



HEALTH

THE ARTS
CHILD POLICY
CIVIL JUSTICE
EDUCATION
ENERGY AND ENVIRONMENT
HEALTH AND HEALTH CARE
INTERNATIONAL AFFAIRS
NATIONAL SECURITY
POPULATION AND AGING
PUBLIC SAFETY
SCIENCE AND TECHNOLOGY
SUBSTANCE ABUSE
TERRORISM AND
HOMELAND SECURITY
TRANSPORTATION AND
INFRASTRUCTURE
WORKFORCE AND WORKPLACE

This PDF document was made available from www.rand.org as a public service of the RAND Corporation.

[Jump down to document](#) ▼

The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis.

Support RAND

[Browse Books & Publications](#)

[Make a charitable contribution](#)

For More Information

Visit RAND at www.rand.org

Explore [RAND Health](#)

View [document details](#)

Limited Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Unauthorized posting of RAND PDFs to a non-RAND Web site is prohibited. RAND PDFs are protected under copyright law. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please see [RAND Permissions](#).

This product is part of the RAND Corporation occasional paper series. RAND occasional papers may include an informed perspective on a timely policy issue, a discussion of new research methodologies, essays, a paper presented at a conference, a conference summary, or a summary of work in progress. All RAND occasional papers undergo rigorous peer review to ensure that they meet high standards for research quality and objectivity.

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

A Snapshot from the End of the 2009–2010 Vaccination Season

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

- RAND RESEARCH AREAS**
- THE ARTS
 - CHILD POLICY
 - CIVIL JUSTICE
 - EDUCATION
 - ENERGY AND ENVIRONMENT
 - HEALTH AND HEALTH CARE
 - INTERNATIONAL AFFAIRS
 - NATIONAL SECURITY
 - POPULATION AND AGING
 - PUBLIC SAFETY
 - SCIENCE AND TECHNOLOGY
 - SUBSTANCE ABUSE
 - TERRORISM AND HOMELAND SECURITY
 - TRANSPORTATION AND INFRASTRUCTURE
 - WORKFORCE AND WORKPLACE

In March 2010, the RAND Corporation surveyed a nationally representative sample of noninstitutionalized adults age 18 and over (n=4,040) to collect data on the receipt of seasonal influenza vaccine in the United States. RAND collected comparable data in mid-November 2009.¹ The survey was designed to inform public health officials and other stakeholders about seasonal influenza vaccination of adults shortly following the end of the vaccination season. The information on flu vaccine uptake among population groups should be of interest to those working to increase uptake among different segments of the population.

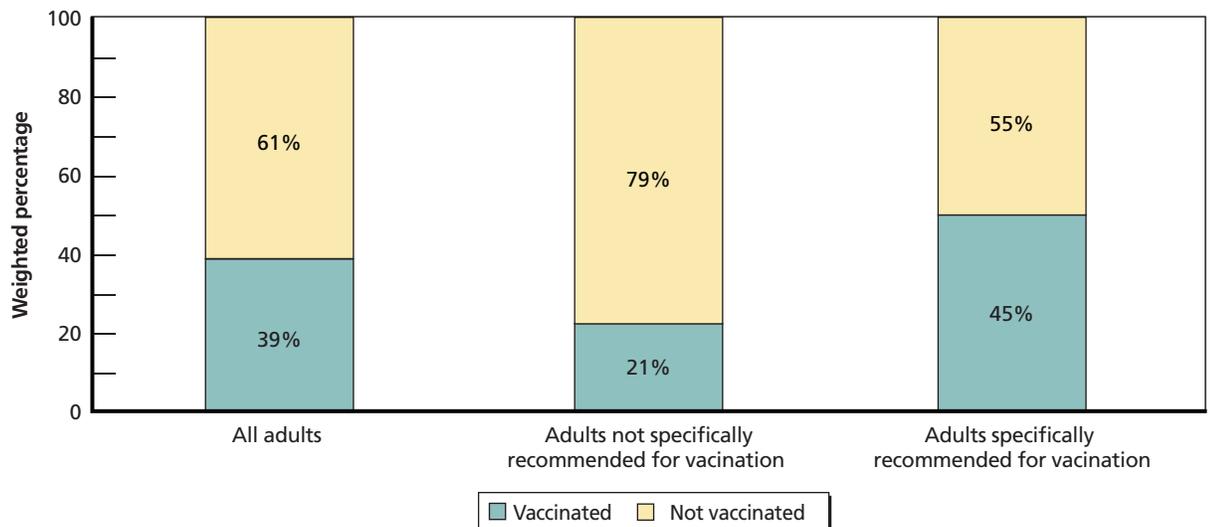
In 2009, the Advisory Committee on Immunization Practices (ACIP) to the Centers for Disease Control and Prevention (CDC) specifically recommended annual seasonal influenza vaccination for the following groups of adults living outside of nursing homes and other institutionalized settings: those age 50 or over; persons having certain high-risk medical conditions; health care workers; women who will be pregnant during flu season; 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.² Survey data described here suggest that together these groups comprise roughly three in four community-dwelling adults in the United States. The ACIP also recommended 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.

