

Influenza and Pneumonia Immunization

Influenza (flu) is a contagious viral disease that attacks the respiratory tract. Each year, from ten to twenty percent of the U.S. population contracts influenza. Most of these people recover; however, in an average year, 36,000 die of flu and complications, and 114,000 are hospitalized. The most common complications of flu are pneumonia, bronchitis, sinus infections, and ear infections. Flu can also aggravate chronic conditions, especially asthma and congestive heart failure.¹

Pneumococcal bacterial pneumonia accounts for an estimated 40,000 deaths annually in the United States² and is a common complication of influenza.³

Three groups of people are most at risk of serious flu complications: very young children, adults over 65 years of age, and people with diabetes and other chronic diseases. People over 65 account for 90% of deaths due to influenza and pneumonia.⁴ Diabetics are three times more likely than persons without diabetes to die of complications of flu, and annually 10,000 to 30,000 diabetics die from complications of flu or pneumonia.⁵ For this reason, CDC's Advisory Committee on Immunization Practices (ACIP) recommends that all people with diabetes and people over 65 be immunized against influenza every year, and once in a lifetime against pneumococcal disease.⁴

National and State Prevalence

Nationwide, in 54 states, the median percentage of persons who had a flu shot in the past 12 months was 31.8%. In Tennessee in 2001, 33.1% had received a flu shot within one year (95% confidence interval 31.3% – 35.0%, n=964).

Nationwide, in 2001, 21.8% reported being vaccinated against pneumonia (median percentage, 54 states). In Tennessee, the percentage was lower, 19.8% (95% confidence interval 18.2% – 21.3%).⁷

Healthy People 2010

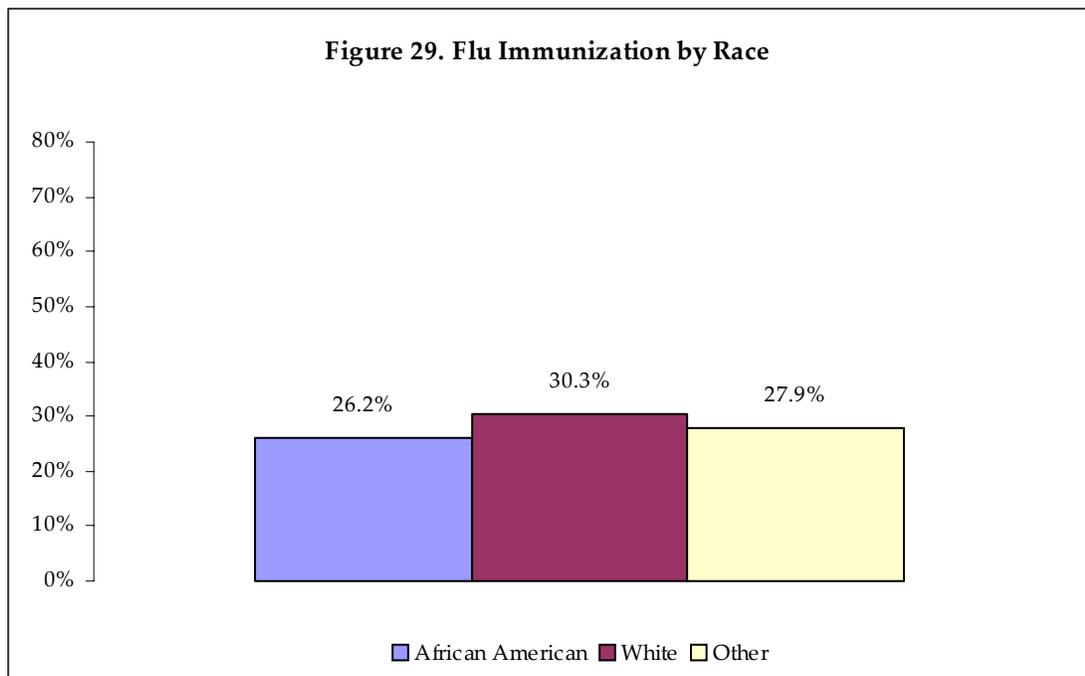
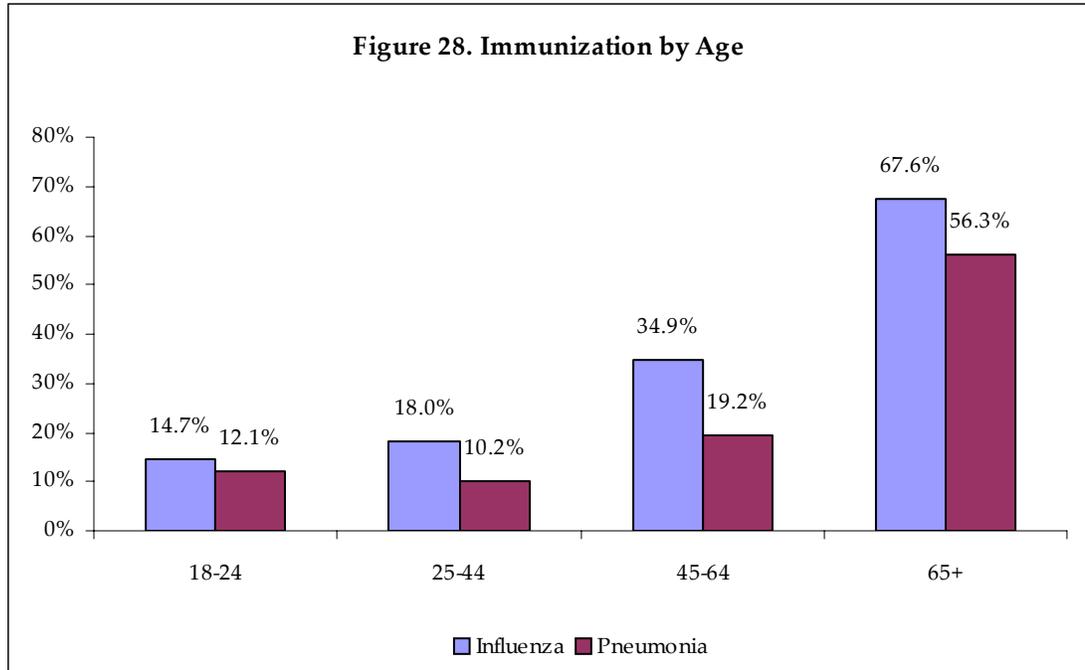
Healthy People 2010 Objective 14-29 states “Increase the proportion of noninstitutionalized adults who are vaccinated annually against influenza and ever vaccinated against pneumococcal disease.” The target is 90% of noninstitutionalized adults aged 65 years and older and 60% of noninstitutionalized high risk adults aged 18-64 years.⁶

