

Region 8 Syphilis Quarterly Report

2023 4th Quarter



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Syphilis Surveillance Background

Hamilton County Public Health conducts syphilis surveillance and mitigation in seven counties (Brown, Butler, Clermont, Clinton, Hamilton, Highland, and Warren) known as Region 8. This quarterly report was created as a surveillance effort to track and prevent new cases of syphilis within Region 8 counties. When a person is determined to have a new syphilis infection in Region 8, disease intervention specialists from Hamilton County Public Health attempt to contact that person and offer partner-services (e.g., interview patient, contact tracing, partner testing, and linkage to treatment). Only new cases of syphilis were counted for analysis purposes in this report. Some syphilis cases are unable to be located for an interview, which may impact data collection. The following report features total new syphilis counts, demographic data, and risk factor data for Region 8 counties.

The purpose of collecting and distributing demographic and risk factor data is to inform programming, community partners, and stakeholders so the best effort can be made to diagnose, prevent, and treat syphilis infections in our community. These data can provide a snapshot of syphilis surveillance in the region, but do not always tell the entire story. To fully understand the situation, community voices, stakeholders, and other sources should be considered.

Syphilis cases for this report include first time infections and re-infections.

These data are provisional and subject to change as there is a lag time in reporting and cases may be added or removed. Ohio Department of Health specifically disclaims responsibility for analyses, interpretations, or conclusions.

Data downloaded from Ohio Disease Reporting System (ODRS) on 02/14/2024.

Email HCPH.ID@HAMILTON-CO.ORG with any questions regarding this report.

Stages of Syphilis

Syphilis infections are categorized into different stages based on the clinical presentation of disease and duration of infection.

Congenital Syphilis: This stage includes, but not limited to, when syphilis is transferred from mother to infant during pregnancy or delivery, or when the mother of a child had untreated/inadequately treated syphilis at delivery regardless of signs in the infant.

Early Syphilis: This stage is when a person has been infected for less than a year. The stages include Early Latent (no signs or symptoms, but infected for less than a year), Primary (symptoms include a painless sore, called a chancre), and Secondary (symptoms include, but not limited to, a rash on hands and feet). In particular, primary and secondary infections are considered highly infectious stages.

Late Latent: This stage is when a person has been infected for longer than a year. During this stage, the patient may no longer be infectious, and have no symptoms; however if the patient does not receive appropriate treatment the disease could develop into neurological problems, possibly leading to death. Syphilis cases staged as “unknown duration” are grouped together with “late syphilis” for the purposes of surveillance.

Region 8 Map



Overview of Syphilis in Region 8

Table 1. Region 8 Total Syphilis by Year

| 2019 | 2020 | 2021 | 2022 | 2023 |
|------|------|------|------|------|
| 364 | 333 | 400 | 754 | 791 |

Table 1 shows total new syphilis infections in Region 8 from 2019 through 2023. The most recent data are highlighted in light green.

Figure 1 is a line graph of syphilis cases from 2019-2023.

Figure 1. Region 8 Syphilis Counts

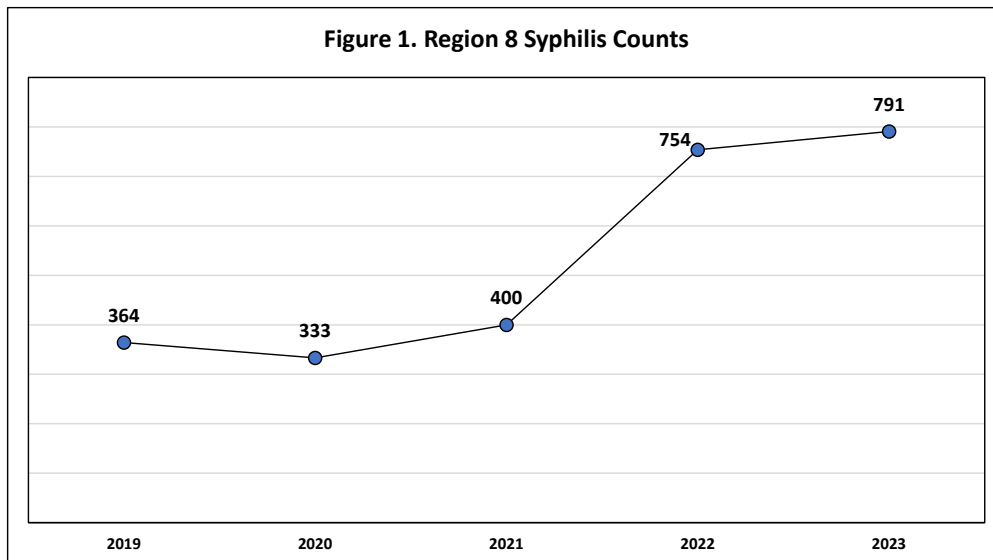


Table 2. Region 8 Total Syphilis Infections by Month

| Month | 2022 | 2023 |
|--------------|------------|------------|
| January | 62 | 84 |
| February | 51 | 67 |
| March | 58 | 63 |
| April | 60 | 56 |
| May | 47 | 61 |
| June | 61 | 61 |
| July | 63 | 80 |
| August | 73 | 77 |
| September | 72 | 69 |
| October | 57 | 74 |
| November | 83 | 62 |
| December | 67 | 37 |
| Total | 754 | 791 |

