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DHEC Public Health Laboratory Improved Testing During Monkeypox Outbreak

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Amidst an immense public health response to the monkeypox (MPX) outbreak, the South Carolina Department of Health and Environmental Control (DHEC) Public Health Laboratory (PHL) has quickly adapted and strengthened its disease surveillance, detection and preparedness.

As the state’s primary MPX outbreak surveillance resource, the PHL enhanced its response capabilities by using a robust, flexible and scalable infrastructure; implemented new automated technologies for processing of MPX and other infectious disease pathogens; and modernized electronic laboratory data reporting. Since July 2022, the Special Pathogens laboratory, the PHL’s main MPX testing lab, has validated the Qiagen EZ1 instrument to aid in automated MPX RNA extraction for outbreak detection. Also, a Roche MagNA Pure 96 sample system is nearby with verifications plans prepared in case an expanded RNA extraction platform is needed.

In addition to these automated instruments, three laboratorians were trained as part of the Special Pathogens team to assist with testing surges. This support staff helps the Special Pathogens core team (one supervisor and one laboratorian) accession, test and report results for more than 360 patient samples, a far cry from Special Pathogens’ usual 50 to 100 samples/year.

Their efforts help DHEC and the Centers for Disease Control and Prevention (CDC) continually monitor MPX trends across the state. In addition to known pathogens, such as MPX and West Nile viruses, the Special Pathogens laboratory also serves as a testing site for new, unknown and suspected pathogens that statewide clinical facilities cannot identify using current testing methodologies. To enhance electronic laboratory data reporting, PHL laboratories, including the Special Pathogens lab, transitioned to OpenELIS, an enterprise-level laboratory information system, and implemented an improved electronic health records management system for hospitals and other DHEC sites.

Throughout this outbreak, the DHEC PHL continues to support statewide public health efforts to provide rapid results and a quicker response for SC patients and their families; not only for MPX, but also for a wide range of infectious disease threats.

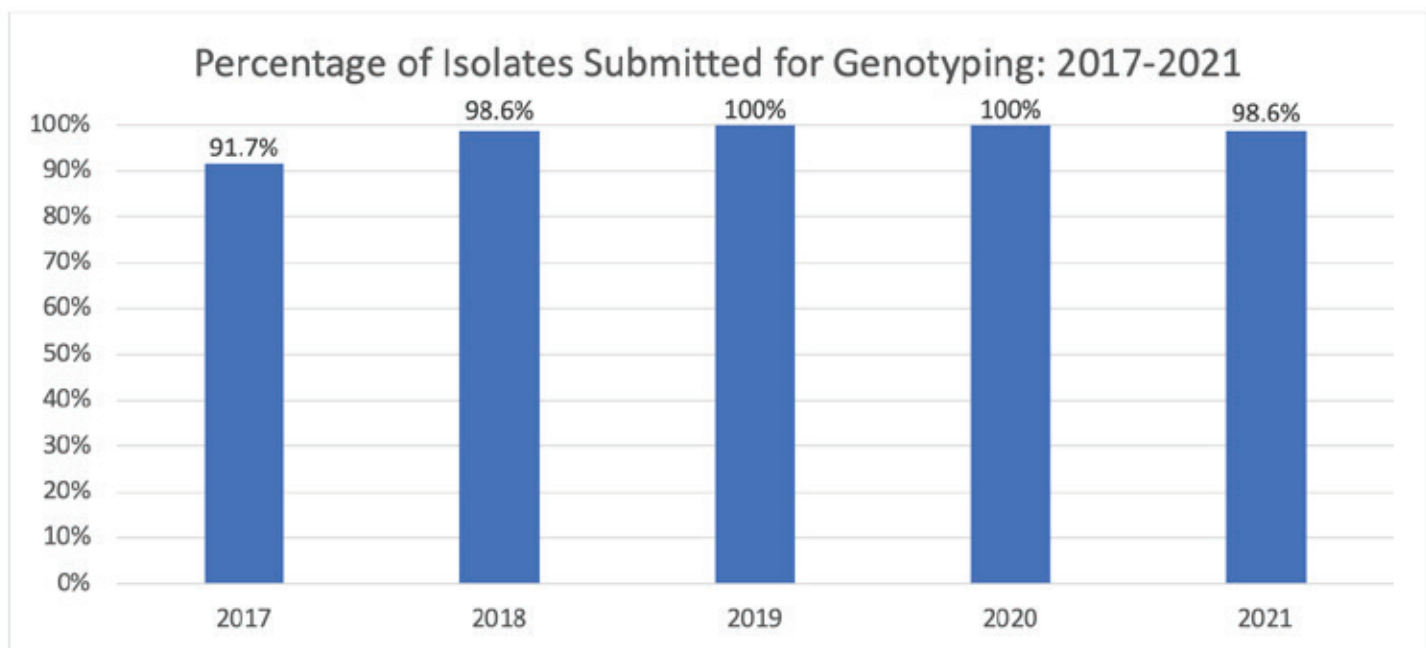
Importance of Tuberculosis (TB) Genotyping and Whole Genome Sequencing

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Epidemiological investigations are supported with genotyping results for culture-positive *Mycobacterium tuberculosis* (*M. tb*) cases. As of July 1, 2022, universal Whole Genome Sequencing (WGS), a superseding technology performed by the Centers for Disease Control and Prevention (CDC), determines results based on ~99% of the TB genome as opposed to ~1% prior with genotyping. Sequencing of isolates, combined with epidemiological analysis, is an invaluable asset to determine connections between TB cases. Sequenced results may either denote a unique result, with no matches to prior or current SC cases, or provide for a match to an existing genotypically or WGS-determined cluster. WGS analysis can be performed on isolates sources from pulmonary and extrapulmonary specimens.

