

Point-of-Care (POC) Syphilis Testing in a Jail Setting: Implementation and Research Development



Background

- MetroHealth System – Cuyahoga County Corrections Center (CCCC)
- MetroHealth provides healthcare within the jail, including infectious disease screening for incarcerated individuals
- Syphilis rates in the U.S. have increased, with disproportionately higher burden among incarcerated individuals
- Traditional laboratory-based workflows may delay diagnosis and treatment in high-turnover jail settings
- Point-of-Care (POC) testing improves timely identification and management of infection



Figure 1: Cuyahoga County Corrections Center (CCCC) located within the justice center complex in downtown Cleveland

Population

- Incarcerated women of reproductive age housed in the CCCC
- Individuals at increased risk for STIs, including syphilis, due to structural, social, and healthcare access factors
- A high turnover population with variable lengths of stay, impacting continuity of care and follow-up

Lauren Bashein

Preceptor: Ann Avery, MD

**Department of Population and Quantitative Health Sciences
Case Western Reserve University School of Medicine**

A practicum focused on clinical workflow, point-of-care (POC) testing implementation, and research development

Learning Objectives

- Apply public health research methods to support POC syphilis testing implementation
- Analyze clinical workflows and operational processes affecting STI screening, diagnosis, and treatment
- Develop and synthesize literature on STI screening and POC diagnostics to inform project design
- Use Epic to support data interpretation and care processes
- Adapt research design in response to real-world constraints encountered during project implementation

Deliverables

- 1.) Comprehensive literature review on syphilis and other STI screening and point-of-care (POC) diagnosis
- 2.) IRB-exempt research protocol, for point-of-care syphilis testing in a correctional setting

Activities

- Collaborated with a patient navigator to implement POC syphilis testing in a jail
- Compiled daily eligibility lists in Epic based on predefined criteria
- Conducted rapid syphilis testing (fingerstick collection, processing, result interpretation)
- Supported test result documentation in Epic
- Navigated logistical challenges related to patient movement (transfers, releases, and EHR delays)
- Engaged with clinical and jail staff to understand STI screening and treatment workflows
- Explored Epic data to identify variables and assess feasibility of retrospective analysis
- Evaluated data availability and workflow inconsistencies impacting testing and follow-up

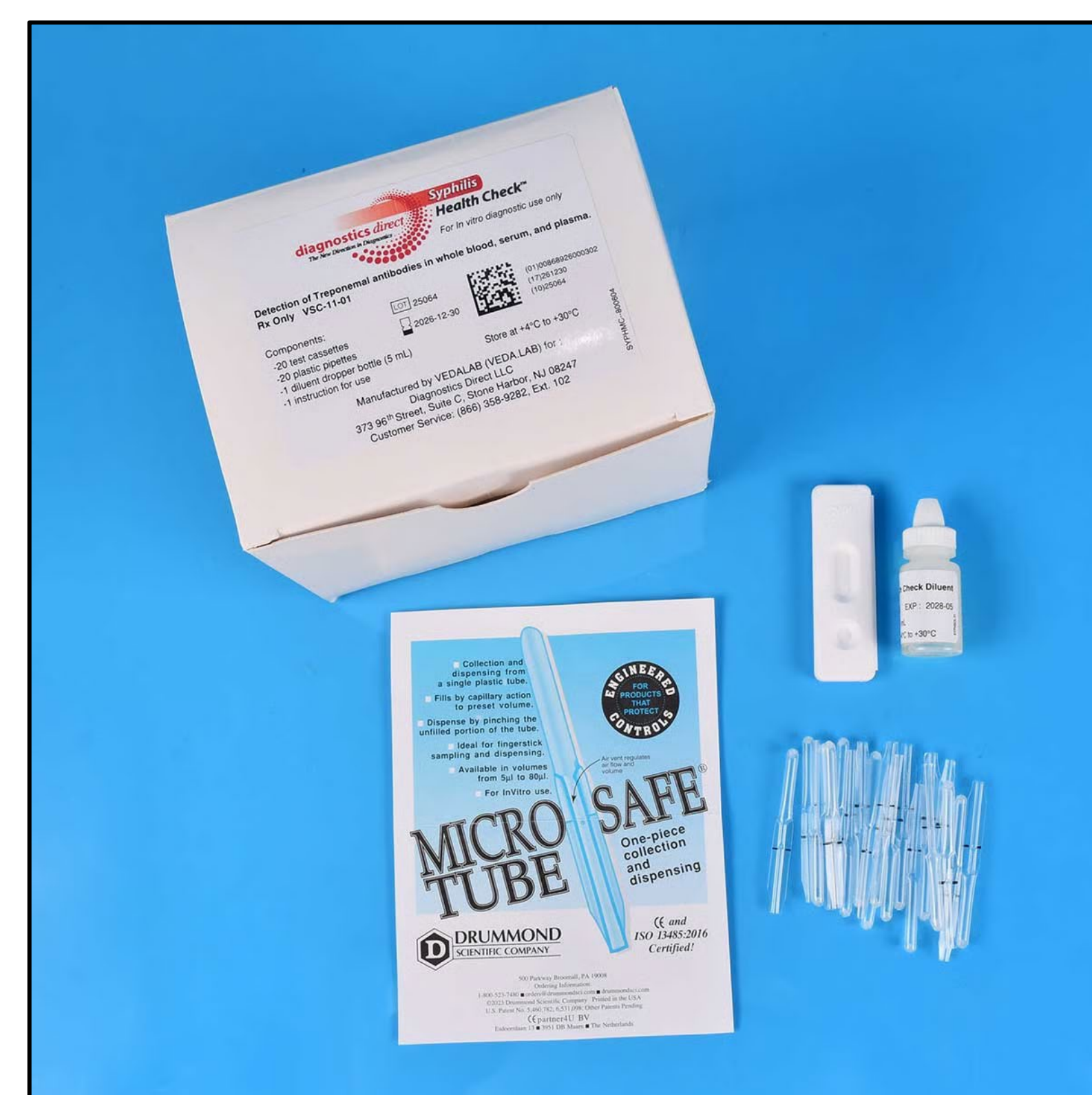


Figure 2: Diagnostic Direct Syphilis Health Check point-of-care (POC) test kit and materials used for rapid fingerstick syphilis screening

Public Health Implications

- Jails are critical opportunities for STI screening and intervention among high-risk populations
- POC testing improves timely diagnosis and treatment in high-turnover settings
- Workflow and operational factors influence screening and treatment effectiveness
- Real-world implementation challenges must inform intervention design and delivery
- Strengthening jail-based STI screening supports broader community disease control
- Integrating research and implementation efforts improve intervention design and evaluation

Key Implementation Insights

- High turnover limits follow-up
- EHR delays impact workflow
- Testing requires coordination

Lessons Learned

- Real-world implementation often differs from planned protocols
- EHR system may not reflect real-time patient movement in correctional settings
- High patient turnover creates challenges for follow-up and continuity of care
- POC syphilis testing requires significant time, coordination, and workflow integration
- Research design must remain flexible in dynamic, real-world healthcare environments