Table 2 displays the breakdown of new syphilis cases for Region 8 residents from 2022 through 2023 by month. In 2022, the highest number of cases were seen in November (83 cases). In 2023, the highest number of syphilis cases have occurred in January (84 cases).

Table 3 is a comparison of year 2022 and 2023. There has been a **4.9% increase** of new syphilis infections during this time frame.

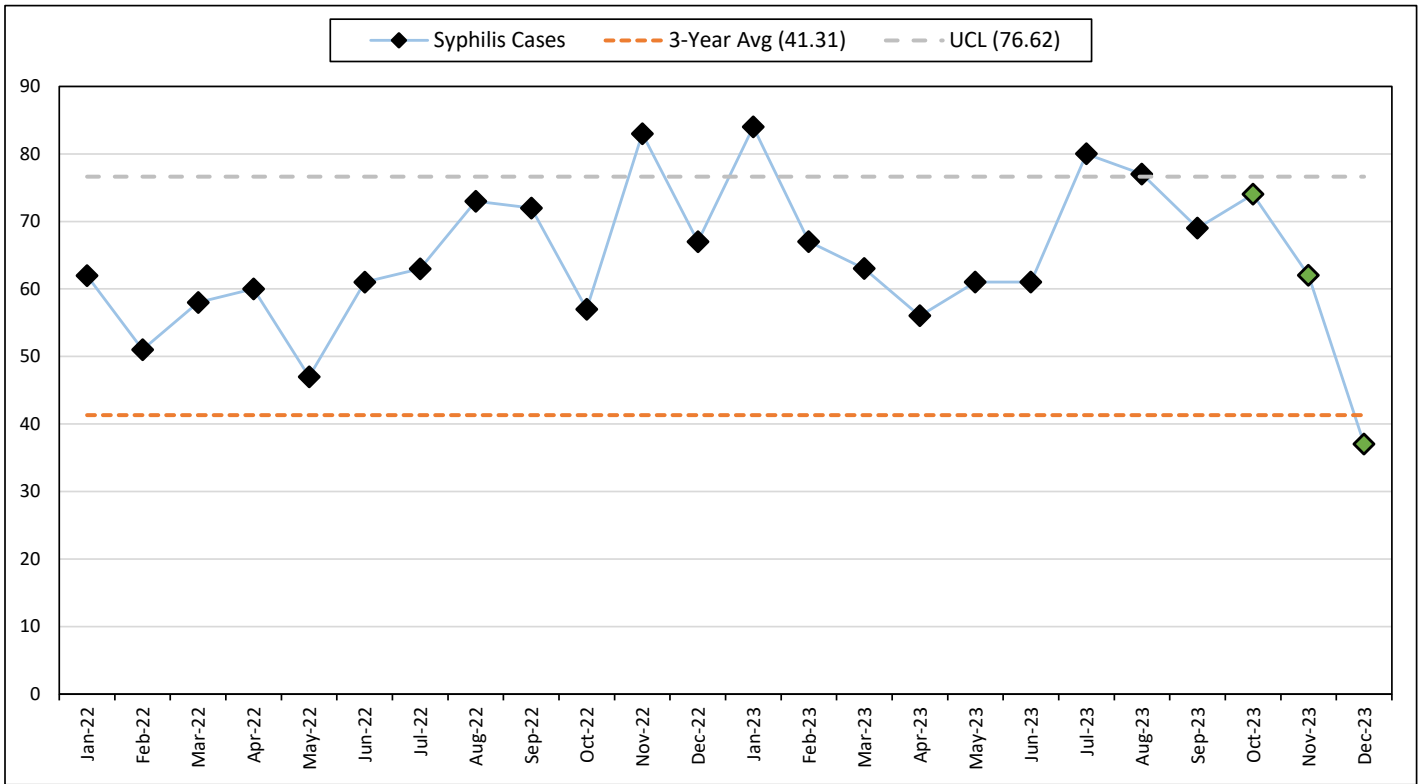
Table 3. Region 8 Year Comparisons

| 2022 | 2023 | % Change |
|------|------|--------------|
| 754 | 791 | 4.9%↑ |

Figure 2 shows a surveillance control chart. The dashed orange line is the previous 3-year average (2020, 2021, and 2022) for new syphilis infections by month. The previous 3-year average is 41.31 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 76.62. The diamonds on the blue line graph show the actual number of new syphilis infections by month. The green diamonds are the months from the most recent quarter.