During the 2009–2010 vaccination season,

- 39 percent of all U.S. adults were vaccinated against seasonal influenza
- 45 percent of adults specifically recommended for vaccination were vaccinated
- 48 percent of vaccinated adults received the vaccine at a doctor’s office or medical clinic.

Receipt of Influenza Vaccine by Adults Age 18 and Older in the United States, 2009–2010

By the end of the 2009–2010 vaccination season, 39 percent of adults and 45 percent of specifically recommended adults had been vaccinated for seasonal influenza.

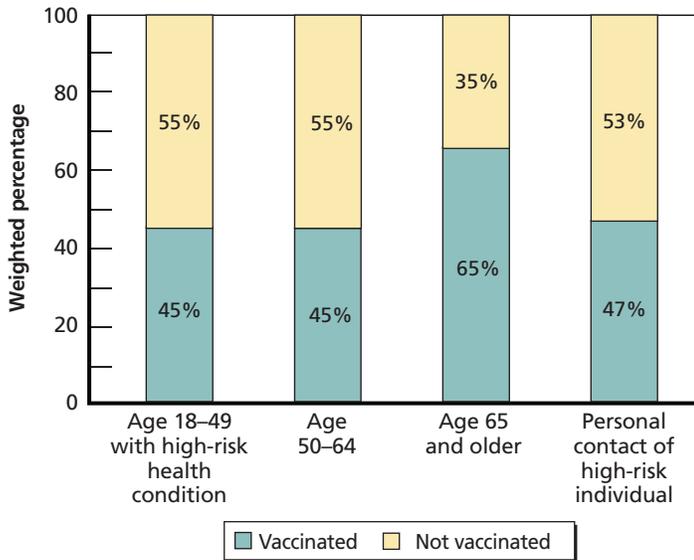


This product is part of the RAND Corporation occasional paper series. RAND occasional papers may include an informed perspective on a timely policy issue, a discussion of new research methodologies, essays, a paper presented at a conference, a conference summary, or a summary of work in progress. All RAND occasional papers undergo rigorous peer review to ensure that they meet high standards for research quality and objectivity.

© RAND 2010

Receipt of Seasonal Influenza Vaccine by Adults for Whom It Is Specifically Recommended, 2009–2010

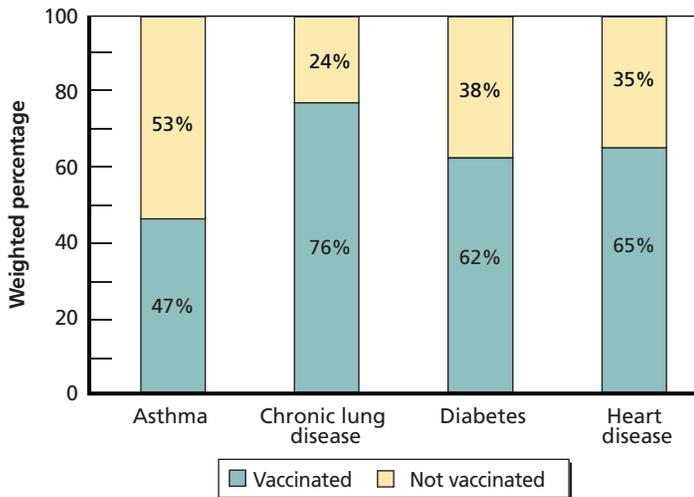
Seasonal vaccine uptake varied among groups of adults for whom the ACIP specifically recommends seasonal influenza vaccination. Roughly two thirds of adults age 65 and older received the vaccine. Within the groups of adults between the ages of 50 and 64, in close personal contact with high risk individuals, and age 18–49 with a high risk health condition, almost half received seasonal flu vaccine



RAND OP311-2

Receipt of Seasonal Influenza Vaccine by Adults with Selected High-Risk Health Conditions, 2009–2010

