

***Cases, Rates and Case Fatality of Invasive Group B Streptococcal Disease
in Five-County Denver Metropolitan Area^ by Age Group, 2012***

Group B streptococcus	Cases (Rate)		Deaths	
	No.	(Rate)	No.	(% of cases)
Age Group (years)				
<1	16	(48.1)	0	.
1	.	.	0	.
2-4	.	.	0	.
5-17	1	(0.2)	0	.
18-34	16	(2.6)	0	.
35-49	34	(6.2)	1	(2.9)
50-64	69	(14.3)	5	(7.2)
65+	72	(26.1)	6	(8.3)
Total	208	(8.2)	12	(5.7)

***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[^], 2012***

Group B streptococcus	Cases (Rate)	
	No.	(Rate)
ADAMS	39	(8.4)
ARAPAHOE	38	(6.3)
DENVER	71	(11.1)
DOUGLAS	21	(7.0)
JEFFERSON	39	(7.1)

***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[^], 2012***

Site of Isolation	No.*	(% of cases)
Blood	139	(66.8)
Bone	36	(17.3)
Joint	24	(11.5)
Internal body site	8	(3.8)
Peritoneal fluid	6	(2.8)
Other invasive site	4	(1.9)
Muscle	3	(1.4)
CSF	1	(0.4)

****Not mutually exclusive; GBS was isolated from one site in 195 cases and multiple sites in 13 cases (Total cases=208)***

GBS was isolated only from blood in 128 cases (61.5%)

*****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[^], 2012***

Clinical Syndrome		No.*	(% of cases)
Age Group (years)			
<=17	Bacteremia only	12	(70.5)
	Meningitis	3	(17.6)
	Septic arthritis	1	(5.8)
	Osteomyelitis	1	(5.8)
18-49	Bacteremia only	7	(14.0)
	Septic arthritis	6	(12.0)
	Osteomyelitis	16	(32.0)
	Cellulitis	7	(14.0)
	Unknown	6	(12.0)
	Abscess (not skin)	5	(10.0)
	Other syndrome	4	(8.0)
	Endometritis	3	(6.0)
	Peritonitis	2	(4.0)
	Chorioamnionitis	1	(2.0)
	Empyema	1	(2.0)
	Septic shock	1	(2.0)

(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[^], 2012***

Clinical Syndrome		No.*	(% of cases)
Age Group (years)			
50+	Bacteremia only	49	(34.7)
	Septic arthritis	18	(12.7)
	Osteomyelitis	28	(19.8)
	Cellulitis	28	(19.8)
	Unknown	8	(5.6)
	Abscess (not skin)	4	(2.8)
	Other syndrome	10	(7.0)
	Peritonitis	5	(3.5)
	Septic shock	9	(6.3)
	Pneumonia	5	(3.5)
	Endocarditis	3	(2.1)
	Necrotizing fasciitis	1	(0.7)

** 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[^], 2012***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
<=17	None	13	(76.4)
	Premature birth	3	(17.6)
18-49	None	10	(20.0)
	Diabetes	19	(38.0)
	Current smoker	15	(30.0)
	Alcohol abuse	6	(12.0)
	Asthma	5	(10.0)
	Cirrhosis/liver failure	4	(8.0)
	Organ malignancy	3	(6.0)
	Atherosclerotic Cardiovascular Disease	2	(4.0)
	Heart failure/CHF	2	(4.0)
	CVA/Stroke	1	(2.0)
	HIV	1	(2.0)
	Immunosuppressive therapy	1	(2.0)
	Organ transplant	1	(2.0)
Lupus	1	(2.0)	

(Continued)

0% of cases in the <=17 age group, 26% of cases in the 18-49 age group, and 38% 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[^], 2012***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
50+	None	11	(7.8)
	Diabetes	61	(43.2)
	Current smoker	19	(13.4)
	Alcohol abuse	5	(3.5)
	Asthma	9	(6.3)
	Cirrhosis/liver failure	4	(2.8)
	Organ malignancy	11	(7.8)
	Atherosclerotic Cardiovascular Disease	27	(19.1)
	Heart failure/CHF	23	(16.3)
	CVA/Stroke	9	(6.3)
	Immunosuppressive therapy	7	(4.9)
	Emphysema/COPD	15	(10.6)
	Hodgkins disease	5	(3.5)
	Renal Failure/Dialysis	5	(3.5)
Leukemia	2	(1.4)	

(Continued)

0% of cases in the <=17 age group, 26% of cases in the 18-49 age group, and 38% 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[^], 2012***

Underlying Condition		No.*	(% of cases)
Age Group (years)			
50+	IV drug use	1	(0.7)
	Multiple myeloma	1	(0.7)

0% of cases in the <=17 age group, 26% of cases in the 18-49 age group, and 38% 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[^], 2012***

Group B streptococcus	No.	(% of isolates)
Type		
IA	43	(24.5)
III	28	(16.0)
II	25	(14.2)
V	24	(13.7)
IB	22	(12.5)
NT	21	(12.0)
IV	10	(5.7)
VI	1	(0.5)
VIII	1	(0.5)
Total	175	(100.0)

***Based upon reference lab testing of 175 isolates (Total cases=208)
Testing performed by the Centers for Disease Control and Prevention, Atlanta, GA
[^]Emerging Infections Program area: Adams, Arapahoe, Denver, Douglas, and Jefferson counties***