

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

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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 active, statewide, population- and laboratory-based surveillance in Minnesota from April 1995 through 2006. Of 1,858 invasive GAS disease cases, 134 (7%) occurred in nursing home residents; 34 of these cases were identified as part of 13 clusters. Recognizing cases of GAS disease in nursing homes posed challenges. Measures to ensure identification of case-patients as residents of specific nursing homes need to be included in standard guidelines for the prevention and control of invasive GAS disease in this setting.

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Streptococcus pyogenes, or group A *Streptococcus* (GAS), is most commonly associated with noninvasive conditions such as pharyngitis and impetigo but can also cause severe invasive GAS infections such as necrotizing fasciitis and streptococcal toxic shock syndrome (STSS) (1–3). Risk factors for invasive GAS disease include advanced age, diabetes mellitus, cardiac disease, chronic obstructive pulmonary disease, cancer, immunocompromising conditions, and varicella (4,5). Most nursing home residents have at least one of these risk factors, which makes this population especially vulnerable to invasive GAS disease. An estimated 8,950 to 11,500 (3.5/100,000 population) invasive cases and 1,050 to 1,850 deaths occur in the United States annually (6). The incidence among persons ≥ 65 years of age of 9.4/100,000 population is almost 3 times that of the general population (6).

CME ACTIVITY

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Learning Objectives

Upon completion of this activity, 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 ratio of GAS disease among older patients
- Describe the pattern of invasive GAS disease in nursing homes

Editor

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Article Title

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CME Questions

- Which one of the following is *least likely* to be a risk factor for invasive group A streptococcal (GAS) disease?
 - Diabetes mellitus
 - Cancer
 - Chronic obstructive pulmonary disease
 - Depression
- The incidence of invasive GAS disease among persons older than 65 years compared with the general population is *best described* by which one of the following?
 - Similar
 - Two times higher
 - Three times higher
 - Four times higher
- Which one of the following is *least likely* to be a cause of outbreaks of invasive GAS disease among nursing home residents in the United States?
 - Frequent invasive procedures
 - Resident-to-resident spread
 - Inadequate infection control
 - Chronically infected resident
- 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?
 - 12%
 - 20%
 - 35%
 - 50%
- The pattern of invasive GAS disease in nursing homes is *best described* by which one of the following?
 - 12%
 - 20%
 - 35%
 - 50%

Activity Evaluation

1. The activity supported the learning objectives.	Strongly Disagree				Strongly Agree
	1	2	3	4	5
2. The material was organized clearly for learning to occur.	Strongly Disagree				Strongly Agree
	1	2	3	4	5
3. The content learned from this activity will impact my practice.	Strongly Disagree				Strongly Agree
	1	2	3	4	5
4. The activity was presented objectively and free of commercial bias.	Strongly Disagree				Strongly Agree
	1	2	3	4	5