

Improving the Use of Influenza and Pneumococcal Immunizations in Nursing Homes

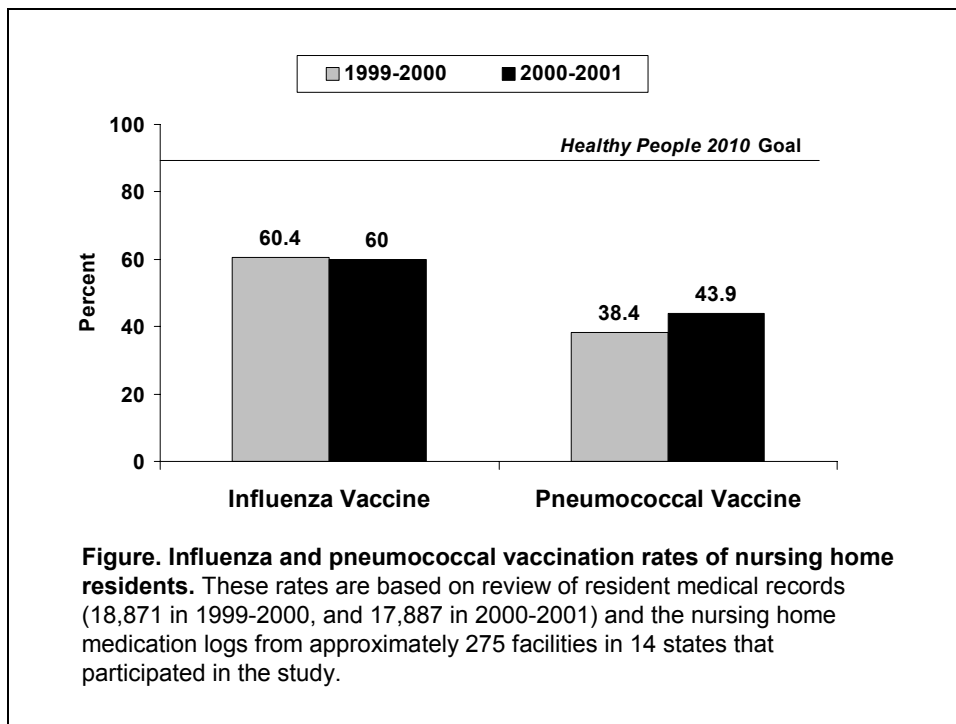
Burden of Disease

Epidemics of influenza occur during the winter months nearly every year and are responsible for approximately 36,000 deaths and 114,000 hospitalizations per year in the United States. During outbreaks in nursing homes, greater than 60% of residents can become infected. Among those nursing home residents who get influenza, 52% may develop pneumonia, 29% are hospitalized, and 10% die of influenza-related complications.

Pneumococcal disease occurs year round and accounts for 3,000 cases of meningitis, 50,000 cases of bacteremia, and 500,000 cases of pneumonia, each year. Despite antimicrobial therapy and intensive medical care, the overall case-fatality rate for pneumococcal bacteremia is as high as 40% among persons 65 years and older. Adults in nursing homes are especially vulnerable to pneumococcal disease and death because of their advanced age and frequent presence of chronic illnesses.

Need for Vaccination

Although both influenza and pneumococcal vaccines have been proven effective in preventing hospitalizations, and reducing death, their use in long-term care facilities remains far below the *Healthy People 2010* goal of at least 90% vaccination levels among chronically ill and older persons in nursing homes. Based on the 1999 National Nursing Home Survey, only 66% of residents had received the influenza vaccine in the previous year and only 38% had ever had the pneumococcal vaccine. In a more recent medical record review sponsored by the Centers for Medicare & Medicaid Services (CMS) and the Centers for Disease Control and Prevention (CDC) rates of vaccination have changed very little (Figure).



Benefits of Vaccination

Studies in the nursing home setting indicate that the vaccine is 50-60% effective in preventing hospitalization and pneumonia, and 80% effective in preventing death. In addition, achieving high rates of vaccination among residents and nursing home employees can reduce the likelihood of an outbreak in a facility.

Numerous studies have demonstrated that pneumococcal vaccine is approximately 60% effective in preventing invasive disease (bacteremia and meningitis) due to *Streptococcus pneumoniae*. In elderly patients with chronic lung disease, pneumococcal vaccine is associated with a 43% reduction in the number of hospitalizations for pneumonia and a 29% reduction in the risk of death from all causes. Investigations from outbreaks of pneumococcal pneumonia, and the emergence of antibiotic-resistant strains of *S. pneumoniae* continue to support the need for pneumococcal vaccination of nursing home residents.

Standing Orders are the Most Effective Strategy to Increase Vaccination Rates

Based on scientific evidence of effectiveness in improving vaccination rates, the CDC, CMS, The Advisory Committee on Immunization Practices, the Task Force for Community Preventive Services and the RAND Healthy Aging Evidence Report all strongly recommend standing orders programs for the vaccination of adults. Standing orders for immunization allow appropriate non-physician staff (such as nurses as allowed by state law) to offer and give vaccinations, after an assessment for contraindications, without an individual physician order in the medical record.

Although not as effective as standing orders programs, preprinted vaccine order sheets that are placed on resident charts at admission for physician signature can achieve higher rates of vaccination than programs that rely on individual physicians to order these life saving vaccines on each individual patient or respond to yearly reminders sent to their office to give the vaccine.

New Federal Policy

The Federal Conditions of Participation (42 CFR Parts 482, 483, and 484) for Medicare were recently changed to reflect the following for nursing homes:

We are changing our current regulations in the Conditions of Participation for long-term care facilities at § 483.40 (b)(3) to read “the physician must sign and date all orders with the exception of influenza and pneumococcal polysaccharide vaccines, which may be administered per physician-approved facility policy after an assessment for contraindications.”

Where to Find More Information

The following links can provide additional detail on implementing vaccination programs including standing order programs in the nursing home setting:

- The Medicare Quality Improvement Community website on adult vaccination: <http://www.medqic.org/content/nationalpriorities/topics/projectdes.jsp?topicID=471>
- Federal Conditions of Participation allowing standing orders in nursing homes: <http://www.cms.gov/providerupdate/regs/cms3160fc.pdf>
- Advisory Committee on Immunization Practices recommendation for Standing Orders Programs: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4901a2.htm>