Description of Measures

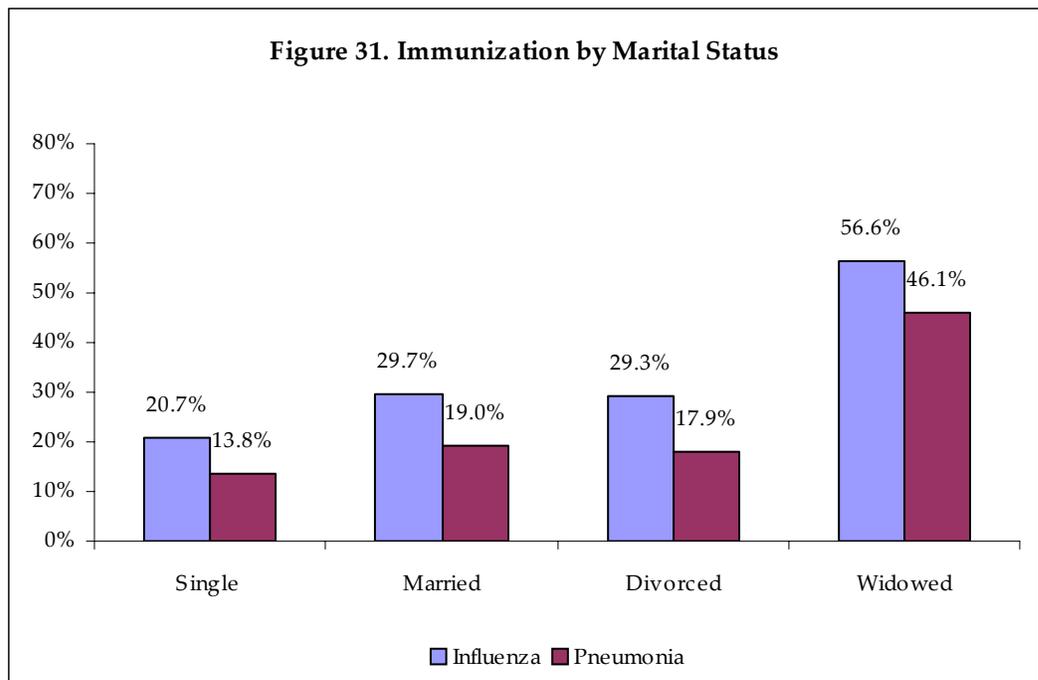
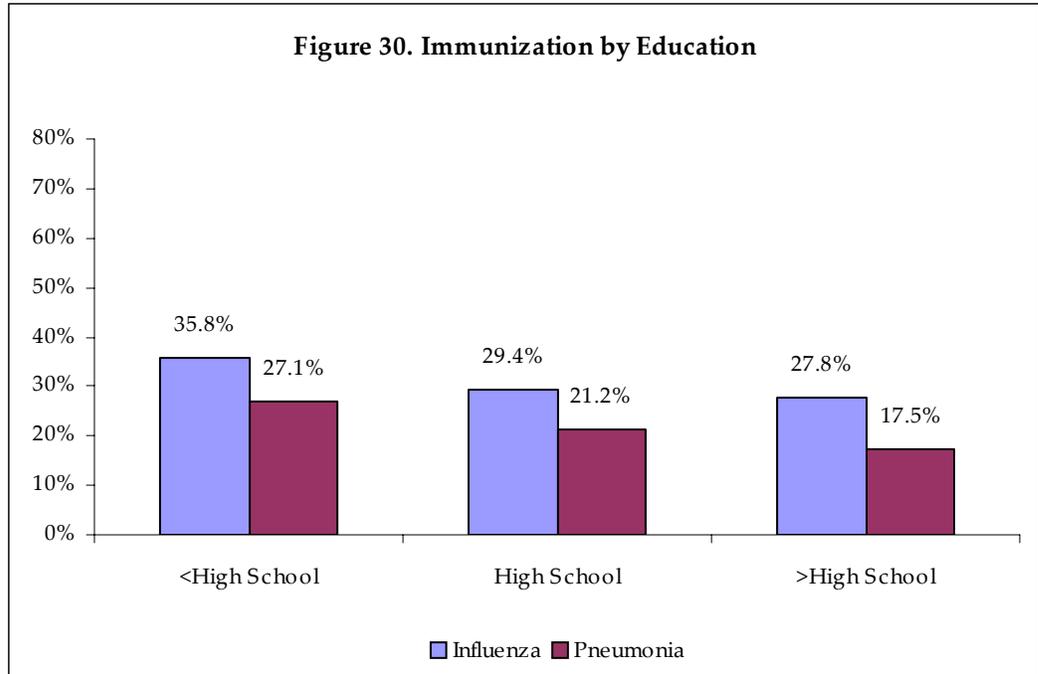
The Community Health Survey used two questions from the BRFSS regarding immunizations: “During the last 12 months, have you had a flu shot?” and “Have you ever had a pneumonia vaccination?”

