

2022

COMMUNICABLE DISEASE SUMMARY REPORT



CLAY COUNTY

PUBLIC HEALTH CENTER



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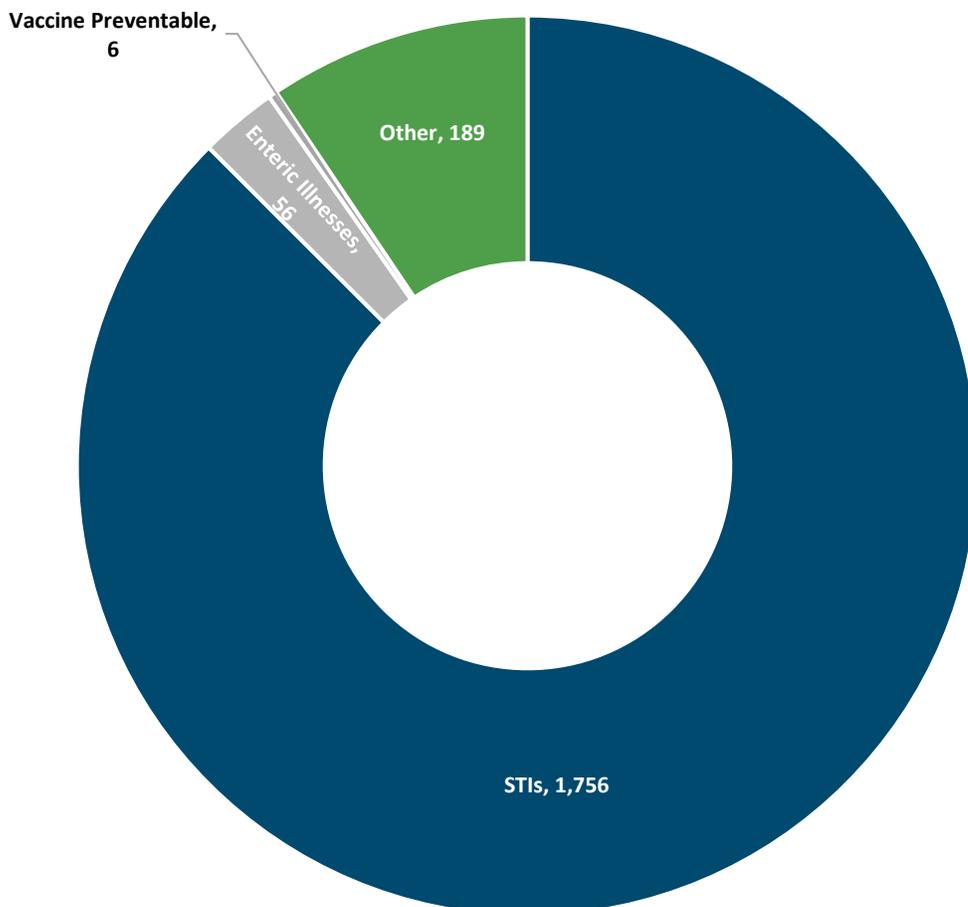
CLAY COUNTY PUBLIC HEALTH CENTER



2022 Communicable Disease Summary

The Clay County Public Health Center (CCPHC) Epidemiology Program routinely monitors over two hundred reportable diseases and conditions as mandated by State Statute. CCPHC received a total of 2,007 cases reported in 2022, excluding animal bites, influenza, and COVID. Among these reports, newly reported sexually transmitted infections (STIs) accounted for 1,756 cases (87%), followed by 56 cases of enteric illnesses (3%), 6 cases of vaccine-preventable conditions (<1%), and 189 cases of other miscellaneous conditions (9%). Figure 1 illustrates the distribution of reported cases in 2022.

