

# 2008 Georgia Data Summary:

## Group B *Streptococcus*



**Group B streptococcus (GBS) is a bacterial pathogen that causes infections in vulnerable persons: newborns, pregnant women, diabetics, and the elderly**

### **WHY IS GBS IMPORTANT?**

GBS is the most common cause of life-threatening infections in newborns, often causing sepsis (blood infection), meningitis (infection of the fluid and lining surrounding the brain), or pneumonia (lung infection).

GBS also causes disease in pregnant women, diabetics, and debilitated or elderly persons. In adults, GBS may cause skin and soft-tissue infections (especially in those with diabetes), urinary tract infections, or severe, invasive diseases like sepsis, or bone and joint infections.

### **WHERE DOES GBS COME FROM?**

GBS is often found in the human gastrointestinal and genital tracts, where it may be “carried” for variable periods of time without symptoms. “Carriage” means GBS is present but not causing infection. Adults with GBS infections often have infections caused by the germ they were carrying. Newborns may become infected with GBS during delivery (when exposed to the bacteria carried in the mother’s vaginal/genital tract), or after birth through contact with caretakers.

### **CAN GBS DISEASE BE PREVENTED?**

Some cases of GBS disease are preventable, particularly in newborns.

Approximately half of GBS infections among newborns occur in the first week of life, and are termed early-onset disease. Many cases of early-onset GBS disease can be prevented by identifying pregnant women who are carriers of GBS and giving them antibiotics during labor. Carriage does not cause symptoms, so a culture from the mother’s vagina and rectum is recommended between 35 and 37 weeks gestation to screen for GBS carriage near the expected time of delivery. Antibiotics during delivery are also recommended for pregnant women who have previously given birth to a baby with GBS disease, and for women who have had a urinary tract infection with GBS during the current pregnancy. If a woman is in labor and carriage status is unknown, risk factors for GBS can be used to decide about providing antibiotics.

Late-onset neonatal GBS disease cases (those occurring between the first week and third month of life) and GBS disease in adults do not seem to be readily preventable. Researchers are working to develop a vaccine to prevent these cases.

### **HOW COMMON IS GBS CARRIAGE?**

GBS carriage is quite common. Around 25% of women may carry the bacteria at any time. For unknown reasons, carriage is more common among Black or African-American women.

### **WHAT ARE THE SYMPTOMS OF GBS DISEASE IN NEWBORNS?**

Symptoms of GBS disease in newborns may include fever, poor feeding, irritability, or lethargy. Newborns with severe infections can also stop breathing, turn blue, or have seizures. It is important to get medical help immediately if a newborn is sick.