Analysis: For 2023, January, July, and August were above the UCL. December was the only month in 2023 below the 3-year average. A single point above or near the upper control limit or consecutive points above the average may signal anomalies that need to be investigated. When there are only a small number of cases, it may be difficult to distinguish random fluctuations in disease/injury incidence from true changes in the underlying risk for the disease/injury.

Figure 2. Region 8 Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years. A standard deviation is calculated using the same time frame. The upper control limit is determined by multiplying the standard deviation by 2 and adding the 3-year average.

Syphilis Quarterly Report: Region 8

Table 4 shows syphilis stages, demographics, and risk factor data in Region 8. Highest number percentages are highlighted in blue. For 2023, Male (69.9%), Black (53%), and 25-34 year olds (31.9%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections (38.6%). The “Unknown” risk factor category could be due to a disease intervention specialist not being able to determine the risk factors of the patient. See additional information below the table.

| Table 4. Region 8 Syphilis Morbidity | | | | |
|--------------------------------------|------|-------|------|-------|
| | 2022 | | 2023 | |
| | # | % | # | % |
| Syphilis Stages | | | | |
| Early Latent | 184 | 24.4% | 200 | 25.3% |
| Primary | 129 | 17.1% | 119 | 15.0% |
| Secondary | 176 | 23.3% | 164 | 20.7% |
| Late/Unknown | 255 | 33.8% | 293 | 37.0% |
| Congenital | 10 | 1.3% | 15 | 1.9% |
| Gender | | | | |
| Male | 568 | 75.3% | 553 | 69.9% |
| Female | 186 | 24.7% | 238 | 30.1% |
| Race | | | | |
| Black | 354 | 46.9% | 419 | 53.0% |
| White | 300 | 39.8% | 278 | 35.1% |
| Multi | 38 | 5.0% | 27 | 3.4% |
| Other | 61 | 8.1% | 60 | 7.6% |
| Unknown/Null | 1 | 0.1% | 7 | 0.9% |
| Age Group | | | | |
| <1 | 9 | 1.2% | 15 | 1.9% |
| 1-14 | 2 | 0.3% | 1 | 0.1% |
| 15-24 | 102 | 13.5% | 108 | 13.7% |
| 25-34 | 272 | 36.1% | 252 | 31.9% |
| 35-44 | 174 | 23.1% | 195 | 24.7% |
| 45-54 | 103 | 13.7% | 110 | 13.9% |
| 55-64 | 70 | 9.3% | 76 | 9.6% |
| 65+ | 22 | 2.9% | 34 | 4.3% |
| Risk Factor | | | | |
| MSM | 278 | 36.9% | 218 | 27.6% |
| HRH | 218 | 28.9% | 305 | 38.6% |
| PWID | 37 | 4.9% | 58 | 7.3% |
| Unknown/Null | 221 | 29.3% | 210 | 26.5% |

Percentages may not total to 100 due to rounding. Percentages are based on availability of data for all cases. MSM are men who have sex with men. High risk heterosexuals (HRH) are determined by factors including but not limited to: having a previous STI, sex while intoxicated, exchanging sex for drugs, or having anonymous sexual partners. PWID is a person who injects drugs. Early syphilis cases include early latent, primary, and secondary stages. Early syphilis cases are cases where a person has been infected for less than a year.

Overview of Syphilis in Hamilton County

Table 5. Hamilton County Total Syphilis by Year

| 2019 | 2020 | 2021 | 2022 | 2023 |
|------|------|------|------|------|
| 301 | 248 | 283 | 562 | 582 |

Table 5 shows total new syphilis infections in Hamilton County from 2019 through 2023. The most recent data are highlighted in light green.

Figure 3 is a line graph of syphilis cases from 2019-2023.

