



# Nevada 2022 Congenital Syphilis Case Review Findings and Recommendations



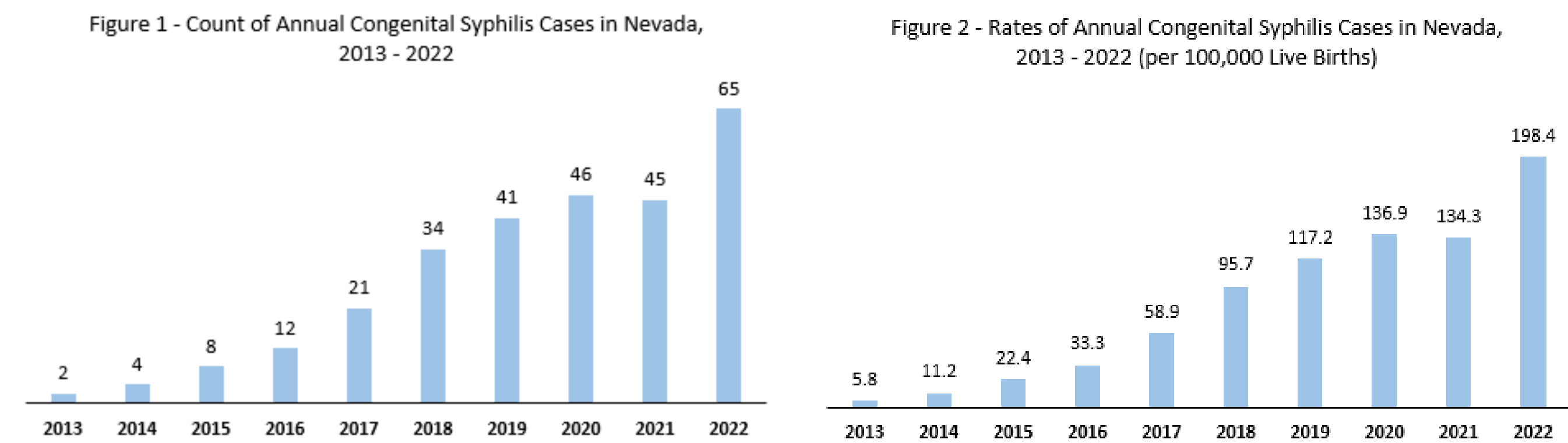
Agency: State of Nevada, Department of Health and Human Services (DHHS) Office of Analytics in partnership with the DHHS Division of Health Care Financing and Policy (DHCFP aka Nevada Medicaid) and DHHS Division of Public and Behavioral Health (DPBH)

Authors: Amy Lucas - Health Program Specialist II, Alexia Benshoof - Health Bureau Chief, Kyra Morgan - Chief Biostatistician, Madison Lopey - Management Analyst IV, Henry Agbewali - Economist III

Subject Matter Experts and Stakeholders: Dr. Ihsan Azzam - DHHS Chief Medical Officer, Dr. Roshanda Clemons - Nevada Medicaid Medical Director, Vickie Ives - Health Bureau Chief for DPBH Community Services Branch

## Introduction

Annual congenital syphilis (CS) cases have been increasing nationwide, including in Nevada, with 65 infants born with CS in Nevada in 2022. Over the last ten years in Nevada, cases have increased dramatically from 2 in 2013 to 65 in 2022 (Figure 1). Rates of annual CS cases per 100,000 live births have also increased in this time period, from 5.8 in 2013 to 198.4 in 2022 (Figure 2).



Syphilis is a treatable infection, but when untreated, a mother can pass the infection to her fetus, which can lead to stillborn births, miscarriages, developmental delays, and birth defects such as bone malformations and blindness<sup>1</sup>. CS should be a ‘never event’ as it is entirely preventable with treatment.

About 50% of all births are covered by Medicaid in Nevada<sup>2</sup>. Department of Health and Human Services (DHHS) wondered how many mothers who gave birth to infants with CS in 2022 were insured by Medicaid and of those, how many were receiving adequate prenatal care including appropriate screening, diagnosis, and treatment. An additional objective of the analysis was to identify any other public health or social services system touchpoints mothers had where an intervention could have occurred to prevent these cases of CS.