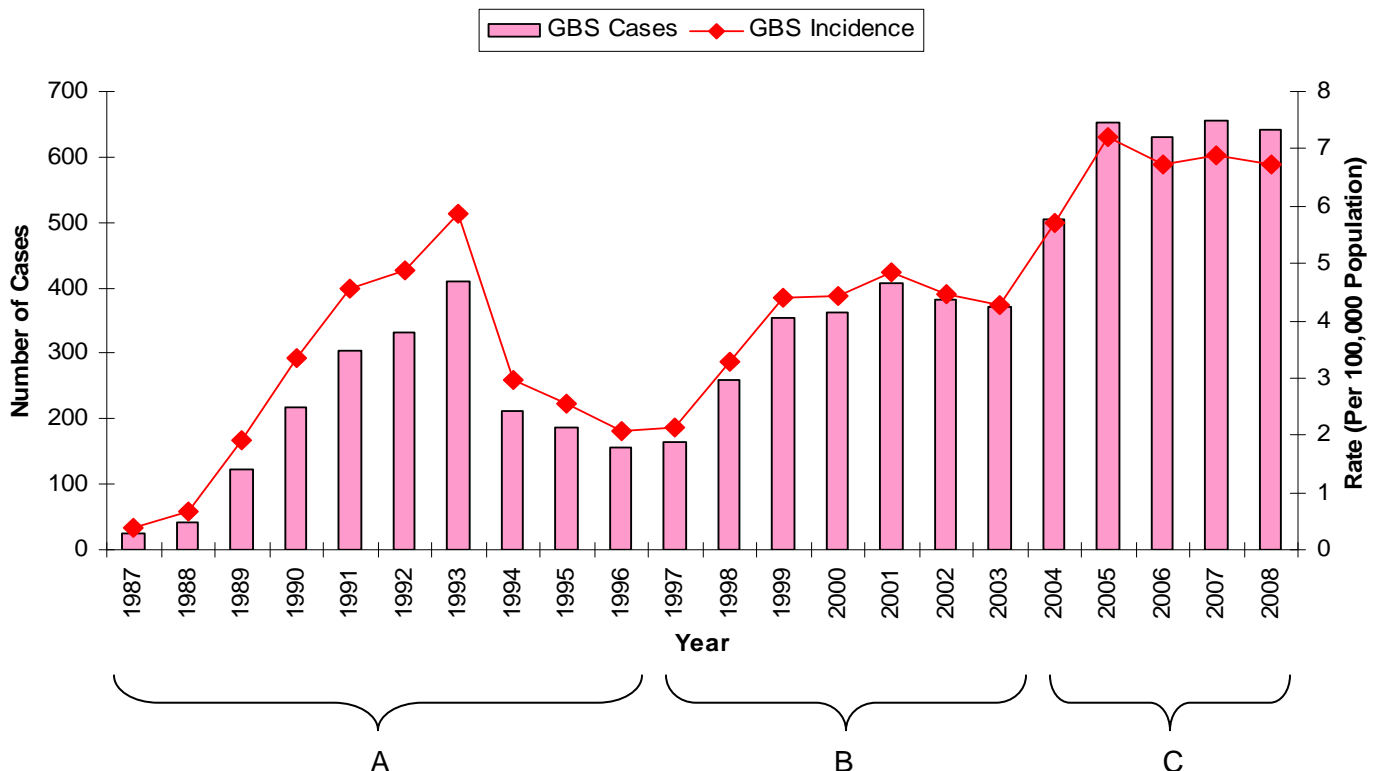
### **HOW ARE GBS INFECTIONS TREATED?**

GBS infections must be treated with antibiotics. Serious infections usually require hospitalization and intravenous antibiotics.

## Surveillance and Incidence of Invasive GBS Disease in Georgia

- Invasive GBS disease became notifiable in 1987. Surveillance of invasive GBS disease in Georgia has improved over time, with increasing areas of the state subject to active/audited surveillance:
  - From 1989 to 1996, invasive GBS disease was under active surveillance in the 8-county Atlanta Metropolitan Statistical Area (MSA), and passively reported statewide
  - From 1997 to 2003, active surveillance expanded to the 20-county Atlanta MSA
  - Since 2004, active/audited surveillance has extended statewide
- Cases of invasive GBS disease are investigated under the following reporting definitions:
  - Perinatal GBS Disease – GBS disease occurring in pregnant women or infants up to 89 days of age
  - Neonatal GBS Disease
    - Early-Onset – GBS disease occurring in infants aged 0-6 days
    - Late-Onset – GBS disease occurring in infants aged 7-89 days
  - Non-neonatal GBS Disease – All other GBS disease
- In 2008, surveillance identified 641 cases of invasive GBS disease in Georgia, including 49 deaths
- Figure 1 shows the annual number of reported invasive GBS cases in Georgia, and the incidence rate (calculated using statewide population estimates for each year) since 1987. The apparent increase in disease is likely an artifact of increased reporting with active surveillance. Recent data more accurately reflect the true burden of disease.