Results

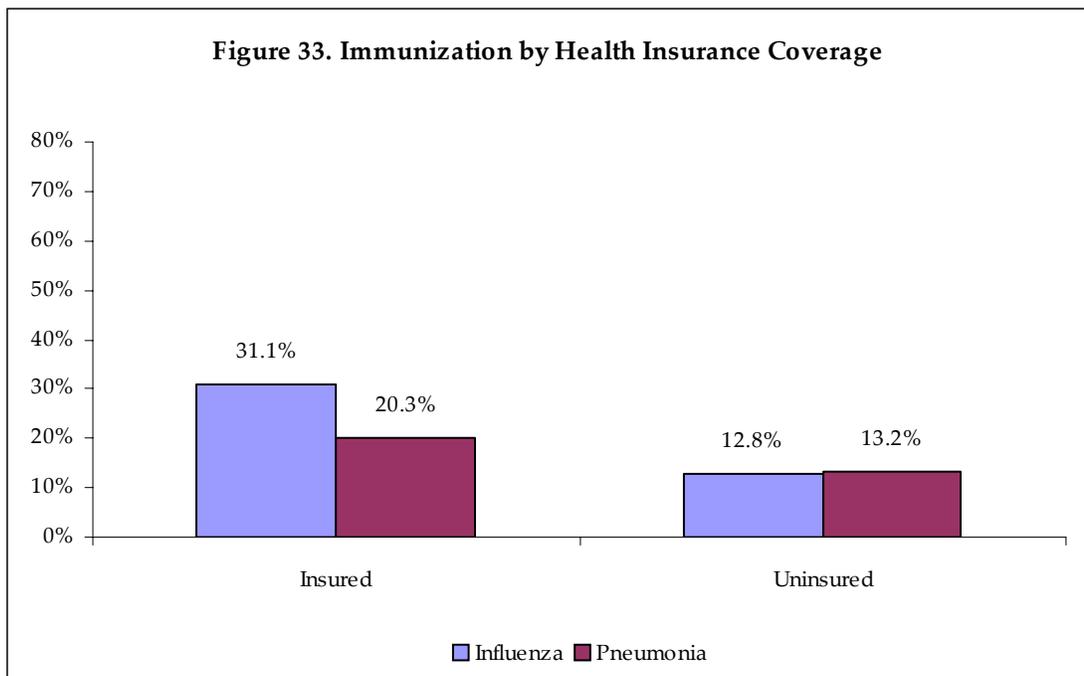
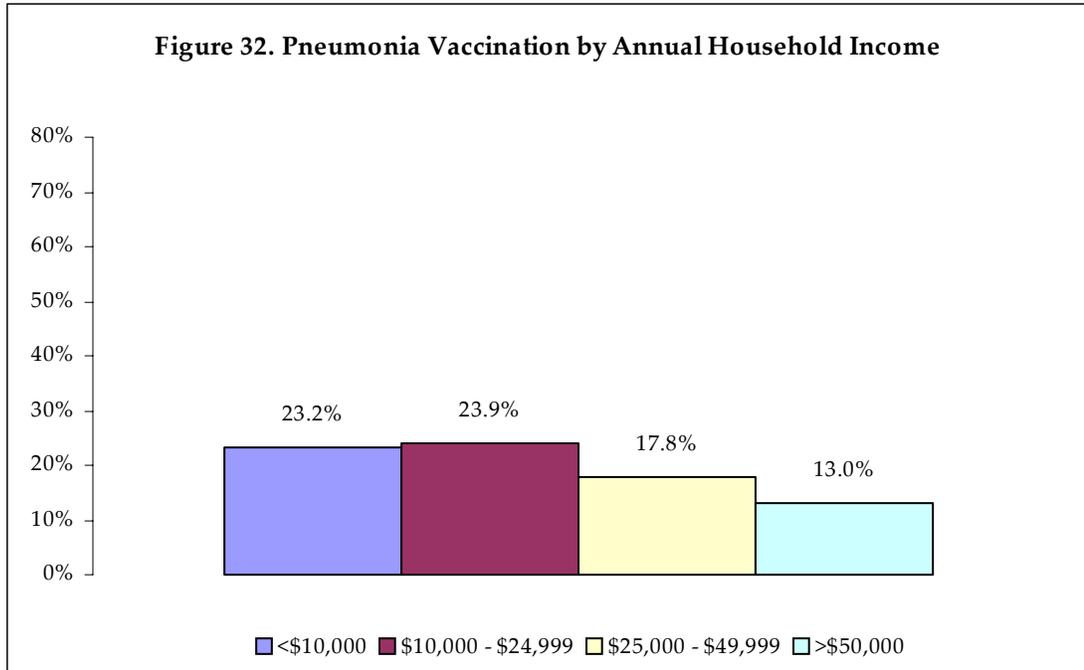
- Of the Nashville sample, 31.4% (95% confidence interval 30.4% – 32.4%) had received a flu shot in the past 12 months.
- Twenty-one percent (95% confidence interval 30.4% – 32.4%) had ever been vaccinated against pneumonia (95% confidence interval 20.4% – 22.2%).