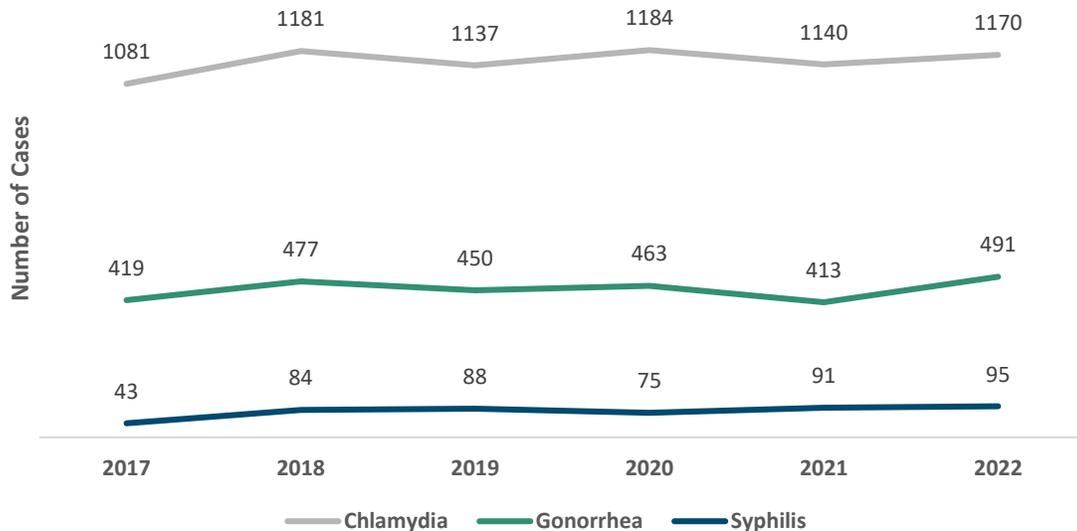
Figure 1. Number of Reportable Condition Reports, Clay County, 2022



Sexually Transmitted Infections (STIs)

In 2022, the bulk of reportable conditions consisted of STIs, with the exception of influenza. Chlamydia and Gonorrhea emerged as the two most reported STIs, followed by Syphilis. Figure 2 depicts the infection trend from 2017 through 2022, consistently trending upward over the past five years. The slight decrease in reported cases in 2021 does not signify an actual reduction in STI infections but rather reflects limited testing availability due to COVID-19 mitigation measures in effect.

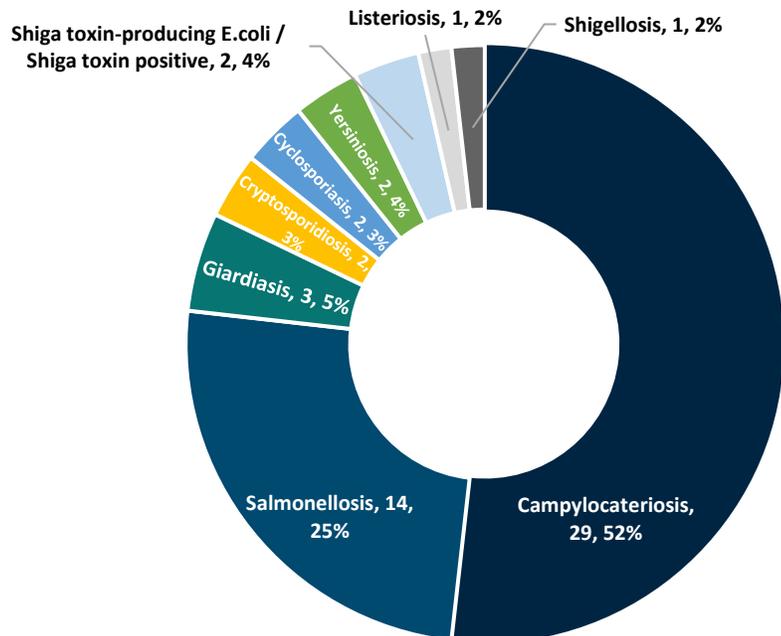
Figure 2. Reportable Sexually Transmitted Infections, Clay County, 2017-2022



Enteric Illnesses

Typically, enteric bacteria enter the body when contaminated food and water are ingested or through contact with animals, their environments, or the feces of an infected person. CCPHC conducts surveillance, investigation, and testing at the local level to identify enteric cases. The Epi Program investigated a total of 56 cases in 2022, predominantly campylobacteriosis cases. Figure 3 illustrates the cases investigated throughout 2022.

