

**Cases, Rates and Case Fatality of Invasive Group B Streptococcal Disease
in Five-County Denver Metropolitan Area^ by Age Group, 2013**

Group B streptococcus	Cases (Rate)		Deaths	
	No.	(Rate)	No.	(% of cases)
Age Group (years)				
<1	12	(36.1)	0	.
1	.	.	0	.
2-4	.	.	0	.
5-17	3	(0.6)	1	(33.3)
18-34	10	(1.6)	1	(10.0)
35-49	44	(8.0)	1	(2.2)
50-64	74	(15.4)	6	(8.1)
65+	71	(25.7)	5	(7.0)
Total	214	(8.4)	14	(6.5)

*Rates are computed using 2012-based population estimates, State Demography Office - DOLA
^ Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties*

***Rates of Invasive Group B Streptococcal Disease by County
Denver Metropolitan Area[^], 2013***

Group B streptococcus	Cases (Rate)	
	No.	(Rate)
ADAMS	30	(6.5)
ARAPAHOE	59	(9.9)
DENVER	78	(12.2)
DOUGLAS	12	(4.0)
JEFFERSON	35	(6.4)

***Rates are computed using 2012-based population estimates, State Demography Office - DOLA
[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties***

***Sites from which Invasive Group B streptococcus was Isolated
Denver Metropolitan Area^, 2013***

Site of Isolation	No.*	(% of cases)
Blood	141	(65.8)
Bone	35	(16.3)
Joint	26	(12.1)
CSF	3	(1.4)
Pleural fluid	3	(1.4)
Peritoneal fluid	3	(1.4)
Internal body site	3	(1.4)
Muscle	2	(0.9)
Other invasive site	2	(0.9)
Wound**	1	(0.4)

****Not mutually exclusive; GBS was isolated from one site in 207 cases and multiple sites in 7 cases (Total cases=214)***

GBS was isolated only from blood in 134 cases (62.6%)

*****Placenta and amniotic fluid are included (as a maternal case) when accompanied by fetal demise***

^ Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Syndromes Associated with Invasive Group B Streptococcal Disease, by Age Group
Denver Metropolitan Area[^], 2013***

Clinical Syndrome		No.*	(% of cases)
Age Group (years)			
<=17	Bacteremia only	11	(73.3)
	Meningitis	2	(13.3)
	Pneumonia	1	(6.6)
	Cellulitis	1	(6.6)
	Osteomyelitis	1	(6.6)
	Other syndrome	1	(6.6)
	Unknown	1	(6.6)
18-49	Bacteremia only	13	(24.0)
	Pneumonia	1	(1.8)
	Cellulitis	13	(24.0)
	Osteomyelitis	14	(25.9)
	Other syndrome	2	(3.7)
	Unknown	2	(3.7)
	Septic arthritis	8	(14.8)
	Chorioamnionitis	4	(7.4)
	Septic shock	4	(7.4)
	Abscess (not skin)	3	(5.5)

(Continued)

**** Some cases had more than one syndrome***

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***Syndromes Associated with Invasive Group B Streptococcal Disease, by Age Group
Denver Metropolitan Area[^], 2013***

Clinical Syndrome		No.*	(% of cases)
Age Group (years)			
18-49	Septic abortion	3	(5.5)
	Endocarditis	2	(3.7)
	Peritonitis	1	(1.8)
	Endometritis	1	(1.8)
50+	Bacteremia only	47	(32.4)
	Meningitis	2	(1.3)
	Pneumonia	11	(7.5)
	Cellulitis	24	(16.5)
	Osteomyelitis	34	(23.4)
	Other syndrome	14	(9.6)
	Unknown	9	(6.2)
	Septic arthritis	22	(15.1)
	Septic shock	12	(8.2)
	Abscess (not skin)	4	(2.7)
	Endocarditis	1	(0.6)
	Peritonitis	2	(1.3)

** Some cases had more than one syndrome*

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Underlying Conditions Associated with Invasive Group B Streptococcal Disease
Denver Metropolitan Area[^], 2013***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
<=17	None	7	(46.6)
	Premature birth	6	(40.0)
	CVA/Stroke	1	(6.6)
18-49	None	14	(25.9)
	CVA/Stroke	2	(3.7)
	Diabetes	17	(31.4)
	Current smoker	9	(16.6)
	Asthma	3	(5.5)
	Cirrhosis/liver failure	3	(5.5)
	Unknown	2	(3.7)
	HIV	2	(3.7)
	Chronic skin breakdown	1	(1.8)
	Heart failure/CHF	1	(1.8)
	Immunosuppressive therapy	1	(1.8)

(Continued)

0% of cases in the <=17 age group, 17% of cases in the 18-49 age group, and 37% of cases in the 50+ age group had >1 underlying condition

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Underlying Conditions Associated with Invasive Group B Streptococcal Disease
Denver Metropolitan Area[^], 2013***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
50+	None	5	(3.4)
	CVA/Stroke	11	(7.5)
	Diabetes	71	(48.9)
	Current smoker	25	(17.2)
	Asthma	6	(4.1)
	Cirrhosis/liver failure	14	(9.6)
	Unknown	6	(4.1)
	HIV	2	(1.3)
	Chronic skin breakdown	1	(0.6)
	Heart failure/CHF	14	(9.6)
	Immunosuppressive therapy	8	(5.5)
	Atherosclerotic Cardiovascular Disease	23	(15.8)
	Emphysema/COPD	12	(8.2)
	Organ malignancy	8	(5.5)
Renal Failure/Dialysis	5	(3.4)	

(Continued)

0% of cases in the <=17 age group, 17% of cases in the 18-49 age group, and 37% of cases in the 50+ age group had >1 underlying condition

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***Underlying Conditions Associated with Invasive Group B Streptococcal Disease
Denver Metropolitan Area[^], 2013***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
50+	Organ transplant	4	(2.7)
	Leukemia	1	(0.6)

0% of cases in the <=17 age group, 17% of cases in the 18-49 age group, and 37% of cases in the 50+ age group had >1 underlying condition

[^] Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties

***Invasive Group B Streptococcal Disease Serotypes
Denver Metropolitan Area[^], 2013***

Group B streptococcus	No.	(% of isolates)
Type		
IA	40	(21.5)
V	32	(17.2)
IB	26	(13.9)
III	25	(13.4)
II	23	(12.3)
IV	20	(10.7)
NT	19	(10.2)
VI	1	(0.5)
Total	186	(100.0)

***Based upon reference lab testing of 186 isolates (Total cases=214)
Testing performed by the Centers for Disease Control and Prevention, Atlanta, GA
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