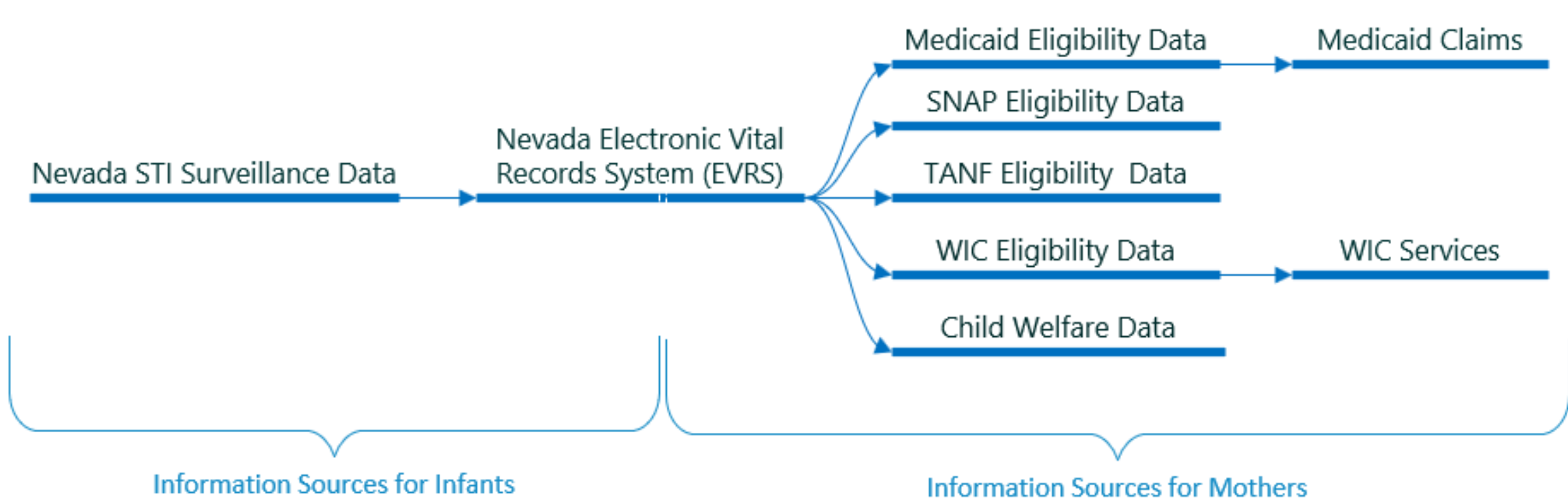
DHHS Office of Analytics conducted analyses to investigate these questions and reviewed results with DHHS subject matter experts and stakeholders to identify areas for targeted interventions to reduce and hopefully eliminate future CS cases.

## Methodology

Congenital syphilis cases in 2022 were identified using Nevada’s sexually transmitted infection (STI) surveillance data (N=65). From this data, we obtained infants’ names and dates of birth and linked them to their birth certificates in Nevada’s Electronic Vital Records System (EVRS) to get their mothers’ information from the birth certificate. Of the 65 cases identified, one infant could not be found in the birth records, most likely due to adoption; therefore, further analyses were performed based on a total of one less case (N=64). Certain data from the birth certificate records were used in the analysis such as information related to prenatal care, infants’ gestational age, and infants’ birth weights, for example. Prenatal care is categorized using the Adequacy of Prenatal Care Utilization Index, which calculates a summary score based on timing of prenatal care initiation and total number of prenatal care visits.

Using the mothers’ information from the birth certificate data, we linked the mothers to other data sources including Medicaid eligibility and claims data to explore questions surrounding their health care coverage and prenatal care including services, diagnoses, and treatment patterns. We also linked to datasets such as SNAP and TANF eligibility and WIC and Child Welfare services data to explore and identify additional social services or public health system touchpoints or areas of intervention for the mothers (Figure 3).

Figure 3 – Data Sources Used and Linkage Order for Nevada Congenital Syphilis Exploration, 2022