**Figure 1: Invasive GBS Disease in Georgia, All Ages, 1987-2008**



- A – From 1989 to 1996, the Emerging Infections Program conducted active surveillance in the 8-County Atlanta Metropolitan Statistical Area (MSA), and surveillance was passive elsewhere in Georgia
- B – From 1997 to 2003, the Emerging Infections Program conducted active surveillance in the 20-County MSA
- C – From 2004 onwards, GBS disease has been under active/audited surveillance statewide

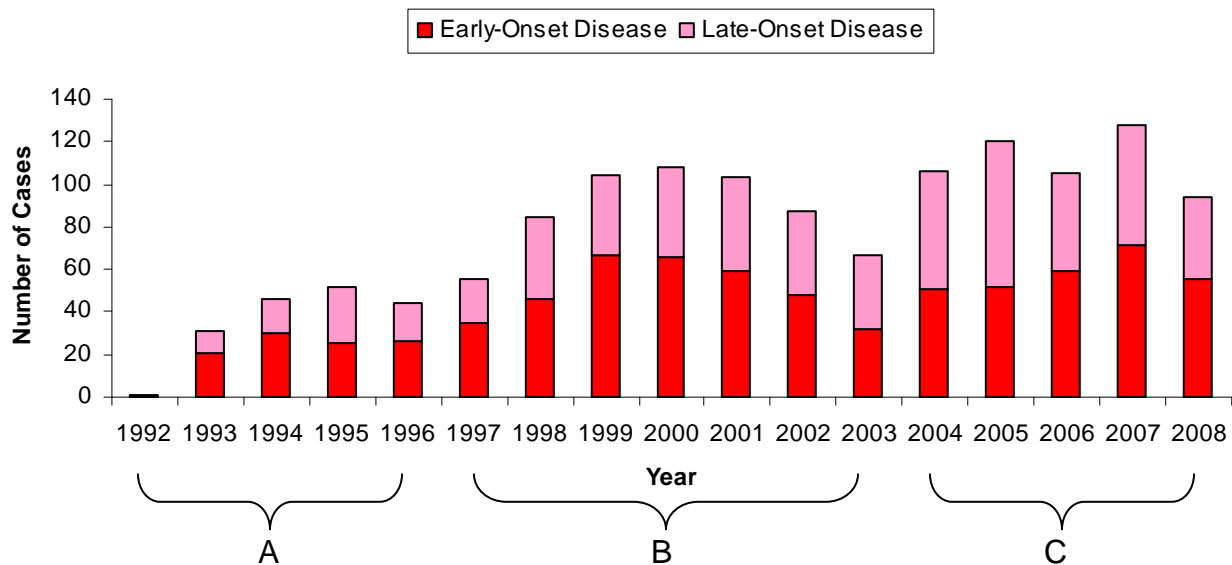
**SOURCE: State Electronic Notifiable Disease Surveillance System (SENDSS)**

\*\*Calculation of 2008 incidence was performed using 2007 population estimates

## Surveillance of Neonatal GBS Disease in Georgia

- In Georgia, all early-onset and late-onset GBS diseases cases are investigated under the Emerging Infections Program since 1997 in the Atlanta MSA and 2004 statewide. This includes:
  - Medical record review for the sick infant, to characterize the infection
  - Medical record review of labor and delivery records, to characterize GBS disease risk factors
- Data are compiled at the Centers for Disease Control and Prevention (CDC) with data from 9 other contributing sites across the U.S., and used to determine the impact and effectiveness of current guidelines for the prevention of neonatal GBS disease, and to determine the extent to which continuing cases of early-onset GBS disease are preventable through current prevention guidelines.
- Guidelines for the prevention of perinatal GBS disease were introduced in 1996 and updated in 2002, and implementation has reduced the incidence of early-onset GBS disease in the U.S. This is not apparent from statewide data, shown in Figure 2 and 3 below, but is apparent in the national data as shown in Figure 3. The apparent increase in GBS disease since 2004 is thought to be attributable to improved case-ascertainment and active/audited surveillance statewide.
- In 2008, surveillance identified 94 cases of perinatal GBS disease (ages 0 to 89 days), including 6 deaths in Georgia.