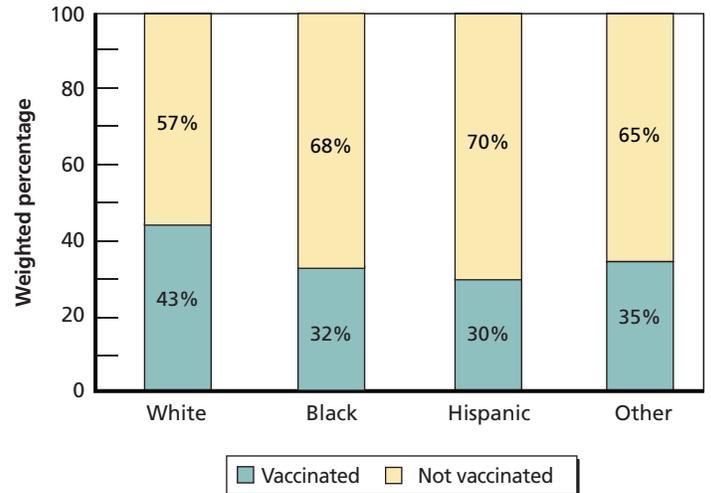
Roughly three quarters of adults with chronic lung disease and two thirds of both adults with diabetes and adults with heart disease were vaccinated during the 2009-2010 influenza vaccination season. By contrast, less than half of those with asthma were vaccinated.



RAND OP311-3

Receipt of Seasonal Influenza Vaccine by Race/Ethnicity, 2009–2010

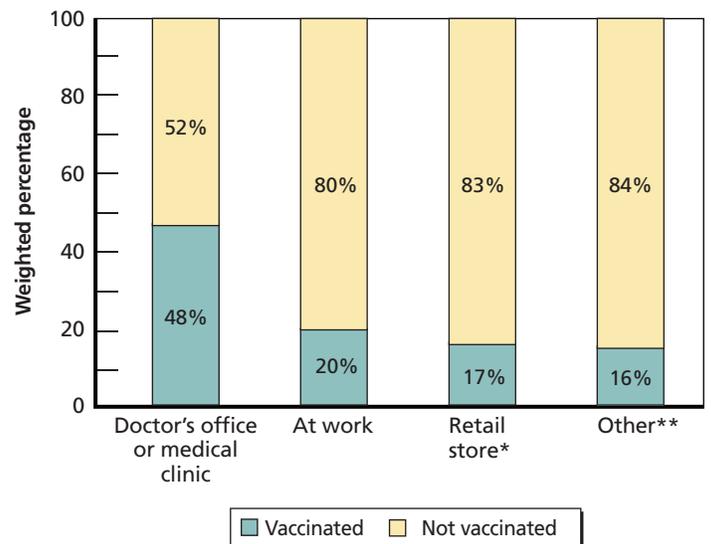
Slightly less than one in three black and Hispanic adults received influenza vaccine during the 2009–2010 vaccination season. During the same time period, white adults were 8 to 13 percentage points more likely to be vaccinated than members of other racial/ethnic groups.



RAND OP311-4

Location at Which Adults Age 18 and Older Received the Seasonal Influenza Vaccine, 2009–2010

Among all adults vaccinated against seasonal influenza during the 2009–2010 vaccination season, approximately half received the vaccine at a doctor’s office or medical clinic. Nearly two out of five adults were vaccinated in the workplace or at a retail store.



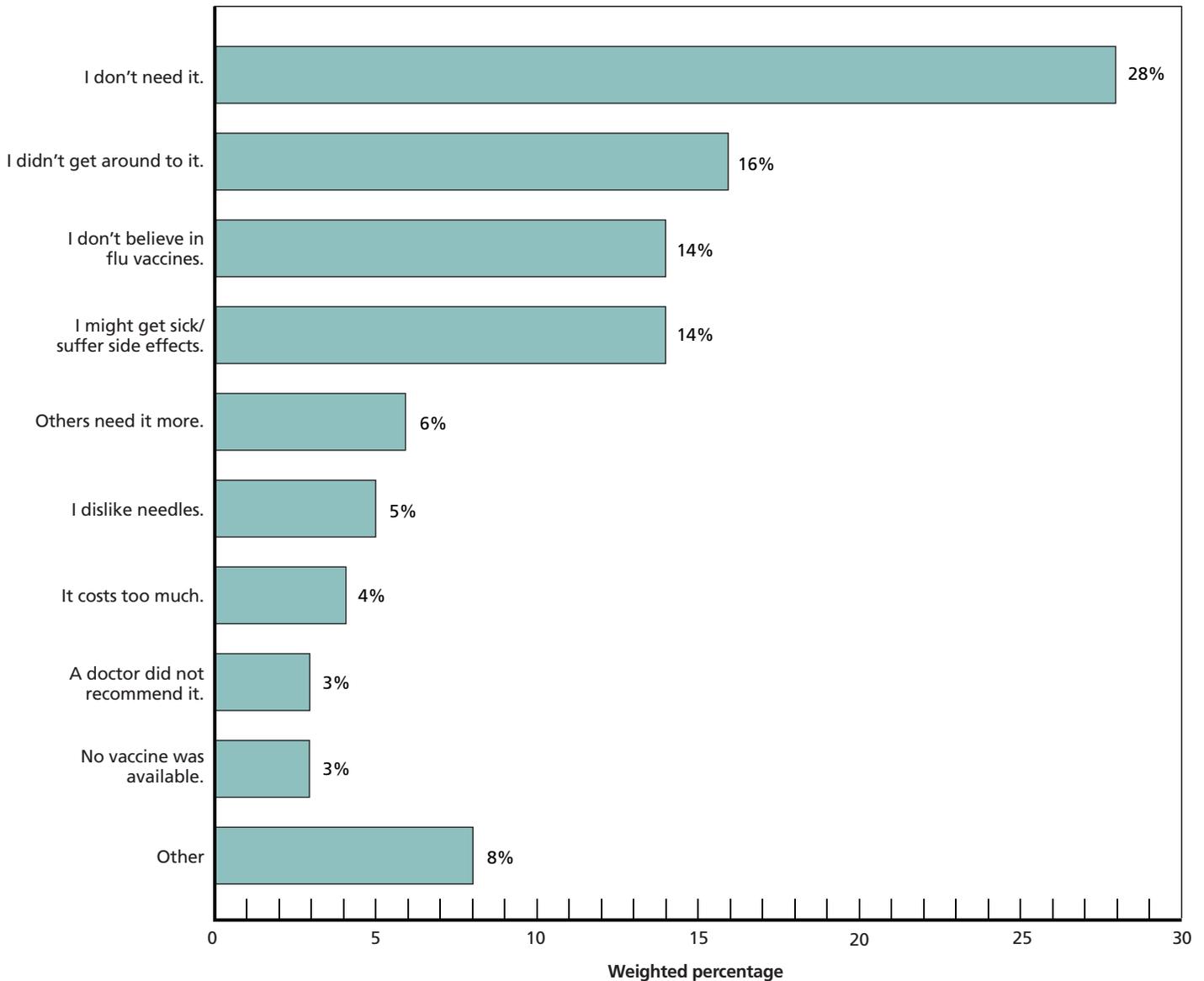
*Includes grocery stores, drug stores, and other types of store.