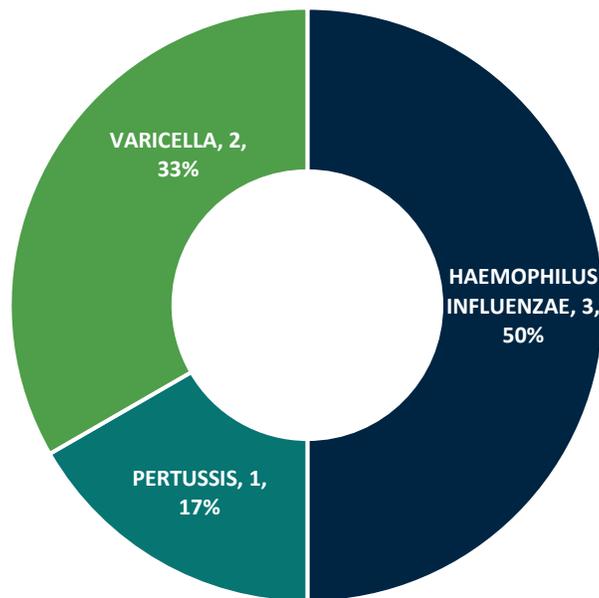
Figure 3. Enteric Illnesses by Type, Case Count, and Percentage, Clay County 2022



Vaccine-Preventable Illnesses

CCPHC receives reports of infections such as varicella (chickenpox), pertussis (whooping cough) and Hemophilus influenzae every year, despite the preventable nature of these conditions. In 2022, no clusters or outbreaks of vaccine-preventable illnesses were investigated by CCPHC. Children and older adults are especially susceptible to severe illnesses from these types of infections; however, vaccination can prevent or reduce severity of illness significantly by maintaining an up-to-date vaccination status. The case count for vaccine-preventable illnesses in 2022 was 6, slightly exceeding the average of 4 cases observed over the past three years. In relation to an increase in childhood vaccine preventable illnesses, recent legislation updates expanded exemption criteria for vaccination exemptions. As expected, Clay County's rate of vaccination exemptions increased slightly to 4.7% compared to a relatively stable rate of 4.2% from 2018 to 2021. The increasing trend of childhood vaccine preventable conditions is anticipated to continue in the coming years resulting from these state level policy changes. Figure 4 displays the case counts of vaccine reportable conditions in 2022.

Figure 4. Vaccine-Preventable Illnesses by Case Count and Percentage, Clay County 2022



Animal Bites and Rabies Exposures

Rabies occurs when a rabid animal bites and introduces the virus into a wound, open cuts in the skin, or mucous membranes such as the mouth or eyes. Once symptoms of rabies manifest in animals and humans, the mortality rate is 100%. CCPHC actively works to prevent rabies in humans by following up on all reports of animal bites to inform individuals about the risk of rabies. In cases of rabies exposure, discussions take place between the resident, physician, and Epi Program staff regarding rabies post-exposure prophylaxis (RPEP) recommendations. In 2022, CCPHC received a total of 79 animal bite reports and logged 5 cases receiving RPEP. In addition, MODHSS tests specimens for rabies for LPHAs; out of the 36 animal rabies tests conducted within the CCPHC jurisdiction, all results confirmed the absence of rabies.

Figure 5: Rabies Testing, Clay County, 2022



**Rabies Tests Conducted
in Clay County in 2022: 36**

100% of tests were negative

Influenza

In Clay County, the 2021-2022 influenza season commenced a few weeks ahead of schedule, with the predominant variant being influenza A (H3N2) (see Figure 6), consistent with national trends. While there was an increase in flu cases compared to the previous season of 2020-2021, the overall burden of flu remained significantly lower than pre-COVID pandemic seasons (refer to Figure 7). According to the national end-of-season data from the CDC, flu vaccines demonstrated a reduction in the risk of mild to moderate flu illness caused by flu A(H3N2) by approximately one-third (35% overall). During the 2021-2022 season, the national incidence of influenza-related illnesses, medically attended cases, hospitalizations, and fatalities reached their lowest levels since the 2011-2012 season, which followed the influenza A (H1N1) pdm09 pandemic. It is worth noting that the implementation of mitigation measures aimed at preventing the transmission of COVID-19 also influenced the timing and transmission of influenza during this season.