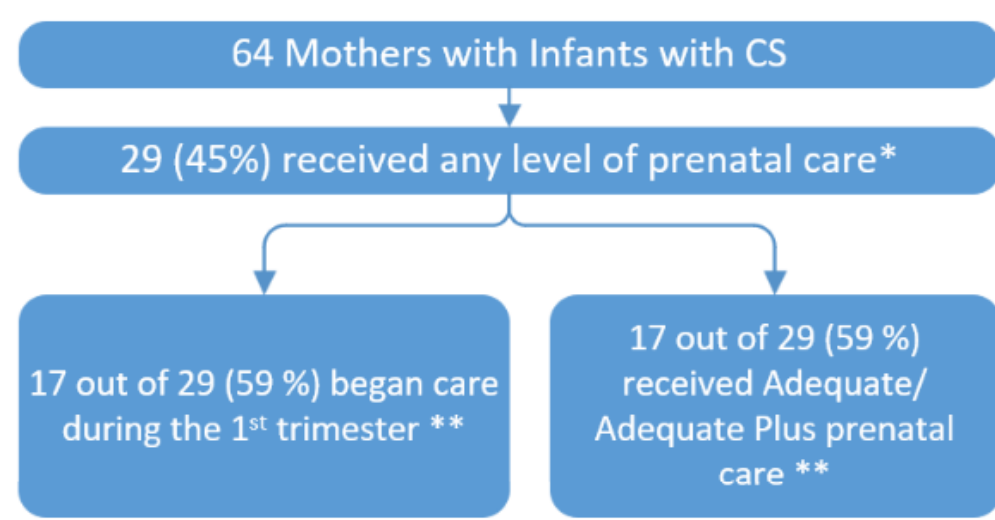
## Key Findings

### Medicaid Coverage, Prenatal Care, and Syphilis Diagnosis Timeline

Our research revealed that about 75% of mothers with infants with CS in 2022 (N=64) were enrolled in Medicaid (n=48); of those, the majority were enrolled in a Managed Care Organization (MCO). Most enrolled mothers had some level of utilization in the months preceding childbirth (n= 41) (Figure 4). This utilization, based on analysis of claims data, reflected a spectrum of services and was not exclusive to prenatal care. Of the Medicaid-insured mothers – only 22 out of 48 (46%) had any level of prenatal care according to the birth certificate. Over a third of the Medicaid-insured mothers (n=19) received no prenatal care.

In the broader population (N=64) according to the birth certificate data, only 45% of mothers with infants with CS received any prenatal care, and of those, only 26% had adequate prenatal care (Figure 5).

Figure 5 – Prenatal Care Outcomes of Mothers with Infants with Congenital Syphilis, 2022



Notes:  
\*Prenatal care data in this figure was obtained from the infants’ birth certificates.  
\*\* Counts and percentages are the same but do not reflect the same mothers.

- Only 17% (n=11) of mothers were diagnosed during pregnancy, more than 30 days prior to the date of delivery, with adequate time to treat. Of these, 4 had Medicaid claims for penicillin, indicating that treatment was at least initiated.
- Five cases resulted in fetal deaths, which occurred at 20+ weeks gestation.

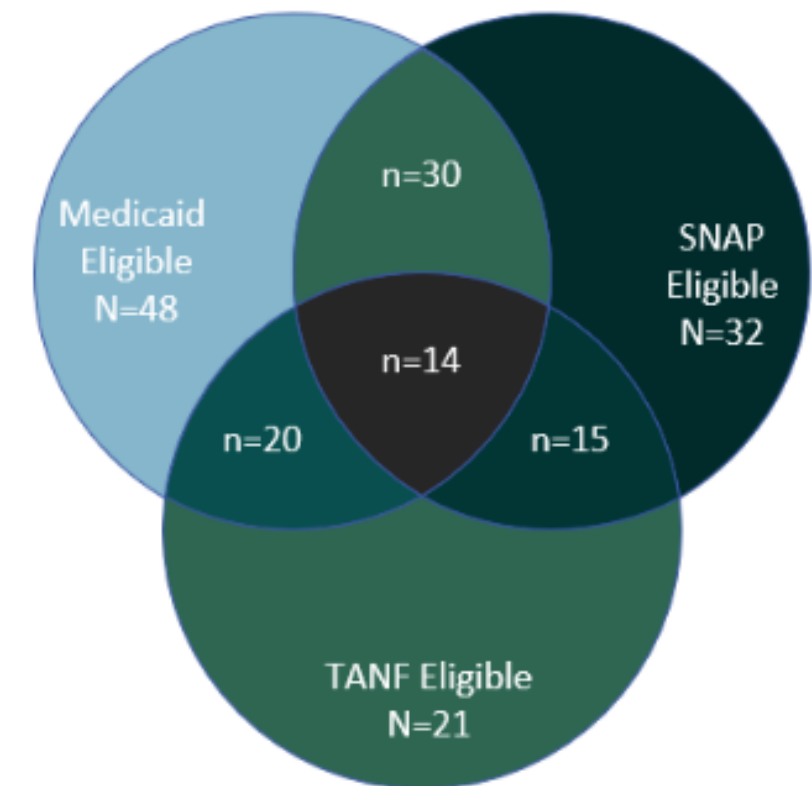
These statistics suggest a gap in appropriate screening and diagnosis among the population, including the Medicaid-insured mothers.

### Social Services or Public Health System Touchpoints

Our research also revealed that many mothers were receiving other social services or had interactions with the public health system in the year prior to the birth of their infant with CS.

For example, half of the mothers were receiving SNAP and a third were receiving TANF benefits

Figure 6 – Medicaid, SNAP, and TANF Eligibility and Overlap of Mothers of Infants with Congenital Syphilis, 2022



Common findings from the case review included late, inadequate, or no prenatal care, low infant birth weight, poverty, homelessness/heat exposure/dehydration, substance use (including tobacco/nicotine), and involvement in child welfare system. The association between whether an infant was born with CS and the mother’s race/ethnicity was statistically significant (p-value <.0001), with Black non-Hispanic and American Indian/Alaska Native non-Hispanic mothers more likely to have an infant born with CS than White non-Hispanic, Asian/Pacific Islander non-Hispanic, or Hispanic mothers.

