



Infectious Disease Epidemiology Report

Invasive Group A Streptococcal Disease, 2012



Background

Group A *Streptococcus* (GAS) is a bacterium often found in the throat and on the skin. People may carry group A streptococci and have no symptoms of illness. Most GAS infections are relatively mild illnesses such as “strep throat” or impetigo.

Severe, sometimes life-threatening GAS disease may occur when the bacteria become invasive. Streptococcal Toxic Shock Syndrome (STSS) is a severe illness associated with invasive or noninvasive GAS infection that results in a rapid drop in blood pressure and organ failure. Signs of toxicity and a rapidly progressive clinical course are characteristic, and the case fatality rate may exceed 50%.

GAS bacteria are spread through direct contact with mucus from the nose or throat of persons who are infected, or through contact with infected wounds or sores on the skin.

Methods

Invasive GAS is defined as isolation of Group A *Streptococcus* (*Streptococcus pyogenes*) by culture from a normally sterile site (e.g., blood or cerebrospinal fluid [CSF] or, less commonly, joint, pleural, or pericardial fluid).

In order to meet the STSS case definition, a patient must have GAS infection, hypotension, and at least two other clinical findings characteristic of STSS (e.g., renal impairment, coagulopathy, liver involvement etc.). All cases of STSS are also cases of GAS, but not all GAS cases meet the STSS case definition.

This report summarizes surveillance data on cases of invasive GAS and STSS from 2012.

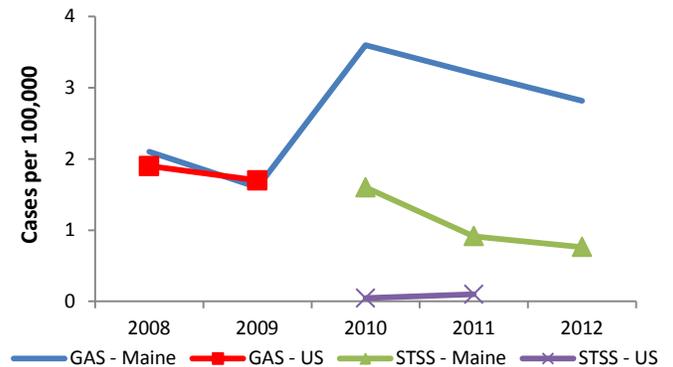
Results

A total of 37 cases of invasive GAS were reported in 2012, of these 5 cases died. This

is a decrease from the 43 cases reported in 2011. The rate of invasive GAS in Maine was 2.8 cases per 100,000 persons in 2012 (Figure 1). Invasive GAS was no longer a nationally notifiable disease as of 2010, so the US rates are not available after 2009 (Figure 1).

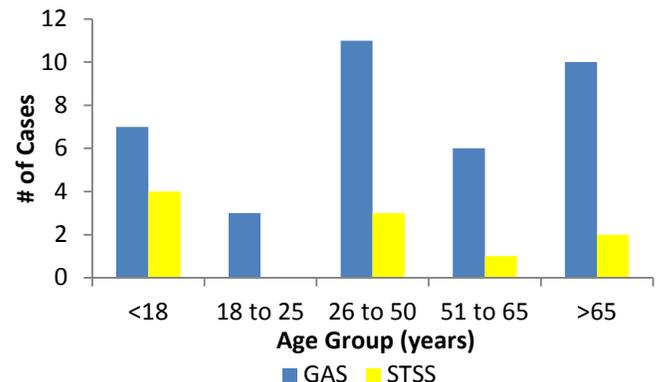
A total of 10 cases of STSS were reported in 2012, of these 4 cases died. This is a decrease from the 12 cases reported in 2011. The rate of STSS in Maine was 0.8 cases per 100,000 persons in 2012 (Figure 1).