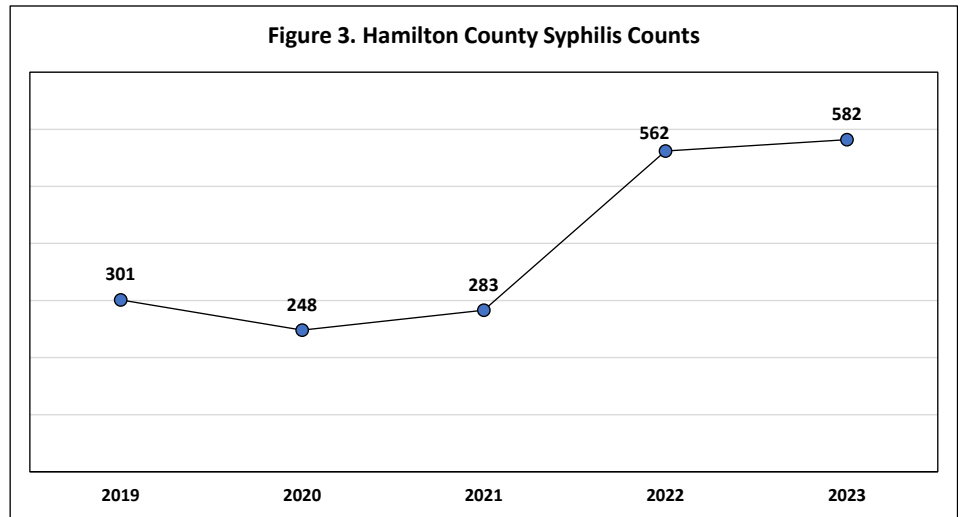


Table 6. Hamilton County Total Syphilis

| Month | 2022 | 2023 |
|--------------|------------|------------|
| January | 46 | 58 |
| February | 36 | 53 |
| March | 41 | 47 |
| April | 43 | 46 |
| May | 40 | 44 |
| June | 47 | 42 |
| July | 49 | 56 |
| August | 57 | 55 |
| September | 53 | 52 |
| October | 41 | 54 |
| November | 68 | 46 |
| December | 41 | 29 |
| Total | 562 | 582 |

Table 6 displays the breakdown of new syphilis cases for Hamilton County residents from 2022 through 2023 by month. In 2022, the highest number of cases were seen in November (68 cases). In 2023, the highest number of syphilis cases have occurred in January (58 cases).

Table 7 is a comparison of year 2022 and 2023. There has been a **3.6% increase** of new syphilis infections during this time frame.

Table 7. Hamilton County Year Comparisons

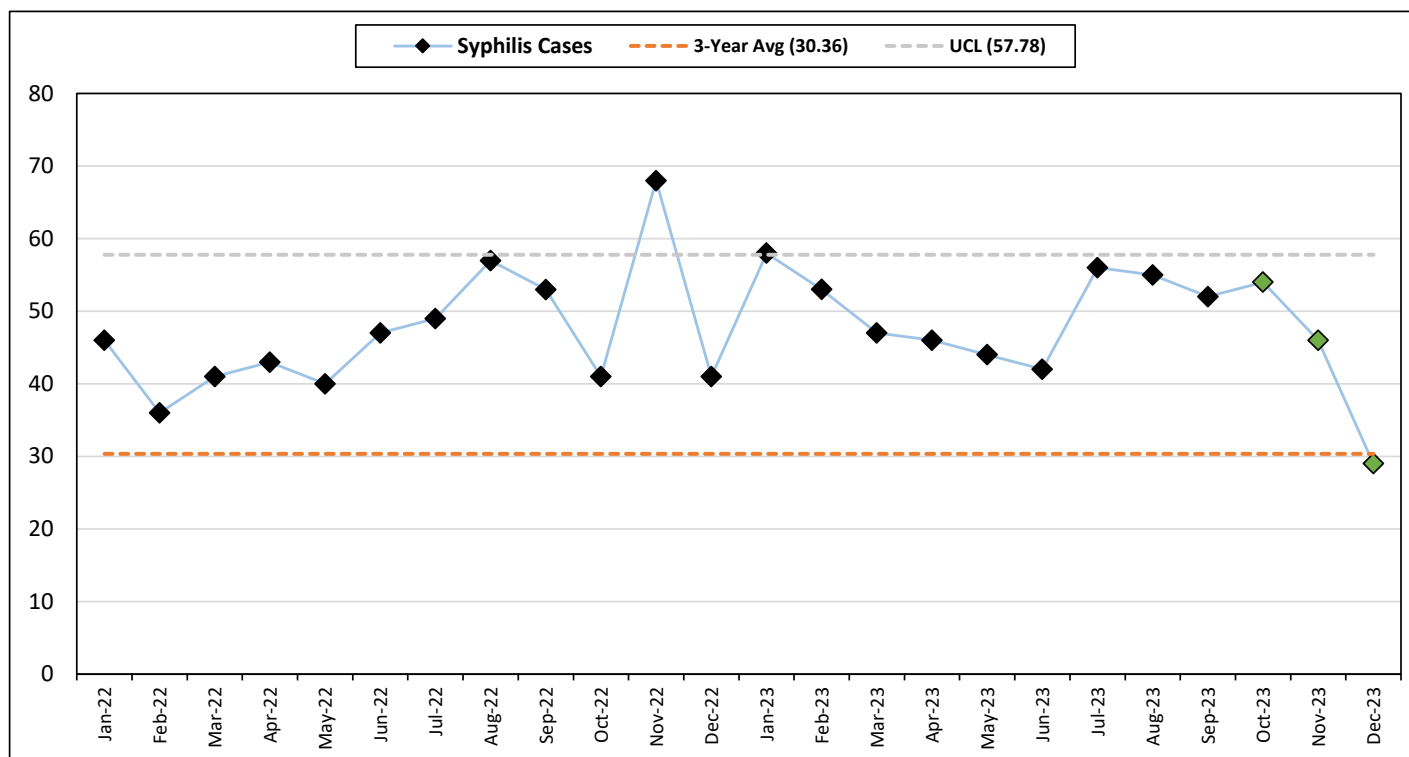
| 2022 | 2023 | % Change |
|------|------|--------------|
| 562 | 582 | 3.6%↑ |

