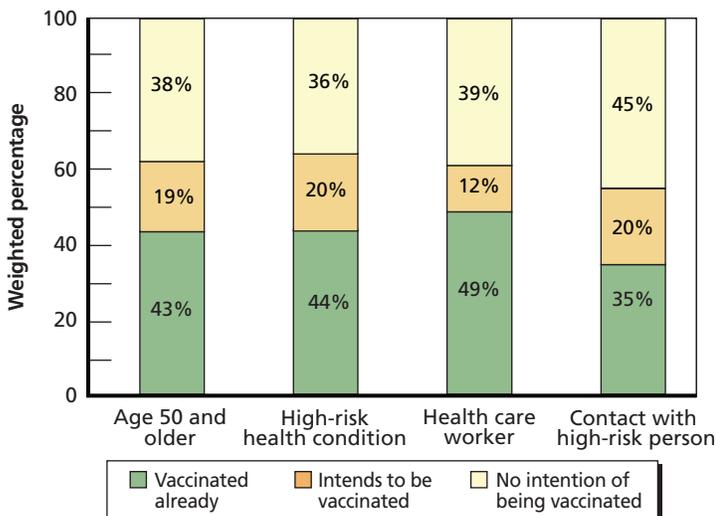
Seasonal vaccine uptake in September was almost three times higher in 2009 than in 2008, indicating the vaccination season got off to an earlier start in 2009. By the end of October 2009, the cumulative uptake of seasonal influenza vaccine exceeded last year's rate by roughly 7 percentage points. By mid-November, cumulative uptake rates were roughly equivalent.<sup>3</sup>



RAND OP289-2

### Actual and Intended Uptake of Influenza Vaccine by Adults for Whom It Is Specifically Recommended, Fall 2009

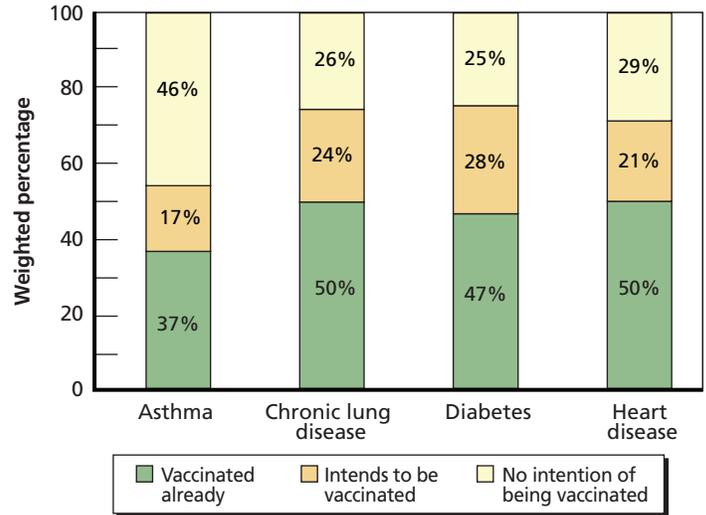
Health care workers were the most likely to be vaccinated among adults specifically recommended for seasonal influenza vaccination: Approximately one-half of all health care workers received a seasonal influenza vaccine, compared with slightly more than four in ten persons age 50 and older or with a high-risk health condition. Only one-third of those having frequent contact with or serving as caregiver to a high-risk individual received the vaccine. However, fewer unvaccinated health care workers intended to receive the vaccine than others for whom it is recommended. Otherwise, differences in the intention to be vaccinated did not differ substantially among the remaining three recommended subgroups.