**Includes public health departments and community centers.

RAND OP311-5

Main Reason Why Adults Were Not Vaccinated for Seasonal Influenza, 2009–2010 Vaccination Season (n=2,165)

More than half of adults in the general population who did not receive the seasonal influenza vaccine during the 2009–2010 vaccination season cited factors relating to perceived lack of value as the main reasons for not being vaccinated. These reasons included a lack of perceived need for flu vaccine, lack of belief in flu vaccines, and a perceived risk of illness or side-effects. Factors relating to the perceived limited availability of seasonal influenza vaccine (i.e., not finding vaccine available or perceiving others as having greater need for vaccine) were cited by just over one in ten unvaccinated adults. A larger proportion of unvaccinated adults cited “not getting around to it” as the main reason for not being vaccinated.



NOTE: The sum of the percentages shown does not equal 100% due to rounding.

RAND OP311-6

Methodology

This occasional paper presents data from a nationally representative survey of adults age 18 and older (n=4,040) conducted for RAND by Knowledge Networks, Inc., a nationally representative online research panel consisting of roughly 50,000 households. Panelists are initially recruited with known probabilities using random digit dialing and address-based sampling. 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 survey methodology, see “Summary of KnowledgePanel Design,” available at [http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel\(R\)-Design-Summary-Description.pdf](http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel(R)-Design-Summary-Description.pdf).

The survey was administered to a general sample of 5,495 adult panelists between March 4 and March 24, 2010. Seventy-four percent of panelists 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 and minority status (i.e., white, black, or other). The survey questionnaire is available at <http://www.knowledgenetworks.com/vaccine/>.

All analyses were conducted using post-stratification weights to produce nationally representative estimates adjusting for known selection probabilities; oversampling of elderly adults and minorities; 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, *Seasonal Influenza Vaccine Use by Adults in the U.S.: Detailed Survey Data Tables, 2009–2010*, Santa Monica, Calif.: RAND Corporation, OP-311/1-GSK, 2010, available at http://www.rand.org/pubs/occasional_papers/OP311.1/

¹ Katherine M. Harris, Juergen Maurer, and Lori Uscher-Pines, *Seasonal Influenza Vaccine Use by Adults in the U.S.: A Snapshot as of Mid-November 2009*, Santa Monica, Calif.: RAND Corporation, OP-289-GSK, 2009. Available at http://www.rand.org/pubs/occasional_papers/OP289/

² 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.

This survey was conducted under a contract with GlaxoSmithKline (GSK). The findings have been subject to RAND’s rigorous quality assurance process, and the authors are grateful to Andrew Parker and Matthew Daley for reviewing the manuscript and providing valuable suggestions. RAND alone is responsible for the content. The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis. RAND’s publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

RAND Offices

Santa Monica, CA • Washington, DC • Pittsburgh, PA • New Orleans, LA/Jackson, MS • Boston, MA • Doha, QA • Cambridge, UK • Brussels, BE