Figure 1: Rate of invasive GAS and STSS by year – Maine and US 2008-12



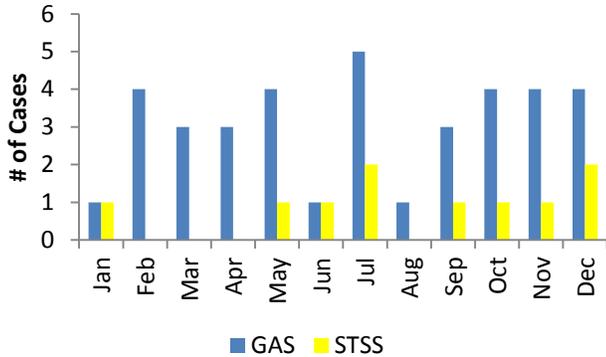
During 2012, invasive GAS cases were highest in the 26 to 50 year age group and STSS was highest in pediatric patients. This is a change from previous years when over half of all GAS and STSS cases were in individuals over 50 years old (Figure 2).

Figure 2: Invasive GAS and STSS by age – Maine, 2012



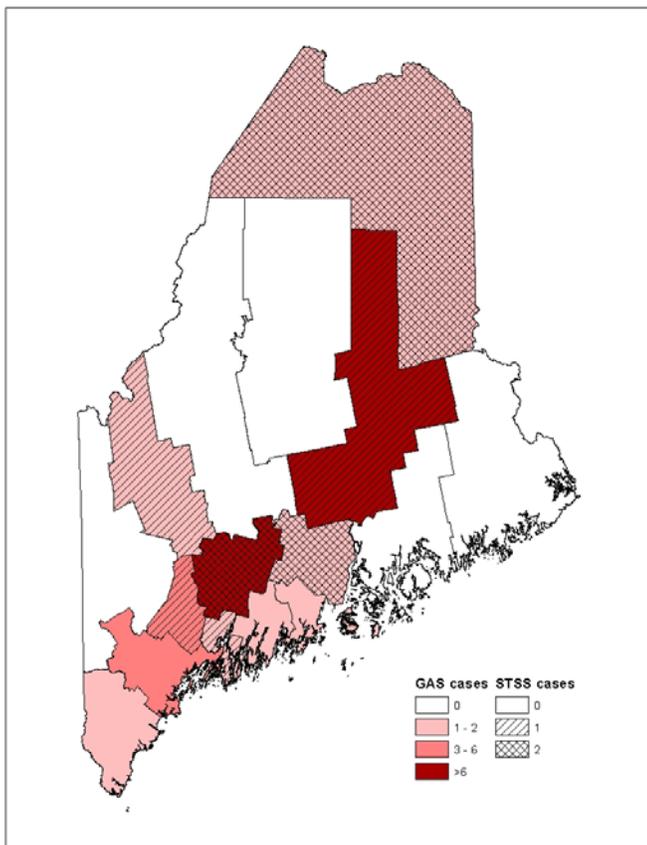
Invasive GAS and STSS cases occurred year round in 2012, with the highest number of GAS cases reported in July (Figure 3).

Figure 3: Invasive GAS and STSS by month – Maine, 2012



Invasive GAS was identified among residents of 11 Maine counties in 2012. STSS was identified among residents of seven Maine counties in 2012 (Figure 4).

Figure 4: Invasive GAS and STSS cases by county – Maine, 2012*



*A case can be counted as both STSS and GAS

Discussion

Cases of invasive GAS and STSS decreased from 2011 to 2012. Over a quarter (27%) of invasive GAS cases resulted in STSS, and of those diagnosed with STSS, 40% did not survive. This is similar to the percentages from 2011.

In 2012, Maine CDC followed up on four cases of GAS associated with injection bath salt use, indicating this may also be a risk factor.

GAS transmission can be reduced by good hand washing, especially after coughing and sneezing and before preparing foods or eating.

People with chronic illnesses like cancer, diabetes and chronic heart or lung disease and those who use medications such as steroids have a higher risk of developing invasive GAS. Persons with skin lesions (such as cuts, chicken pox, or surgical wounds), the elderly, and adults with a history of alcohol abuse or injection drug use also have a higher risk for disease.

Invasive GAS should be reported to Maine CDC by calling 1-800-821-5821 or faxing to 1-800-293-7534. For more information contact your healthcare provider or local health center.

Additional information about invasive GAS disease and STSS can be found at:

- Maine CDC's website: <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/group-a.shtml>
- Federal CDC's website: http://www.cdc.gov/ncidod/dbmd/diseaseinfo/groupastreptococcal_g.htm