San Joaquin County's Goal to Leverage Real-time Health Data to Improve Public Health

San Joaquin County Public Health Services (SJCPHS) aims to advance health equity, promote healthy living, and improve the conditions that impact the overall well-being of over 790,000 residents in San Joaquin County. Located in Central California, San Joaquin County (SJC) is among the fastest growing counties in the state. The county is mostly rural, with one large urban core (Stockton), several smaller cities, and many ranching and farming communities. Nearly 15% of SJC residents live in poverty, and the county's diverse population is primarily Hispanic and White, with substantial Asian and African American populations.[1] According to the SJC 2022 Community Health Needs Assessment, residents in SJC are more likely to be enrolled in Medi-Cal or other public insurance, related to overall poverty.[2] SJC residents have access to significantly fewer health care providers than the Calilfornia average, with 26% fewer primary care physicians and 34% fewer dentists than state benchmarks.[3] This presents public health challenges, amplified by limited resources across a larger geography (the 14th largest county in California) and diverse population.

In a study published by UC Davis in June 2022, SJC was one of the three counties with significantly higher rates of congenital syphilis (CS) compared to larger metro counties, with 297 CS cases per 100,000 live births. This study correlated higher CS cases to high poverty rates, identifying barriers of associated burdens of out-of-pocket costs, employment demands, and housing insecurity, to name a few.[4]

It has also been difficult for women with known and unknown stages of CS to access prenatal treatment due to loss of patient follow-up, which was confirmed by the SJC Public Services STD Control Unit and depicted in the graph below.

In determining contributors to the higher CS rates in SJC, researchers identified additional missed opportunities for prevention, screening, and treatment in the Emergency Department (ED) and Correction Settings. For example:

- Among 17 with an ED visit, 29% were not tested in the ED
- Among those with a positive test, 45% did not initiate treatment in the ED
- Of the three who were incarcerated, 33% were not tested

SJC Syphilis Cases By Stage and Follow-Up Status, Females 15-44, 2023-22 YTD

Data as of 10/23/2022
Source: San Joaquin County STD Program Data
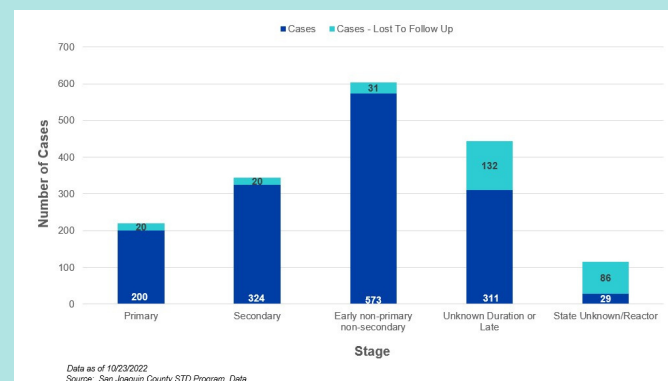
1. https://www.sjcphs.org/assets/20230423_SJC%20Strategic%20Plan%20Report.pdf
2. https://www.sjcphs.org/assets/20230423_SJC%20Strategic%20Plan%20Report.pdf
3. https://www.sjcphs.org/assets/20220817_6%2013%2022%20Executive%20Summary%20SJC%20CHNA.pdf
4. https://www.nature.com/articles/s41372-022-01445-y.epdf

Knowing these missed opportunities, SJCPHS is working to improve identification and care coordination for pregnant mothers and infants with CS within the ED. SJC is also striving to improve case finding, education, and care coordination for patients of reproductive age and to improve referrals to other county and community programs that could provide additional patient resources.

To reach these goals, SJCPHS is looking for ways to leverage real-time health data exchange, including partnering with Manifest MedEx (MX), California's largest nonprofit health information organization. MX shares health information for more than 72 percent of the population in SJC and 38 million Californians across a network of more than 125 hospitals, 17 health plans, and 1800 ambulatory providers.

Syphilis Cases in San Joaquin County, 2013- 2022 YTD

Data as of 10/23/2022
Source: San Joaquin County STD Program Data

MX sends approximately 1.5M admission, discharge, and transfer (ADT) notifications per month through MX Notify, the network's web-based portal. These notifications inform the recipient of when and which hospital a patient has been admitted, discharged, or transferred. It also includes demographic information like contact information and visit information.

SJCPHS' vision is to leverage these notifications to notify the SJCPHS care team when their patients are admitted to the ED, inpatient care, or Labor and Delivery so that care coordinators can coordinate CS testing and treatment at the hospital if needed. This has been a successful model in other California counties such as San Bernardino County.[5] Additionally, as a Whole Person Care (WPC) pilot county, SJCPHS has leveraged MX's ADT notifications to coordinate care for their WPC population and are working to apply those learnings to their communicable disease unit.

SJCPHS is in the process of piloting MX Notify and Access to track, monitor, and coordinate care for CS cases. The test effort consists of a cohort of approximately 200 patients which is updated monthly. Thus far, the notifications have helped the SJCPHS team identify when patients are landing in the ED to coordinate testing and treatment, and access to the patient's longitudinal record has enabled their team to find out if patients are receiving the necessary treatment. In the future, SJCPHS is also exploring ways to utilize MX Notify and MX Access in their Late TB Infection Project and for HIV Care Coordination.

For more information on how your county can utilize admission, discharge, and transfer (ADT) notifications and access longitudinal patient records to monitor communicable and infectious diseases, please visit us at www.manifestmedex.org or contact us at info@manifestmedex.org.

[5] https://www.manifestmedex.org/sbcdph-case-study/
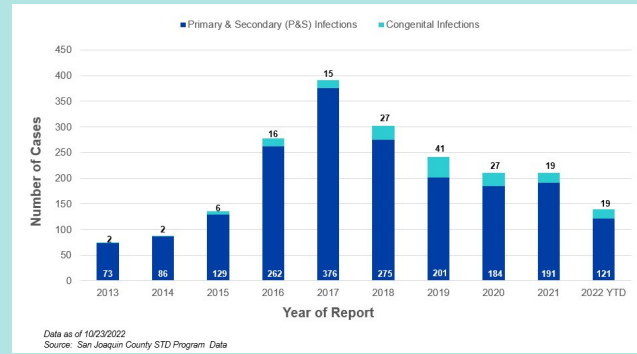
"Partnering with Manifest MedEx has been influential in connecting mothers and infants with congenital syphilis to preventative resources. To maintain oversight of such a large county, utilizing real-time ADT notifications and accessing patient information is pivotal in ensuring no patient is lost on our radar."

- Dr. Shadi Barfjani, MD, MSc, Senior Deputy Director, San Joaquin County Public Health Services