Nursing home residents are at high risk for invasive group A streptococcal (GAS) disease, and clusters of cases in nursing homes are common. To characterize the epidemiologic features of invasive GAS disease in nursing homes, we conducted a retrospective, statewide, population-based surveillance in Minnesota from January 1995 through 2005. Of 1,189 invasive GAS disease cases, 134 (11.2%) occurred in nursing home residents; 34 of these cases were identified as part of 13 clusters. Recognizing cause of GAS disease in nursing homes poses challenges. Measures to ensure isolation of case-patients as residents of specifi c nursing homes need to be included in standard guidelines for the prevention and control of invasive GAS disease in nursing homes.

Invasive Group A Streptococcal Disease in Nursing Homes, Minnesota, 1995–2006

Jean Rainbow,* Brenda Jewell,* Richard N. Danila,* David Bozurx,* Bernard Beaul,*† Chris Van Beneden,* and Ruth Lynfield†

S t reptococcus pyogenes, or group A streptococcus (GAS), is most commonly associated with respiratory conditions such as pharyngitis and impetigo but can also cause severe invasive GAS infections such as necrotizing fasciitis and streptococcal toxic shock syndrome (STSS).† Risk factors for invasive GAS disease include advanced age, diabetes mellitus, cardiac disease, chronic obstructive pulmonary disease, cancer, immunocompromising conditions, and varicella (2, 3). Most nursing home residents have at least one of these risk factors, which makes this population especially vulnerable to invasive GAS disease. An estimated 9.95 to 11.30 (5.5–15.0/100,000 population) invasive cases and 1,050–1,850 deaths occur in the United States annually (4). The incidence among persons > 65 years of age is > 9.0/100,000 population, which is almost 3 times that of the general population (6).

CME ACTIVITY

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Learning Objectives
Upon completion of this article, participants will be able to:

• Identify the risk factors for invasive group A streptococcal (GAS) disease
• Compare the incidence of invasive GAS disease among persons > 65 years of age with that of the general population in the United States
• Identify factors most likely to contribute to GAS outbreaks in nursing homes
• Describe the case-fatality rate of GAS disease among older patients
• Determine the pattern of invasive GAS disease in nursing homes

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CME Questions

1. Which one of the following is least likely to be a risk factor for invasive group A streptococcal (GAS) disease? A. Diabetes mellitus B. Cancer C. Chronic obstructive pulmonary disease D. Depression

2. The incidence of invasive GAS disease among persons > 65 years of age is > 9.0/100,000 population as described by which one of the following? A. Similar B. Two times higher C. Three times higher D. Four times higher

3. Which one of the following least likely to be a cause of outbreaks of invasive GAS disease among nursing home residents in the United States? A. Frequent invasive procedures B. Resident-to-resident spread C. Inadequate infection control D. Chronically infected resident

4. The activity supported the following learning objectives.

Activity Evaluation

5. Which one of the following best describes the case-fatality ratio of invasive GAS disease in nursing home residents over 65 years under the surveillance program described for Minnesota? A. 12% B. 10% C. 30% D. 50%