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Figure 4 shows a surveillance control chart. The dashed orange line is the 3-year average (2020, 2021, and 2022) for new syphilis infections by month. The 3-year average is 30.36 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 57.78. The diamonds on the blue line graph show the actual number of new syphilis infections by month. The green diamonds are the months from the most recent quarter.

Analysis: For 2023, January was above the UCL. December was the only month in 2023 below the 3-year average. A single point above or near the upper control limit or consecutive points above the average may signal anomalies that need to be investigated. When there are only a small number of cases, it may be difficult to distinguish random fluctuations in disease/injury incidence from true changes in the underlying risk for the disease/injury.

Figure 4. Hamilton County Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years. A standard deviation is calculated using the same time frame. The upper control limit is determined by multiplying the standard deviation by 2 and adding the 3-year average.

Syphilis Quarterly Report: Hamilton County

Table 8 shows syphilis stages, demographic, and risk factor data. Highest number percentages are highlighted in blue. For 2023, Male (72.6%), Black (66%), and 25-34 year olds (34.5%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections (40.9%). The “Unknown” risk factor category could be due to a disease intervention specialist not being able to determine the risk factors of the patient. See additional information below the table..

| Table 8. Hamilton County Syphilis Morbidity | | | | |
|--|-------------|----------|-------------|----------|
| | 2022 | | 2023 | |
| | # | % | # | % |
| Syphilis Stages | | | | |
| Early Latent | 149 | 26.5% | 155 | 26.6% |
| Primary | 88 | 15.7% | 89 | 15.3% |
| Secondary | 128 | 22.8% | 125 | 21.5% |
| Late/Unknown | 191 | 34.0% | 205 | 35.2% |
| Congenital | 6 | 1.1% | 8 | 1.4% |
| Gender | | | | |
| Male | 438 | 77.8% | 423 | 72.6% |
| Female | 124 | 22.2% | 159 | 27.4% |
| Race | | | | |
| Black | 332 | 59.1% | 384 | 66.0% |
| White | 152 | 27.0% | 150 | 25.8% |
| Multi | 35 | 6.2% | 18 | 3.1% |
| Other | 42 | 7.5% | 28 | 4.8% |
| Unknown/Null | 1 | 0.2% | 2 | 0.3% |
| Age Group | | | | |
| <1 | 6 | 1.1% | 8 | 1.4% |
| 1-14 | 1 | 0.2% | 1 | 0.2% |
| 15-24 | 79 | 14.1% | 69 | 11.9% |
| 25-34 | 216 | 38.4% | 201 | 34.5% |
| 35-44 | 125 | 22.2% | 149 | 25.6% |
| 45-54 | 66 | 11.7% | 75 | 12.9% |
| 55-64 | 51 | 9.1% | 51 | 8.8% |
| 65+ | 18 | 3.2% | 28 | 4.8% |
| Risk Factor | | | | |
| MSM | 226 | 40.2% | 179 | 30.8% |
| HRH | 165 | 29.4% | 238 | 40.9% |
| PWID | 15 | 2.7% | 25 | 4.3% |
| Unknown/Null | 156 | 27.8% | 140 | 24.1% |

Percentages may not total to 100 due to rounding. Percentages are based on availability of data for all cases. MSM are men who have sex with men. High risk heterosexuals (HRH) are determined by factors including but not limited to: having a previous STI, sex while intoxicated, exchanging sex for drugs, or having anonymous sexual partners. PWID is a person who injects drugs. Early syphilis cases include early latent, primary, and secondary stages. Early syphilis cases are cases where a person has been infected for less than a year.

Overview of Syphilis in Butler County

Table 9. Butler County Total Syphilis by Year

| 2019 | 2020 | 2021 | 2022 | 2023 |
|------|------|------|------|------|
| 37 | 38 | 71 | 133 | 131 |

Table 9 shows total new syphilis infections in Butler County from 2019 through 2023. The most recent data are highlighted in light green.

