Administration (FDA)-cleared syphilis diagnostic tests or new investigational assays in the United States (US). Described here is a repository of residual syphilis serum specimens (N=464) that were tested and submitted by US state and local public health laboratories (PHL), with further evaluation performed at the CDC. 

**Methods** Specimen submission criteria include: identification of patient information, collection date, volume, storage conditions, freeze-thaw cycles, prior serology results, reported clinically diagnosed syphilis stage, treatment status, and demographics as available. Upon CDC receipt and assessment, 283/464 sera met the minimum 2 ml volume requirement for assay evaluation. Sex and age information were provided for all specimens, with some clinical data provided for reported (n=152) and unknown (n=131) syphilis stage. Previous test results were blinded and sera were tested using five FDA-cleared syphilis serological tests; nontreponemal Rapid Plasma Reagin (RPR), treponemal *T. pallidum* Particulate Agglutination (TP-PA), Trep-Sure Enzyme Immunoassay (EIA), LIA-SON treponema screen (Chemiluminescence Immunoassay, CIA), and Syphilis Health Check (SHC). The investigational INNO-LIA Syphilis Score (Line Immunoassay, LIA) was also tested. 

**Results** Of the five treponemal tests evaluated, overall sensitivity ranged from 76.3–100%, with EIA and SHC showing the highest and lowest sensitivity, respectively. The nontreponemal RPR demonstrated overall sensitivity between 63.2–100%. Concordance was high (84.2%) among the standard laboratory assays, RPR, EIA, CIA, and TP-PA. There was negligible variation in sensitivity based on reported syphilis stage for this panel. 

**Conclusion** Laboratory generated data and limited reported clinical information associated with tested residual specimen panels may be of value for research and development of syphilis diagnostic tests. Repository growth is ongoing with active serum submissions from PHL.

**Disclosure** No significant relationships.

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**O18.6 PRENATAL CARE ENTRY AMONG PREGNANT WOMEN WITH SYMPHILIS WHO USE METHAMPHETAMINES: A KEY TO CONGENITAL SYPHILIS PREVENTION**

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**Background** In California, congenital syphilis (CS) increased for the fifth consecutive year in 2017, and contributed one third of CS cases in the United States. In response, state and local STD programs implemented CS prevention strategies. A CS Prevention Cascade monitors impact, assesses prenatal care (PNC) gaps, and estimates CS cases averted. 

**Methods** This analysis used 2017 California Project Area surveillance data for women diagnosed with syphilis during pregnancy or at delivery. Cases were assessed for the following, each met ≥30 days prior to delivery: documented PNC, syphilis screening, treatment initiation, and treatment adequacy by stage. Data for each cascade bar included women counted in the preceding bar(s). The final bar represented the CS Prevention Ratio (CSPR) – the proportion of pregnant syphilis cases who did not deliver a CS infant. This cascade was then stratified by MU, defined as having either self-reported use upon interview or positive urine toxicity in pregnancy or at delivery. Three groups were identified: Non-MU (NMU); Positive-MU (PMU); Not interviewed (NI). A post-hoc stratified cascade included only pregnant syphilis cases with documented PNC, to explore how MU might impact CS case avarion once PNC is initiated.

**Results** 616 women were included; 239/118/259 were NMU/PMU/NI respectively. Within these groups 95%/86%/71% met PNC criteria, 89%/81%/66% received syphilis screening, 84%/75%/63% initiated treatment, 82%/73%/61% met treatment adequacy, and CSPR were 79%/69%/59% (p<0.001).