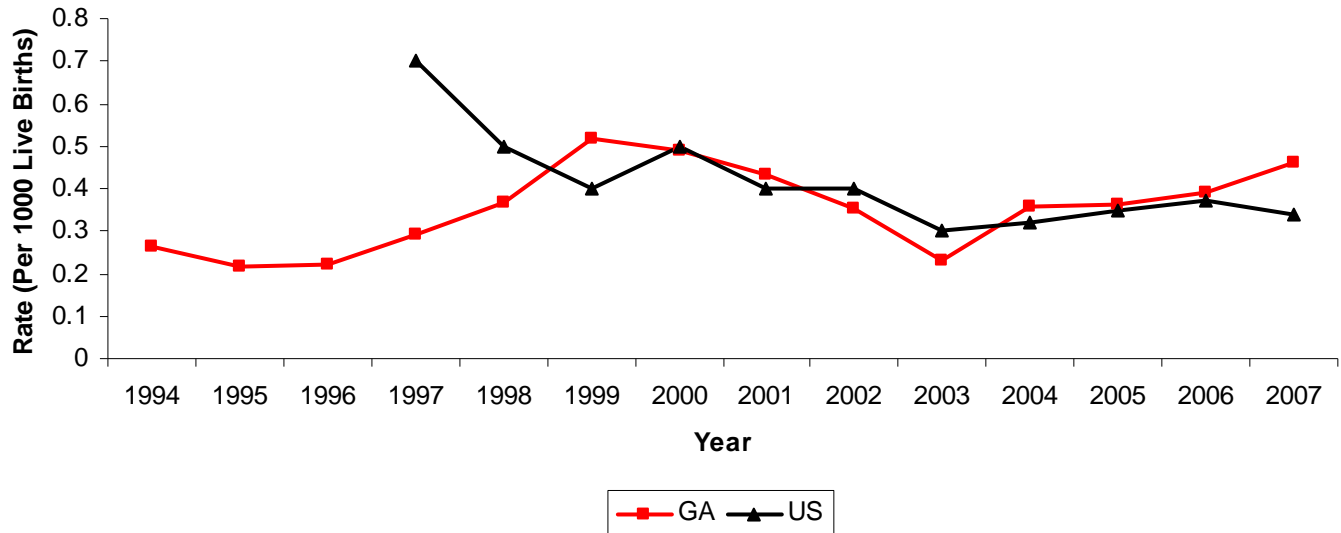
**Figure 2: Early-Onset & Late-Onset GBS Disease  
Georgia, 1992-2008**



- A – From 1989 to 1996, the Emerging Infections Program conducted active surveillance in the 8-County Atlanta Metropolitan Statistical Area (MSA), and surveillance was passive elsewhere in Georgia
- B – From 1997 to 2003, the Emerging Infections Program conducted active surveillance in the 20-County MSA
- C – From 2004 onwards, GBS disease has been under active/audited surveillance statewide

**SOURCE: State Electronic Notifiable Disease Surveillance System (SENDSS)**

**Figure 3: Early-Onset GBS Disease in Georgia and the U.S., 1997-2007**



**SOURCE: State Electronic Notifiable Disease Surveillance System (SENDSS) & The Active Bacterial Core surveillance (ABCs)**

### Web-Based Resources of GBS Disease Information

Georgia Division of Public Health: Acute Disease Epidemiology Section: Invasive Bacterial Disease:  
<http://health.state.ga.us/epi/bacterial/>

Centers for Disease Control & Prevention: Group B Strep:  
<http://www.cdc.gov/groupbstrep/>

Centers for Disease Control & Prevention: Active Bacterial core surveillance:  
<http://www.cdc.gov/ncidod/dbmd/abcs/>

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