Figure 5 is a line graph of syphilis cases from 2019-2023.

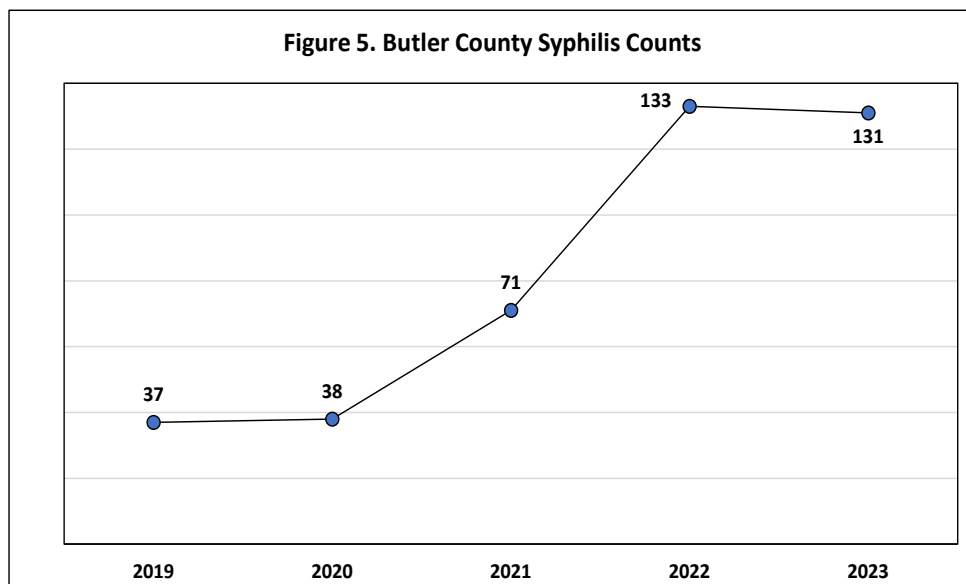


Table 10. Butler County Total Syphilis

| Month | 2022 | 2023 |
|--------------|------------|------------|
| January | 6 | 17 |
| February | 12 | 7 |
| March | 12 | 9 |
| April | 14 | 8 |
| May | 4 | 11 |
| June | 12 | 9 |
| July | 8 | 16 |
| August | 11 | 17 |
| September | 13 | 8 |
| October | 11 | 13 |
| November | 12 | 12 |
| December | 18 | 4 |
| Total | 133 | 131 |

Table 10 displays the breakdown of new syphilis cases for Butler County residents from 2022 through 2023 by month. In 2022, the highest number of cases were seen in December (18 cases). In 2023, the highest number of new cases have occurred in January and August (87cases).

Table 11 is a comparison of year 2022 and 2023. There has been a **1.5% decrease** of new syphilis infections during this time frame.