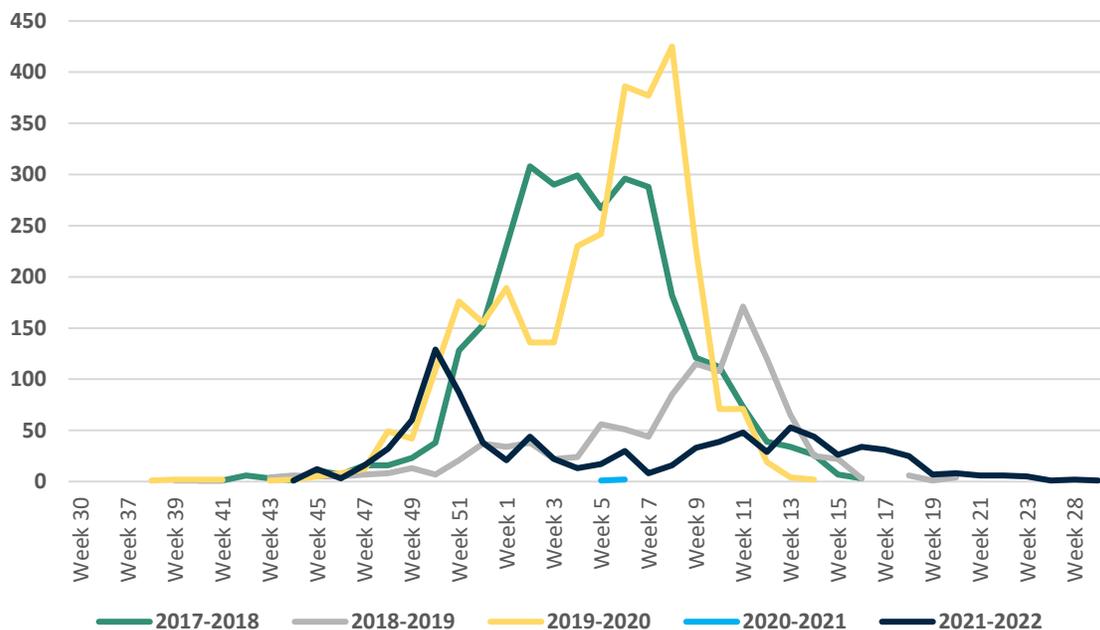
For the 2021-2022 season, quadrivalent (four-component) vaccines recommended contained:

- A (H1N1) pdm09
- A (H3N2)
- B/Victoria lineage
- B/Yamagata lineage

Figure 6. Influenza Cases by influenza type, Clay County, 2021-2022

Flu Type	2021-2022
A	842
B	35
A&B	2
U	76
Total	955

Figure 7. Influenza Cases by Epidemiology Week, Clay County, 2021-2022 Season



COVID-19 Pandemic

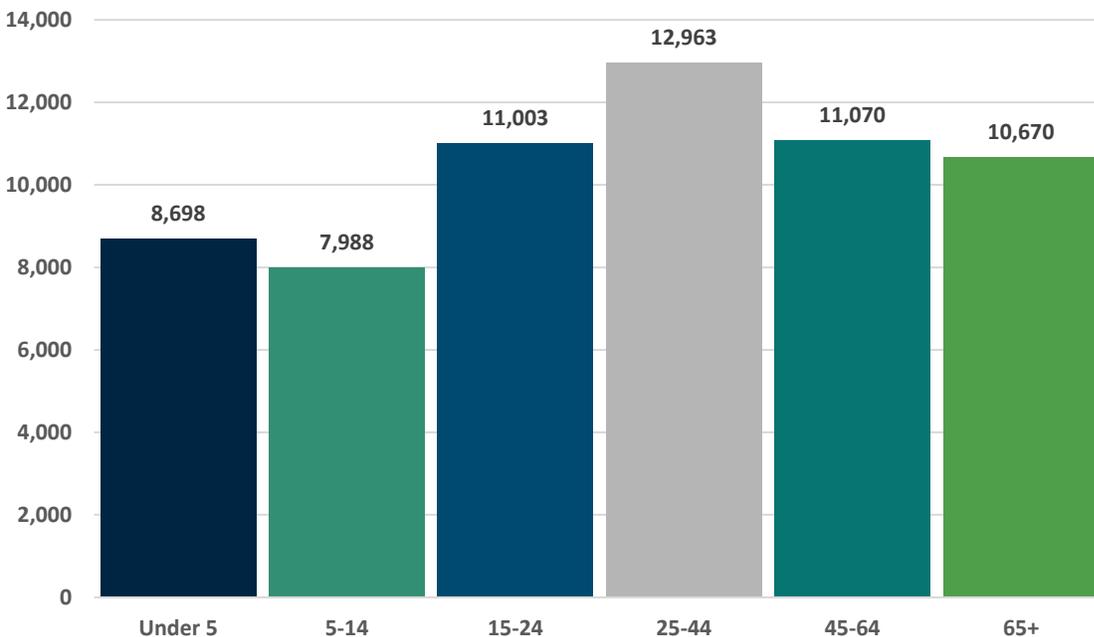
Cases

In early January 2022, as Delta and Omicron spread, the U.S. and Clay County experienced the highest daily total of new COVID-19 cases. The US reported over one million new infections and Clay County received over six thousand cases. This surge was attributable to the Omicron variant which mutated quickly, resulting in high transmissibility, therapeutic resistance, and evasion of vaccine-induced immunity. In response, both the CDC and the Food and Drug Administration (FDA) took several measures to increase the availability of testing, treatments, and broader vaccine coverage which played a critical role in the development of the COVID-19 bivalent booster launched in the Fall of 2022.

Cases by Age:

Throughout the pandemic response in 2022, CCPHC received reports of a total of 13,722 new COVID-19 cases. Among these cases, 7,446 (54%) were females, 6,155 (45%) were males and 1% had an unknown sex. Figure 8 indicates individuals between the ages of 25 and 44 experienced the highest rate of COVID-19 infections, with a recorded count of 12,963 cases per 100,000 people.

Figure 8. COVID-19 Case Rates per 100,000 by Age Group, Clay County, 2022

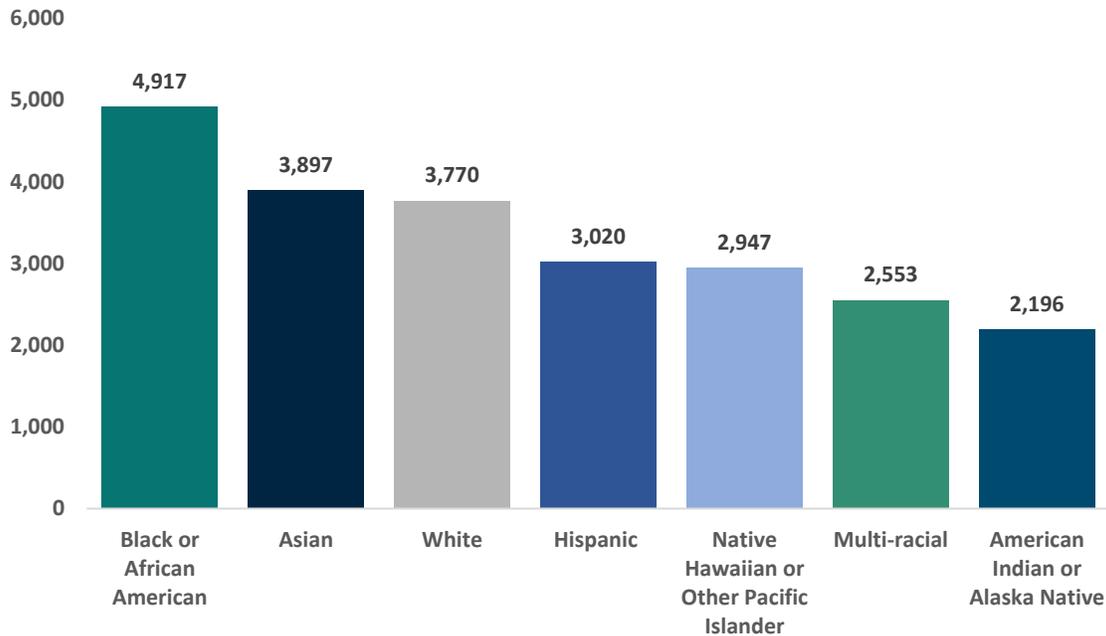


Cases by Race and Ethnicity:

Among the reported cases, 78% (10,746) were White, followed by 5% (680) Black/African Americans, and 6% (792) identified as other race including Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander or Multi-Racial. A significant portion of cases had an unknown race, accounting for 11% (1,504). Nationally, racial and ethnic minority groups have shown higher rates of COVID-19 infection compared to non-Hispanic Whites. Figure 9 indicates a similar trend in Clay County, with both the Black or African American and Asian populations bearing the highest burden of the disease, highlighting ongoing racial disparities locally. These disparities persist due to various factors, including

limited access to care, co-morbidities, workplace and housing circumstances, and institutional racism in healthcare.

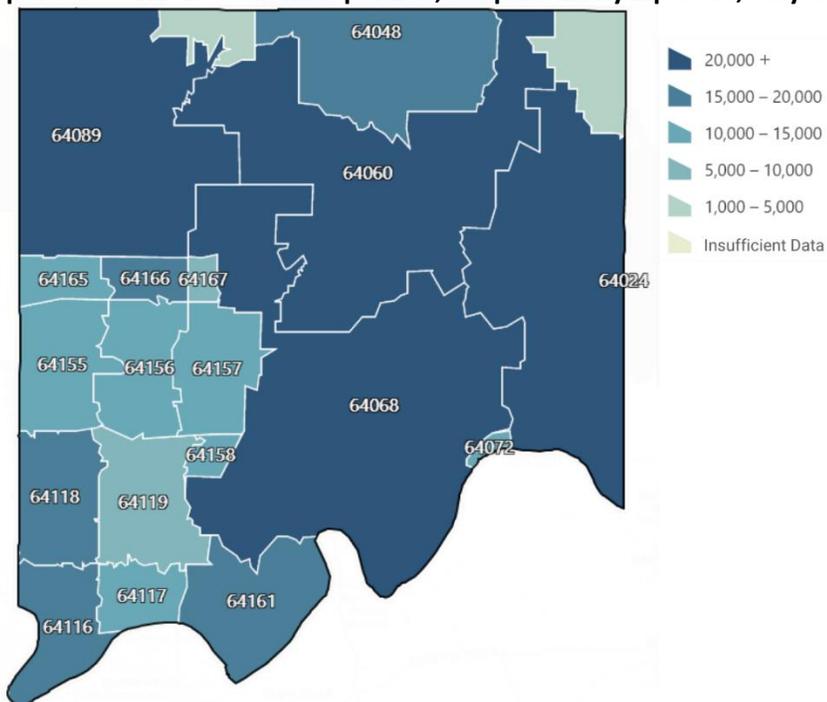
Figure 9. COVID-19 Case Rates per 100,000 by Race and Ethnicity, Clay County, 2022



Cases by Geography:

In reviewing cases by location, a notable divide occurred between urban and rural areas of the county. Throughout 2022, rural areas experienced higher rates of infection compared to urban areas as demonstrated in Figure 10. Persons residing in rural areas in Clay County historically experience a lack of access to health care, lower rates of insurance coverage secondary to access to employment and lack of access to public transportation. These lack of resources, coupled with lower rates of personal mitigation measures anecdotally attribute to the increase of infection experienced by rural residents.