RAND OP289-3

### Actual and Intended Uptake of Influenza Vaccine by Adults with Selected High-Risk Health Conditions, Fall 2009

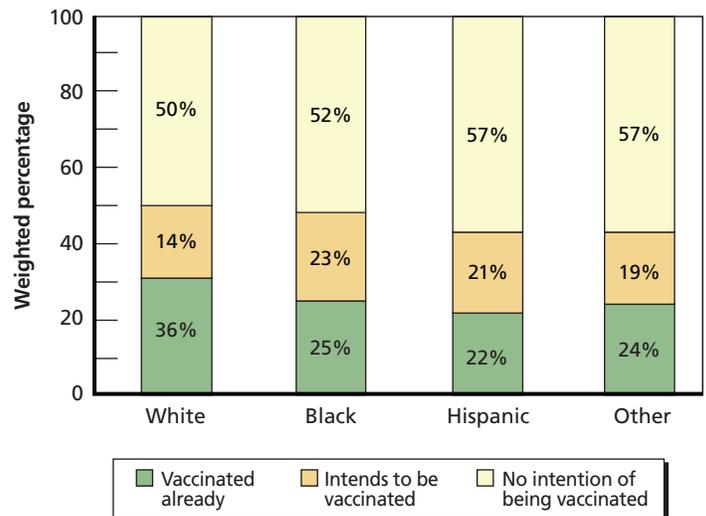
Slightly less than two in five adults with asthma and one-half of those with diabetes, heart disease, and chronic lung disease were vaccinated against seasonal influenza by mid-November. No more than one third of adults with any of these conditions intended to be vaccinated during the remainder of the season.



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### Actual and Intended Uptake of Influenza Vaccine by Race/Ethnicity, Fall 2009

By mid-November, slightly more than one in three white adults had received a seasonal influenza vaccine, compared with one in five Hispanic adults. Vaccination rates for blacks and others fell between the two. A smaller proportion of unvaccinated whites intended to be vaccinated during the remainder of the season compared with members of other racial groups. Among non-whites, the intention to be vaccinated after mid-November was roughly comparable, with fewer than one in four adults in any category intending to receive the influenza vaccine.



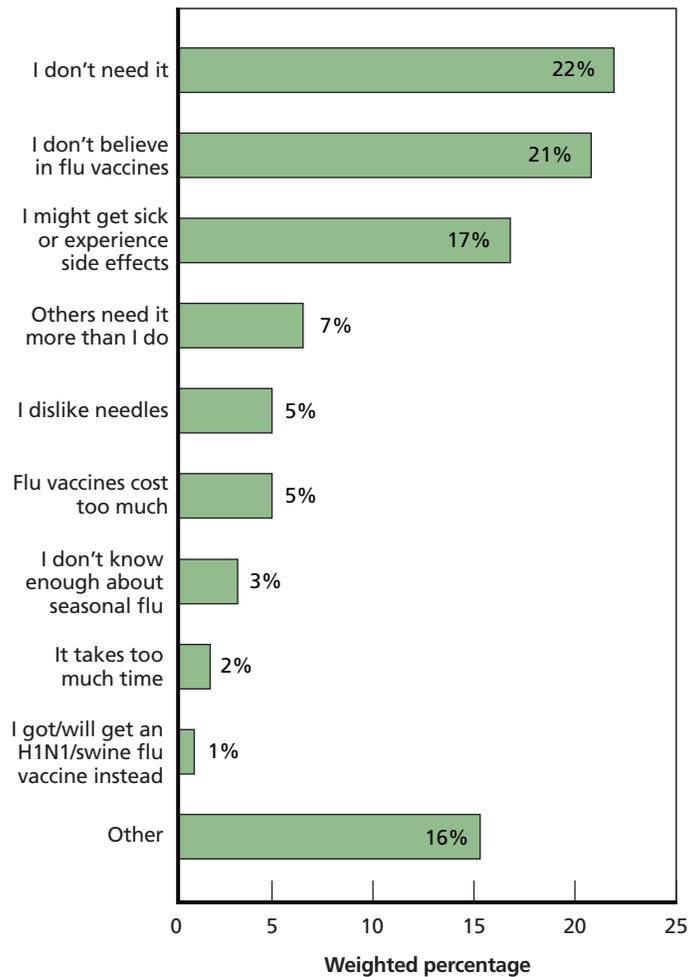
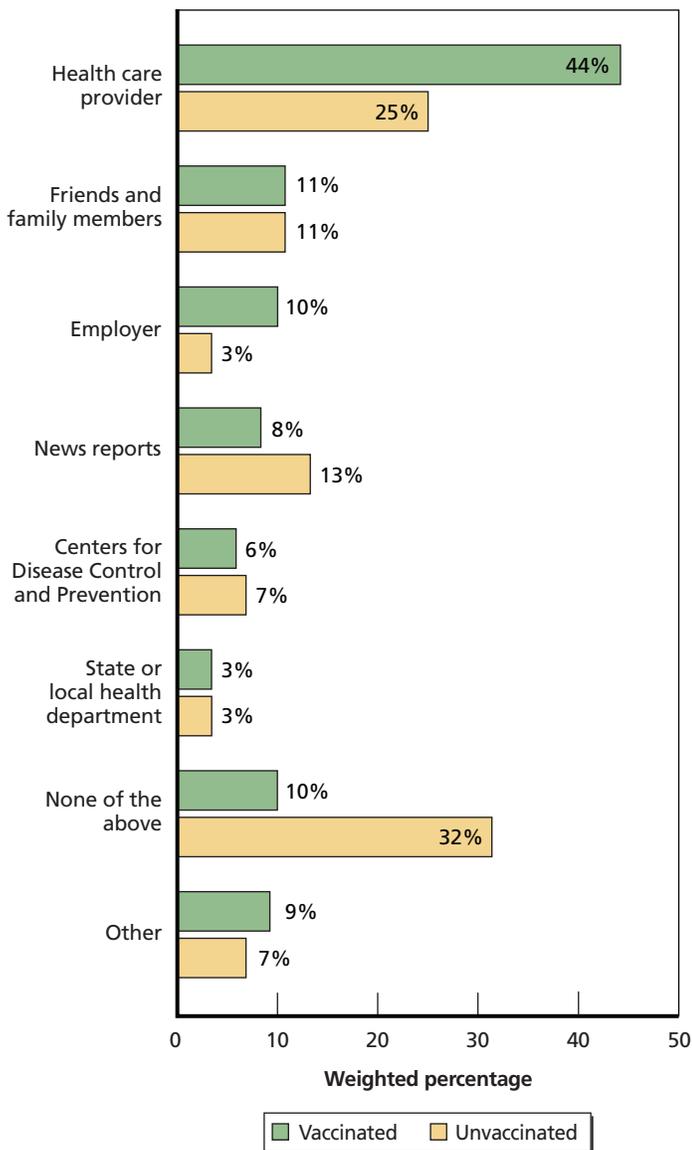
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### Most-Influential Sources of Information for Vaccination Decision, Fall 2009