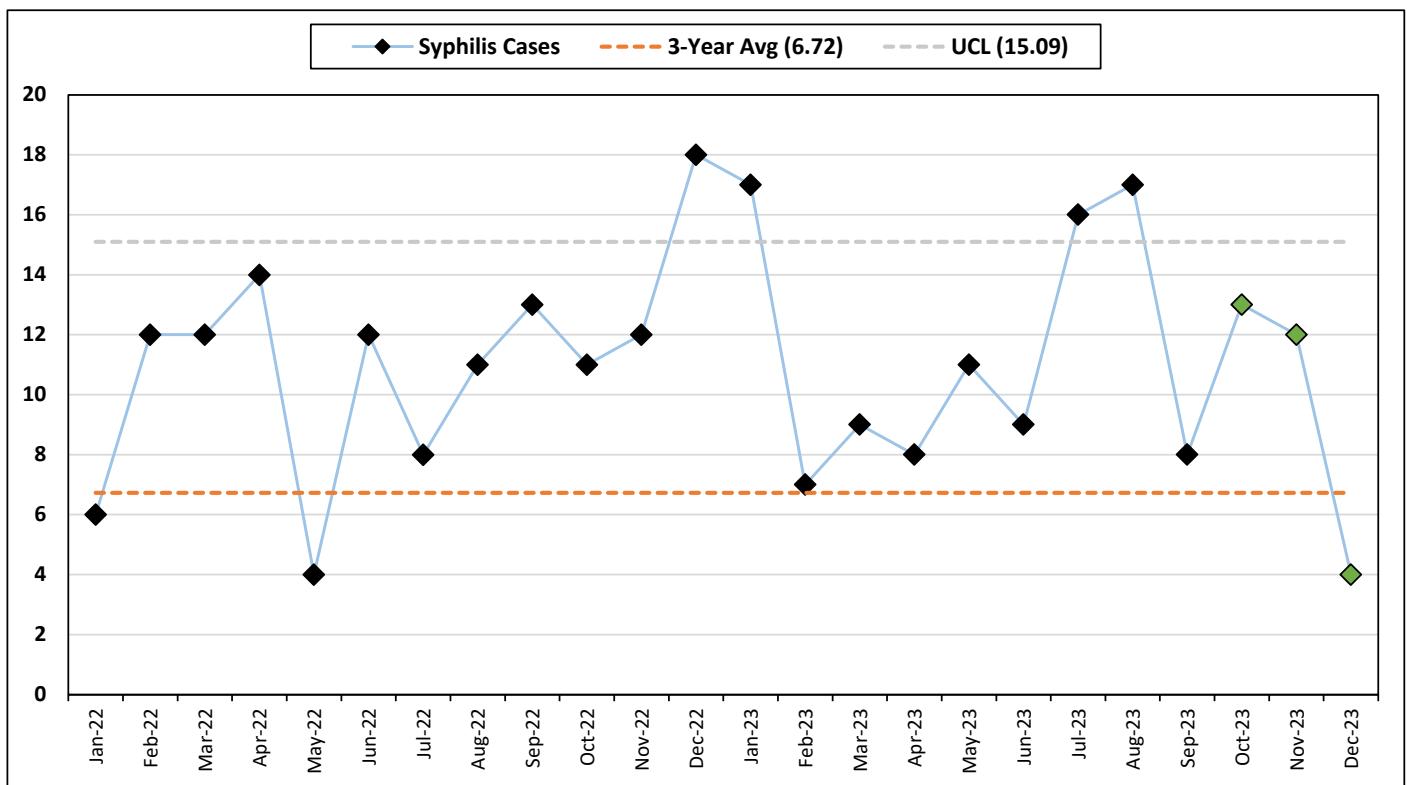
Table 11. Butler County Year Comparisons

| 2022 | 2023 | % Change |
|------|------|----------|
| 133 | 131 | -1.5%↓ |

Figure 6 shows a surveillance control chart. The dashed orange line is the 3-year average (2020, 2021, and 2022) for new syphilis infections by month. The 3-year average is 6.72 new syphilis infections per month. The dashed gray line is the upper control limit (UCL) with a value of 15.09. The diamonds on the blue line graph show the actual number of new syphilis infections by month. The green diamonds are the months from the most recent quarter.

Analysis: For 2023, January, July, and August were above the UCL. December was the only month in 2023 below the 3-year average. A single point above or near the upper control limit or consecutive points above the average may signal anomalies that need to be investigated. When there are only a small number of cases, it may be difficult to distinguish random fluctuations in disease/injury incidence from true changes in the underlying risk for the disease/injury.

Figure 6. Butler County Syphilis Infection Control Chart



The average is found using syphilis counts by month for the previous 3 years. A standard deviation is calculated using the same time frame. The upper control limit is determined by multiplying the standard deviation by 2 and adding the 3-year average.

Syphilis Quarterly Report: Butler County

Table 12 shows syphilis stages, demographic, and risk factor data. Highest number percentages are highlighted in blue. For 2023, Male (58.8%), White (57.3%), and 25-34 year olds (25.2%) made up the highest percentage of new syphilis infections. For risk factors, (excluding Unknown/Null) high risk heterosexuals (HRH) had the highest percentage of new syphilis infections (29.8%). The “Unknown” risk factor category could be due to a disease intervention specialist not being able to determine the risk factors of the patient. See additional information below the table.

| Table 12. Butler County Syphilis Morbidity | | | | |
|--|------|-------|------|-------|
| | 2022 | | 2023 | |
| | # | % | # | % |
| Syphilis Stages | | | | |
| Early Latent | 22 | 16.5% | 23 | 17.6% |
| Primary | 31 | 23.3% | 19 | 14.5% |
| Secondary | 30 | 22.6% | 24 | 18.3% |
| Late/Unknown | 47 | 35.3% | 60 | 45.8% |
| Congenital | 3 | 2.3% | 5 | 3.8% |
| Gender | | | | |
| Male | 85 | 64.2% | 77 | 58.8% |
| Female | 48 | 35.8% | 54 | 41.2% |
| Race | | | | |
| Black | 15 | 11.3% | 28 | 21.4% |
| White | 101 | 75.9% | 75 | 57.3% |
| Multi | 2 | 1.5% | 5 | 3.8% |
| Other | 15 | 11.3% | 19 | 14.5% |
| Unknown/Null | 0 | 0.0% | 4 | 3.1% |
| Age Group | | | | |
| <1 | 2 | 1.5% | 5 | 3.8% |
| 1-14 | 1 | 0.8% | 0 | 0.0% |
| 15-24 | 16 | 12.0% | 27 | 20.6% |
| 25-34 | 39 | 29.3% | 33 | 25.2% |
| 35-44 | 37 | 27.8% | 27 | 20.6% |
| 45-54 | 22 | 16.5% | 20 | 15.3% |
| 55-64 | 13 | 9.8% | 15 | 11.5% |
| 65+ | 3 | 2.3% | 4 | 3.1% |
| Risk Factor | | | | |
| MSM | 27 | 20.3% | 20 | 15.3% |
| HRH | 37 | 27.8% | 39 | 29.8% |
| PWID | 20 | 15.0% | 23 | 17.6% |
| Unknown/Null | 49 | 36.8% | 49 | 37.4% |

