



**Public Health**  
Prevent. Promote. Protect.  
Dayton & Montgomery County

## Streptococcal Disease, Group A – Invasive Investigation, Montgomery County, January 2020 – February 2020

### Sources:

- Ohio Disease Reporting System, Ohio Department of Health, 2020
- Group A Strep Calculator, Centers for Disease Control and Prevention, 2020  
[https://www2.cdc.gov/ncidod/dbmd/abcs/calc/calc\\_new/intro.html](https://www2.cdc.gov/ncidod/dbmd/abcs/calc/calc_new/intro.html)
- Dayton Climate, Climate-Data.org, 2020 <https://en.climate-data.org/north-america/united-states-of-america/ohio/dayton-1663/>

### Streptococcal disease, group A – invasive Case Characteristics:

Sex	#	%
Female	4	33.3%
Male	8	66.7%
Total	12	100%

Age Group	#	%
20-24 years	1	8.3%
25-29 years	0	0.0%
30-34 years	0	0.0%
35-39 years	1	8.3%
40-44 years	1	8.3%
45-49 years	0	0.0%
50-54 years	0	0.0%
55-59 years	1	8.3%
60-64 years	4	33.3%
65+ years	4	33.3%
Total	12	100%
Age Range		
Average Age	59.3 years	
Median Age	63.5 years	
Min age	24 years	
Max Age	79 years	

<b>Race</b>	<b>#</b>	<b>%</b>
American Indian/Alaskan Native	0	0.0%
Black	0	0.0%
White	12	100%
Two or More	0	0.0%
Unknown	0	0.0%
Total	12	100%

<b>Facility</b>	<b>#</b>	<b>%</b>
Kettering Health Network	7	58.3%
Miami Valley Hospital	4	33.3%
Miami Valley Hospital South	1	8.3%
Total	12	100%

<b>Diagnosis</b>	<b>#</b>	<b>%</b>
Bacteremia	1	8.3%
Cellulitis	1	8.3%
Sepsis from Bacteremia	3	25.0%
Septic Shock from Cellulitis	2	16.7%
Unknown	5	41.7%
Total	12	100%

**Model Inputs**

<b>Model Inputs</b>	<b>Values</b>
Current month	January
Number of invasive GAS cases in current month (observed)	3
Number of invasive GAS cases in previous month	3
Mean temperature in previous month (°F)	32.5
County or region population	531239
Region size (square miles)	464
Black or African American persons, percent	22
Persons below poverty line, percent	18
Estimated % of cases who are HIV+ (historically)	
Estimated % of cases who are injection drug users (historically)	

<b>Results</b>	<b>Values</b>
<b>Expected number of GAS cases in region</b>	<b>2.2674</b>
<b>Difference between observed and expected # cases</b>	<b>0.7326</b>
<b>p-value (probability of observed # cases or more)</b>	<b>0.3929</b>

**Observed Number of Cases NOT Significantly Higher than Expected Number of Cases**

**Model Inputs**

<b>Model Inputs</b>	<b>Values</b>
Current month	February
Number of invasive GAS cases in current month (observed)	9
Number of invasive GAS cases in previous month	3
Mean temperature in previous month (°F)	27.3
County or region population	531239
Region size (square miles)	464
Black or African American persons, percent	22
Persons below poverty line, percent	18
Estimated % of cases who are HIV+ (historically)	
Estimated % of cases who are injection drug users (historically)	

<b>Results</b>	<b>Values</b>
<b>Expected number of GAS cases in region</b>	<b>2.4977</b>
<b>Difference between observed and expected # cases</b>	<b>6.5023</b>
<b>p-value (probability of observed # cases or more)</b>	<b>0.0031</b>

**Observed Number of Cases Significantly Higher than Expected Number of Cases**