The information source individuals used in deciding whether to be vaccinated differed by vaccination status. Slightly less than one-half of vaccinated adults compared with one-fourth of unvaccinated adults named their health care provider as the most-influential source of information. Compared with vaccinated adults, twice as many unvaccinated adults relied on news reports and roughly three times as many used none of the listed sources. More than four times more vaccinated adults reported relying on information from employers. Both groups relied on federal and state public health authorities and friends and family members at similar rates.

### Why Unvaccinated Adults Do Not Intend to Be Vaccinated, Fall 2009

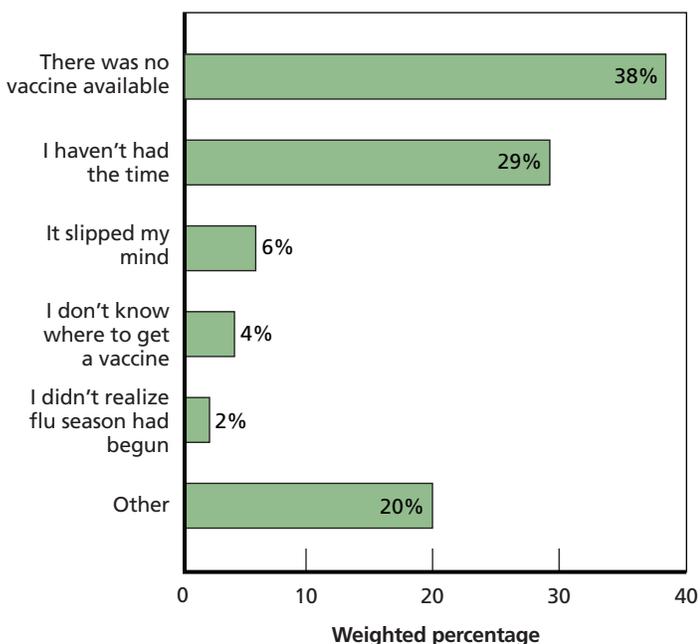
Among unvaccinated adults who did not intend to be vaccinated against seasonal influenza, about one in five thought that they did not need the vaccine. Another one-fifth of adults not intending to be vaccinated reported that they do not believe in flu vaccines, while slightly less than one in five expressed concern that they might get sick or experience side effects. Only a very small proportion of unvaccinated adults reported getting or intending to get the H1N1 vaccine as the main reason for their not intending to be vaccinated against seasonal influenza. Not illustrated here but of particular note, the three most commonly cited reasons for not intending to be vaccinated were the same across all of the groups specifically recommended for seasonal flu vaccine.



