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 HEALTH

OCCASIONAL PAPER

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

Detailed Survey Data Tables for 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 various population groups should be of interest to those working to expand 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 institutional 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.

The following tables present detailed findings from the survey.

Table 1: Receipt of Seasonal Influenza Vaccine by Adults Age 18 and Older, 2009–2010

		Vaccinated	
Indication	Unweighted Sample Size	Weighted %	95% Confidence Interval (%)
All adults	4,034[a]	39.1	36.5–41.8
Adults not specifically recommended for the vaccine	443	20.9	15.6–26.3
Adults specifically recommended for the vaccine	3,591	45.3	42.3–48.3

[a] Six respondents declined to provide vaccination status information.

Table 2: Receipt of Seasonal Influenza Vaccine by Selected ACIP Recommended Subgroups, 2009–2010

		Vaccinated	
Indication	Unweighted Sample Size	Weighted %	95% Confidence Interval (%)
Age 18–49 w/ a high-risk health condition	203	45.3	35.1–55.4
Age 50–64	1,666	44.5	40.7–48.3
Age 65 and older	1,354	64.5	60.5–68.6
Personal contact with a high-risk individual	2,384	46.7	43.0–50.5

[1] Katherine M. Harris, Juergen Maurer, and Lori Uscher-Pines, *Seasonal Influenza Vaccine Use by Adults in the U.S.: Detailed Survey 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/

[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.

Table 3: Receipt of Seasonal Influenza Vaccine by Adults Age 18 and Older by Selected High-Risk Health Condition, 2009–2010

		Vaccinated	
Indication	Unweighted Sample Size	Weighted %	95% Confidence Interval (%)
Asthma	438	46.9	38.0–55.8
Chronic lung disease	183	76.0	67.2–84.7
Diabetes	672	62.1	55.0–69.1
Heart disease	441	64.8	57.1–72.5

Table 4: Receipt of Seasonal Influenza Vaccine by Adults Age 18 and Older by Race/Ethnicity, 2009–2010

		Vaccinated	
Race/Ethnicity	Unweighted Sample Size	Weighted %	95% Confidence Interval (%)
White	1,807	42.6	39.2–45.9
Black	1,136	32.2	26.4–38.1
Hispanic	588	29.5	22.4–36.6
Other	503	34.5	24.5–44.5

Table 5: Location at Which Adults Age 18 and Older Received the Seasonal Infuenza Vaccine, 2009–2010

		Vaccinated	
Location	Unweighted Sample Size	Weighted %	95% Confidence Interval (%)
Doctor's office or medical clinic	923	47.5	43.3–51.6
At work	267	19.5	15.8–23.1
Retail store[a]	340	17.0	14.0–19.9
Other[b]	324	16.1	13.1–19.2

[a] Includes grocery stores, drug stores, and other types of store.
[b] Includes public health departments and community centers.

Table 6: Main Reason Why Adults Were Not Vaccinated, 2009-2010 Vaccination Season

Main Reason	Weighted %	95% Confidence Interval (%)
I don't need it.	27.6	24.1–31.0
I don't believe in flu vaccines.	15.6	12.9–18.3
I might get sick/experience side effects from the vaccine.	14.2	11.7–16.6
I didn't get around to it.	13.8	11.3–16.4
Others need it more than I do.	6.3	4.3–8.2
There was no vaccine available when I tried to get it.	5.1	3.4–6.7
I dislike needles.	3.8	2.3–5.3
A doctor did not recommend it.	3.1	1.7–4.4
Vaccines cost too much.	2.8	1.6–4.1
Other	7.8	6.1–9.5

Table 7: Survey Completion Rates by Race/Ethnicity

Race/Ethnicity	Number Fielded	Completes	Completion Rate
White	2,210	1,808	81.8%
Black	1,758	1,141	64.9%
Hispanic/Other	1,527	1,091	71.4%
Total	5,495	4,040	73.5%

Table 8: Final Completes

	Race/Ethnicity				
Age	White	Black	Hispanic	Other	Total
18–49	434	273	190	119	1,016
50–64	668	568	256	177	1,669
65+	706	300	142	207	1,355
Total	1,808	1,141	588	503	4,040

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.

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.

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

OP-311/1-GSK (2010)