- Older age groups were most likely to have had either immunization. The percentage of adults age 65 and over who were immunized was 67.6% for flu and 56.3% for pneumonia. (Figure 28)
- More Whites than African Americans or other races were immunized against flu. There was no significant racial difference for pneumonia immunization. (Figure 29)



- A higher percentage of people with less than high school education were immunized against both flu and pneumonia. (Figure 30)
- Widowed persons were most likely to be immunized, and never-married singles were least likely to be immunized. (Figure 31)



- Higher percentages of persons with lower household incomes were vaccinated against pneumonia. Income did not make a significant difference for flu immunization. (Figure 32)
- Those with health insurance were more likely than the uninsured to be immunized; 31.1% compared to 12.8% for influenza, and 20.3% compared to 13.2% for pneumonia. (Figure 33)

References

1. Centers for Disease Prevention and Control, National Center for Infectious Diseases. Influenza: The Disease [web page]. Available at: <http://www.cdc.gov/ncidod/diseases/flu/fluinfo.htm>. Accessed July 3, 2003.
2. Pneumococcal and influenza vaccination levels among adults aged > or = 65 years – United States, 1995. *Morbidity and Mortality Weekly Report* Oct 3 1997;46(39):913-919.
3. Influenza and pneumococcal vaccination levels among persons aged > or = 65 years—United States, 2001. *Morbidity and Mortality Weekly Report* Nov 15 2002;51(45):1019-1024.
4. Centers for Disease Control and Prevention. Diabetes: Disabling, Deadly, and on the Rise. Available at: www.cdc.gov/diabetes/pubs/glance.htm. Accessed 4/15/2003.
5. Centers for Disease control and Prevention. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Report* 2003;52(No. RR-8):1-26.
6. U.S. Department of Health and Human Services. *Healthy People 2010* (Conference Edition, in Two Volumes). Washington, DC: January 2000.
7. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System Prevalence Data [Web page]. June 12, 2003. Available at: <http://apps.nccd.cdc.gov/brfss/>. Accessed June 19, 2003. Accessed July 2, 2003.

Table 5. Flu and Pneumonia Immunization. Results of the 2001 Community Health Behavior Survey in Davidson County, Tennessee Weighted by Age, Gender, Race, and Council District (95% Confidence Interval)

<i>Demographics</i>	<u>Influenza Immunization in Past Year</u>	<u>Pneumococcal Immunization (Ever)</u>
<u>Total</u>	31.4% (30.4 - 32.4)	21.3% (20.4 - 22.2)
<u>Age</u>		
18-24	14.7% (12.0 - 17.5)	12.1% (9.6 - 14.6)
25-44	18.0% (16.7 - 19.3)	10.2% (9.1 - 11.2)
45-64	34.9% (32.9 - 37.0)	19.2% (17.5 - 20.9)
65+	67.6% (65.0 - 70.1)	56.3% (53.6 - 59.0)
<u>Race</u>		
African American	26.2% (24.2 - 28.3)	19.4% (17.5 - 21.3)
White	30.3% (29.0 - 31.5)	19.4% (18.4 - 20.5)
Other	27.9% (21.9 - 34.0)	20.9% (15.4 - 26.4)
<u>Gender</u>		
Male	29.3% (27.5 - 31.0)	18.7% (17.2 - 20.2)
Female	29.1% (27.8 - 30.4)	20.4% (19.3 - 21.6)
<u>Income</u>		
< \$10,000	27.0% (21.9 - 32.2)	23.2% (18.3 - 28.1)
\$10,000 - \$24,999	30.4% (28.3 - 32.5)	23.9% (21.9 - 25.9)
\$25,000 - \$49,999	26.3% (24.6 - 28.0)	17.8% (16.3 - 19.3)
> \$50,000 or more	28.3% (26.2 - 30.5)	13.0% (11.4 - 14.6)
<u>Education</u>		
< High School	35.8% (32.7 - 39.0)	27.1% (24.1 - 30.0)
High School	29.4% (27.3 - 31.4)	21.2% (19.3 - 23.0)
> High School	27.8% (26.5 - 29.1)	17.5% (16.3 - 18.6)
<u>Marital Status</u>		
Single	20.7% (19.2 - 22.1)	13.8% (12.6 - 15.0)
Married/Cohabiting	29.7% (27.3 - 32.1)	19.0% (17.0 - 21.1)
Divorced/Separated	29.3% (27.3 - 32.3)	17.9% (16.2 - 19.6)
Widowed	56.6% (53.2 - 59.9)	46.1% (42.7 - 49.4)
<u>Insurance Coverage</u>		
Insured	31.1% (30.0 - 32.3)	20.3% (19.3 - 21.3)
Uninsured	12.8% (11.0 - 14.6)	13.2% (11.4 - 15.1)