## Recommendations

After the CS case review data results were studied, DHHS staff and stakeholders conducted further literature review and developed recommendations to address Nevada’s increasing rates of CS. Interventions were developed to target a five-pronged approach at the patient, provider, payor, community, and public health systems levels.

### General

General recommendations included developing targeted outreach and education campaigns for pregnant people and health care providers, proposing legislative changes to clarify and/or adjust existing statutory language related to universal screening, mandated testing and treatments to better align with CDC guidelines, and forming a CS Community Action Team made up of DHHS staff as well as university and community partners to discuss innovative ideas and formulate a matrix of action items as well as continue doing CS case reviews. Specific recommendations were also developed for DHHS agencies delivering social services or public health services who regularly encounter pregnant people.

### Nevada Medicaid-Specific

Stakeholders believe Nevada Medicaid-led interventions would have a significant impact on reducing the incidence of CS in Nevada. Specific recommendations include:

- Screening and treatment for CS should be covered by Medicaid for all pregnant persons statewide, irrespective of traditional Medicaid eligibility. A positive test result during screening should trigger Medicaid coverage for treatment of the infection.
- Partner treatment also needs to be addressed because reinfection after treatment in pregnancy can occur through sexual partners. Because of this, all people of childbearing age (15-44 years) who are enrolled in Medicaid should be offered voluntary screening for STIs, including syphilis and positive cases should be treated, irrespective of pregnancy status.
- Because most CS cases were among mothers who are enrolled in Medicaid, DHHS should research the possibility of tying late initiation of treatment to specific provider performance metrics through the MCO contracts as an incentive to test and treat appropriately.
- Value-based payment models should be implemented to incentivize early and adequate care and Performance Improvement Plans for MCOs should include CS reduction goals.
- Contract language for MCOs should be leveraged to ensure early and adequate prenatal care, obstetric medical homes, and enhanced case management for substance use disorder (SUD) and syphilis in the perinatal period.
- Medicaid coverage should include home visiting services to support early and adequate prenatal care among underserved pregnant persons and support referrals and education related to CS and social determinants of health supports.
- Pursue enhanced case management and reimbursement for pregnant persons diagnosed with syphilis as well as enhanced timely transportation benefits for pregnant persons with SUD and syphilis.
- Voluntary contraceptive supports should be incentivized and education on the unbundled in-hospital contraceptive benefit postpartum should be emphasized, as well as pathways for hospitals to have long-acting reversible contraceptives (LARCs) and other contraceptives in stock and on hand for those wanting them after informed consent is provided. Providers currently report having to carry contraception to the hospital as a barrier to utilization.

## Conclusion

DHHS staff, stakeholders, and community partners all agree Nevada’s CS trends must be reversed. Efforts have been initiated to address this public health crisis and will be continued with the goal to eliminate CS in Nevada. Nevada Medicaid is currently working to study and implement recommendations above. For example, the agency is developing Bonus Incentive Payments as permitted by federal law for Medicaid Managed Care contracts related to Maternal and Infant Health promotion. Goals include 1) promote increased screening, testing, and treatment for syphilis during pregnancy and infancy and 2) promote education and access of LARC for post-partum women. The impact of these goals on Medicaid member outcomes will be studied closely and used to inform future efforts. DHHS believes the work of education and awareness is a critical first step to achieving improved outcomes to reduce and eliminate CS.

Footnotes:

<sup>1</sup>Centers for Disease Control and Prevention. (2023, April 11). *Congenital Syphilis – CDC Fact Sheet*. <https://www.cdc.gov/std/syphilis/stdfact-congenital-syphilis.htm>

<sup>2</sup>State of Nevada, Department of Health and Human Services, Office of Analytics. (2023, December 7). *Nevada Resident Births by Medicaid Enrollment, State of Nevada and Nevada Medicaid Including Nevada Check Up*. [https://dhhs.nv.gov/uploadedFiles/dhhsnvgov/content/Programs/Office\\_of\\_Analytics/Nevada\\_Resident\\_Births\\_by\\_Medicaid\\_Enrollment\\_and\\_Region\\_-\\_CY\\_2018-2022.pdf](https://dhhs.nv.gov/uploadedFiles/dhhsnvgov/content/Programs/Office_of_Analytics/Nevada_Resident_Births_by_Medicaid_Enrollment_and_Region_-_CY_2018-2022.pdf)

To contact the DHHS Office of Analytics, or for more information about this poster, please email [data@dhhs.nv.gov](mailto:data@dhhs.nv.gov).