RAND OP289-7

## Why Adults Intending to Be Vaccinated Have Not Yet Been Vaccinated, Fall 2009

Nearly two out of five unvaccinated adults who intended to be vaccinated against seasonal influenza reported that the main reason they had not yet been vaccinated was a lack of available vaccine. Almost one in three adults who intended to be vaccinated reported not having had the time as the main reason. Not illustrated here but of particular note, the three most commonly cited reasons for non-uptake among those intending to be vaccinated were the same across all of the groups specifically recommended for seasonal flu vaccine.



RAND OP289-8

## Methodology

This occasional paper presents data from a nationally representative survey of adults age 18 and older (n=5,679) conducted for RAND by Knowledge Networks, Inc., a nationally representative online research panel consisting of roughly 40,000 households. Panelists are initially recruited with known probabilities based on a dual sampling frame that combines random-digit dialing and address-based sampling. The Knowledge Networks panel covers both the online and offline population, as households are not required to have Internet access at the time of recruitment. Household members agree to respond to surveys in exchange for small financial incentives or free Internet access. Studies using the Knowledge Networks panel have been published in peer-reviewed literature.

For additional information about the survey and sampling methodology, see "Knowledge Networks Methodology," available at <http://www.knowledgenetworks.com/ganp/docs/Knowledge%20Networks%20Methodology.pdf>

The survey was administered to a general sample of 7,222 adults and a sample of 1,889 health care workers between November 4, 2009, and November 16, 2009. Health care workers in the panel were identified based on self-reported employment in a health care profession, including medical doctor, nurse, nursing aide, pharmacist, or paramedic. Sixty-three percent of panelists in the general adult sample and 67 percent of health care workers responded to the survey. The sample was designed to yield a margin of error for overall vaccine uptake in the combined sample of plus or minus 2 percentage points and plus or minus 3 to 5 percentage points for subgroups based on age, minority status, and being a health care worker. The survey questionnaire is available at <http://www.knowledgenetworks.com/flu2009fall/>

All analyses were conducted using post-stratification weights to produce nationally representative estimates adjusting for known selection probabilities; oversampling of elderly adults, minorities, and health care workers; and non-response to panel recruitment and panel attrition. These adjustments are based on demographic distributions from the most recent data from the Current Population Survey (CPS) and other non-CPS benchmarks for Spanish-language and Internet use. The weighting procedure is described in greater detail at <http://www.knowledgenetworks.com/ganp/reviewer-info.html>

For detailed tables, including 95-percent confidence intervals and sample sizes, see Katherine M. Harris, Juergen Maurer, and Lori Uscher-Pines, *Midseason Influenza Vaccine Use by Adults in the U.S.: Detailed Survey Data Tables, Mid-November 2009*, Santa Monica, Calif.: RAND Corporation, OP-289/1-GSK, 2009, available at [http://www.rand.org/pubs/occasional\\_papers/OP289.1/](http://www.rand.org/pubs/occasional_papers/OP289.1/)

<sup>1</sup> Katherine M. Harris, Juergen Maurer, and Nicole Lurie, *Midseason Influenza Vaccine Use by Adults in the U.S.: A Snapshot as of Mid-November 2008*, Santa Monica, Calif.: RAND Corporation, OP-241-GSK, 2008. Available at [http://www.rand.org/pubs/occasional\\_papers/OP241/](http://www.rand.org/pubs/occasional_papers/OP241/)

<sup>2</sup> A.E. Fiore et al., Prevention and control of influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2009. *MMWR Recomm Rep*, 2009. 58(RR08): pp. 1–52. Persons with chronic conditions considered to be at "high risk" include persons who have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, cognitive, neurologic/neuromuscular, hematological, or metabolic (including diabetes mellitus) disorders and persons who have an immunosuppressing health condition.

<sup>3</sup> Lack of complete overlap in fielding periods resulted in different reference periods used in computing overall midseason uptake. The 2008 survey was in the field from November 7 to November 19, 2008, whereas the 2009 survey was in the field from November 4 to November 16, 2009. On average, survey responses in 2009 were completed two days earlier than in 2008.

This survey was conducted under contract with GlaxoSmithKline (GSK). The findings have been subject to RAND's quality assurance and peer review process, and RAND alone is responsible for any errors in the content. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.

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