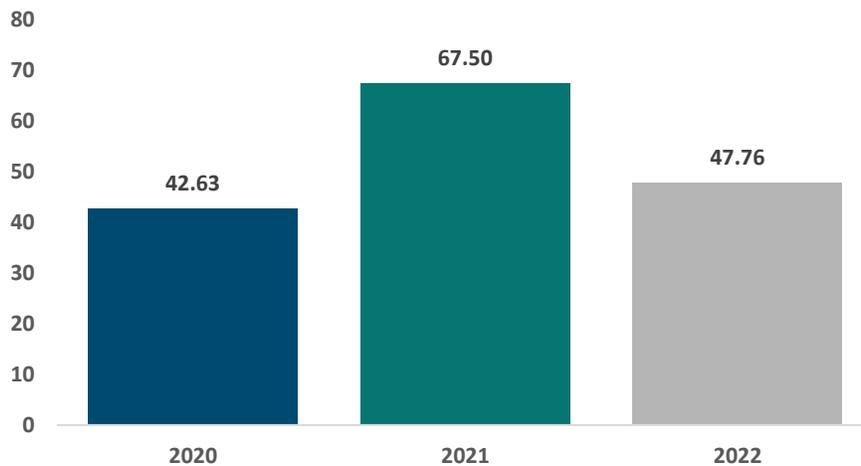
Figure 10. Reported COVID-19 Case Rate per 100,000 persons by Zip Code, Clay County, 2022



Deaths

In 2022, 47.76 per 100,000 persons. (n=121 deaths) died as a result of COVID-19. The majority of these deaths (98%, n=119) occurred in individuals aged 45 years and older. Figure 11 depicts the death ratio per 100,000 people from 2020 to 2022. Clay County witnessed a 29.2% decrease in COVID-19 related deaths in 2022 compared to 2021, which can be attributed to the increased administration of COVID-19 vaccinations and boosters in addition to treatment options reducing the severity of illness, hospitalization, and death. To further illustrate impact of these metrics, COVID-19 held the position of third leading cause of death in 2020 and 2021 in Clay County.

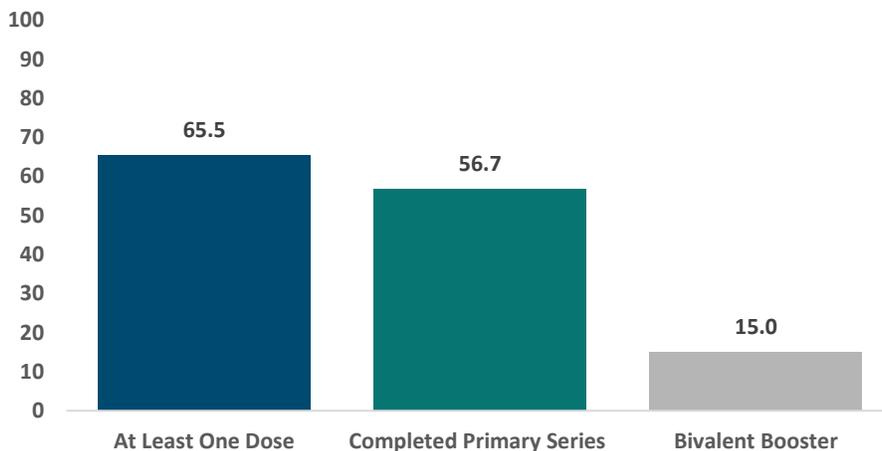
Figure 11. COVID-19 deaths per 100,000 by Year, Clay County, 2020-2022



Vaccinations

2022 data sources indicated that 56.7% (141,807) of Clay County residents had completed the primary COVID-19 vaccination series, while 15% (35,221) of individuals aged 5 years and older had received the Bivalent Booster dose (see Figure 12). The highest percentages of up-to-date statuses were observed among the age group 65 years and older, with 86.5% (31,230) completing the primary vaccine series and 44.1% (15,907) receiving the Bivalent booster dose. Among adults aged 18 years and older, 64.2% (122,024) had completed the primary series and 17.6% (33,435) had updated with the Bivalent booster dose. Although the reports indicated that over sixty percent (60%) of individuals in each age group had completed the primary series, the completion rate for the updated Bivalent booster dose remained below 20% for all age groups, except those aged 65 years and older. This trend aligned with state and national trends.