Percentages may not total to 100 due to rounding. Percentages are based on availability of data for all cases. MSM are men who have sex with men. High risk heterosexuals (HRH) are determined by factors including but not limited to: having a previous STI, sex while intoxicated, exchanging sex for drugs, or having anonymous sexual partners. PWID is a person who injects drugs. Early syphilis cases include early latent, primary, and secondary stages. Early syphilis cases are cases where a person has been infected for less than a year.

Overview of Syphilis in Brown, Clermont, Clinton, Highland, and Warren

| Table 13: Select Region 8 Counties Syphilis Infections by Quarter | | | | | |
|---|----------|-----------|-----------|----------|-----------|
| | Brown | Clermont | Clinton | Highland | Warren |
| 2022 | | | | | |
| Q1 | 1 | 5 | 3 | 1 | 8 |
| Q2 | 1 | 2 | 0 | 1 | 4 |
| Q3 | 2 | 4 | 4 | 1 | 6 |
| Q4 | 1 | 8 | 3 | 0 | 4 |
| Total | 5 | 19 | 10 | 3 | 22 |
| 2023 | | | | | |
| Q1 | 2 | 10 | 2 | 1 | 8 |
| Q2 | 2 | 7 | 0 | 3 | 6 |
| Q3 | 2 | 9 | 3 | 1 | 7 |
| Q4 | 0 | 4 | 2 | 0 | 9 |
| Total | 6 | 30 | 7 | 5 | 30 |

Table 13 shows total new syphilis infections in select Region 8 counties by quarter for 2022 and 2023. For 2023, Clermont County has the most new syphilis infections (30 cases).

Table 14 shows demographic and risk factor data for the aggregate of the select Region 8 counties. The highest number of percentages are highlighted in blue. For 2023, Male (67.9%), White (67.9%), and 35 to 44 year olds (24.4%) made up the highest percentage of new syphilis infections. For risk factors, high risk heterosexuals (HRH) had the highest percentage of new syphilis infections (35.9%). Risk factor definitions are on previous pages.

| Table 14. Select Region 8 Counties Syphilis Morbidity | | | | |
|---|------|-------|------|-------|
| | 2022 | | 2023 | |
| | # | % | # | % |
| Syphilis Stages | | | | |
| Early Latent | 13 | 22.0% | 22 | 28.2% |
| Primary | 10 | 16.9% | 11 | 14.1% |
| Secondary | 18 | 30.5% | 15 | 19.2% |
| Late/Unknown | 17 | 28.8% | 28 | 35.9% |
| Congenital | 1 | 1.7% | 2 | 2.6% |
| Gender | | | | |
| Male | 45 | 76.5% | 53 | 67.9% |
| Female | 14 | 23.5% | 25 | 32.1% |
| Race | | | | |
| Black | 7 | 11.9% | 7 | 9.0% |
| White | 47 | 79.7% | 53 | 67.9% |
| Multi | 1 | 1.7% | 4 | 5.1% |
| Other | 4 | 6.8% | 13 | 16.7% |
| Unknown/Null | 0 | 0.0% | 1 | 1.3% |
| Age Group | | | | |
| <1 | 1 | 1.7% | 2 | 2.6% |
| 15-24 | 7 | 11.9% | 12 | 15.4% |
| 25-34 | 17 | 28.8% | 18 | 23.1% |
| 35-44 | 12 | 20.3% | 19 | 24.4% |
| 45-54 | 15 | 25.4% | 15 | 19.2% |
| 55-64 | 6 | 10.2% | 10 | 12.8% |
| 65+ | 1 | 1.7% | 2 | 2.6% |
| Risk Factor | | | | |
| MSM | 25 | 42.4% | 19 | 24.4% |
| HRH | 16 | 27.1% | 28 | 35.9% |
| PWID | 2 | 3.4% | 10 | 12.8% |
| Unknown/Null | 16 | 27.1% | 21 | 26.9% |