Figure 12. COVID-19 Vaccination Rates of Clay County Residents, Clay County, 2022

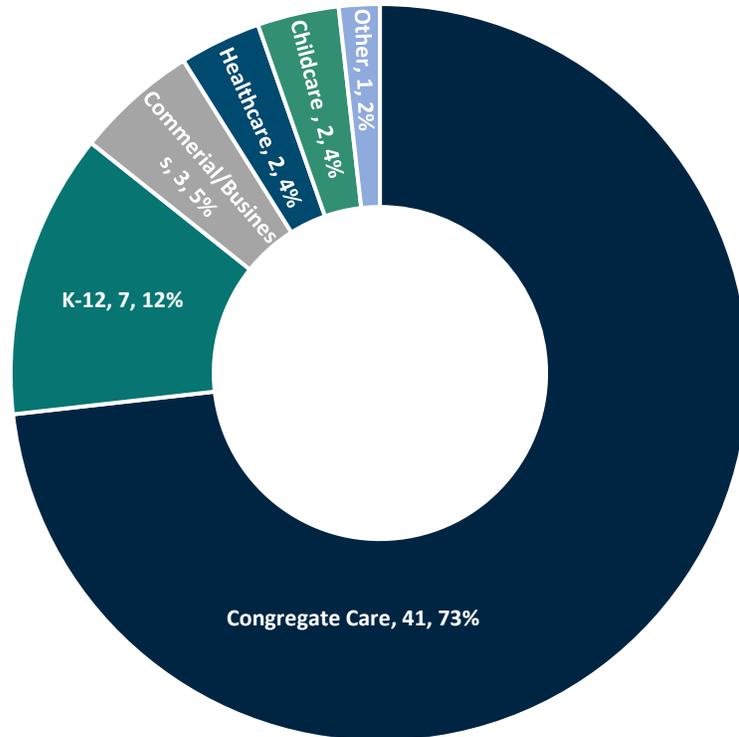


Outbreaks

As the pandemic progressed throughout 2022, clusters of cases and outbreaks continued to occur, primarily affecting the elderly and individuals with weakened immune systems. The spread of the virus persisted in congregate settings, especially those with a high population of elderly residents, such as long-term care facilities and places where people from various locations gathered with poor ventilation. Clusters and outbreaks followed similar patterns as in previous years of the pandemic. The highest number of outbreaks occurred in congregate care settings and K-12 schools, particularly in grade schools. Some commercial and business settings experienced sustained outbreaks, especially those with infrastructures and operations known to present ventilation challenges (see Figure 13).

To respond to the outbreak trends, the Epidemiology Program applied for and received funding in July of 2022 through National Association of County and City Health Officials (NACCHO) under the COVID-19 BLOC Grant to enhance infection control practices in Long-Term Care Facilities (LTCFs). This grant facilitated collaborative work between CCPHC and the Missouri Department of Health and Senior Services, Health Care Associated Infections and Antibiotic Resistant Program, along with the contracted University of Missouri Sinclair School of Nursing-Minimum Data Set (MDS) Quality and Research Team. Deliverables completed through this grant include Infection Control Technical Assistance (TA) to LTCFs, Infection Control Assessment and Response (ICAR) assessments, and outbreak response to facilities, reinforcing infection control practices to prevent future outbreaks and a poster presentation presented at the annual NACCHO conference in 2023.

Figure 13. Reported Outbreak Setting, Count, and Percentage, Clay County, 2022



Discussion and Next Steps

In evaluating the 5-year trends, it is evident that STI cases have consistently remained high and represent the majority of reportable conditions investigated by our Epidemiology Program. According to the County Health Rankings, the number of new Chlamydia infections reported in 2019 highlights the importance of addressing this indicator of sexual activity through policy and community-level interventions to improve health factors within our county. To effectively reduce the number of STI cases, we have taken the initiative to enter into a contract with the Missouri Department of Health and Senior Services (MODHSS) for the implementation of a community-level intervention called Partner Services, aligning with the recommendations provided by the county health rankings.

Furthermore, alongside the concerning trends in STIs, COVID-19 virus continued to circulate at unprecedented levels. Throughout 2022, the availability of effective COVID-19 vaccines significantly expanded, access to at home tests became routine and effective treatments were developed. As a result of these elements, gradual relaxation of mitigation measures took place. However, even as the virus entered an endemic state, infections and outbreaks persisted, though at a reduced and consistent level as 2022 came to a close. Challenges facing COVID-19 programming moving forward into 2023 continue to include battling vaccine misinformation/disinformation and gaining community trust post pandemic.

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