The South Carolina Department of Health and Environmental Control (DHEC) regulation requires hospital and commercial reference labs to submit an isolate to the Public Health Laboratory (PHL) for specimens receiving a culture-positive *M. tb* result. In addition, a set of national performance indicators prescribed by the CDC Division of TB Elimination, consists of the submission of at least one isolate for each culture-positive case for WGS. The indicators are additionally utilized to determine federal funding. The PHL ensures an isolate from each culture-positive patient is submitted for WGS once received from DHEC clinics, hospital labs, or reference labs such as Quest or LabCorp.

On occasion, isolates collected external to DHEC, are not automatically shipped to the public health laboratory. In many instances, collecting facilities initially submit specimens to commercial reference labs for DNA probe analysis and culture as opposed to performing analyses in-house. Due to storage capacities, many hospital laboratories discard specimens approximately after one week, following submission to a reference lab. In addition, commercial laboratories may also discard specimens within a brief timeframe following analysis. Should the specimen(s) collected by facilities external to DHEC constitute the only culture-positive specimen(s) and discarded prior to submission to the public health laboratory, obtaining WGS results will not be possible. It is therefore crucial that continual reiteration of the importance of submitting culture-positive isolates is expressed at every opportunity.



**Years 2017 and 2018 were below 100% due to isolates for culture-positive cases not submitted to the PHL. Upon request to the collecting or commercial laboratories, isolates were previously discarded. In 2021, specimens for one case were consistently co-infected with a non-tuberculosis mycobacteria, and a pure TB isolate was not obtained.

DHEC Continues Work to Increase PrEP Awareness

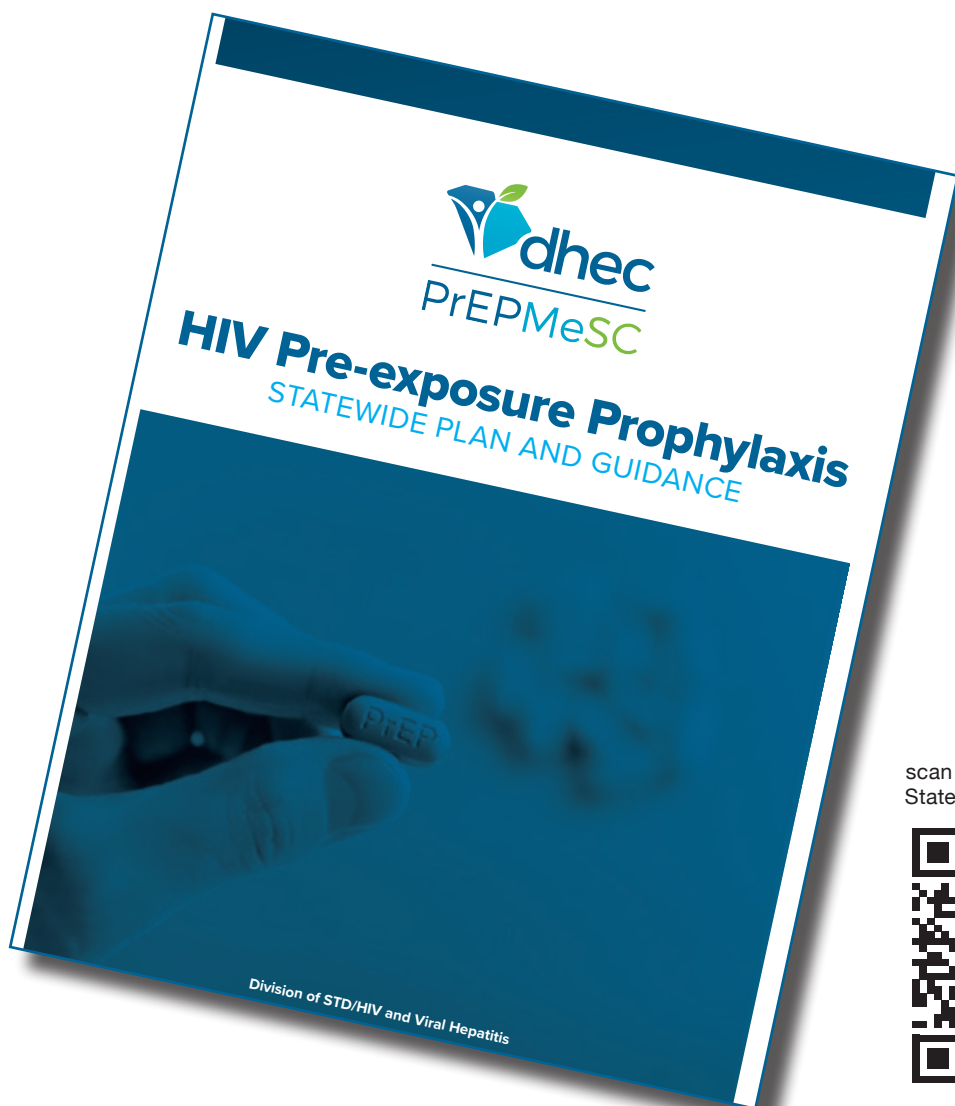
Tia Robinson, DNP, APRN, WHNP-BC
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DHEC recently observed the third annual PrEP Awareness Week, Sept. 26-30, 2022. The purpose of PrEP (pre-exposure prophylaxis) Awareness Week is to increase PrEP awareness, access and uptake in South Carolina.

The first HIV antiretroviral medication used to prevent HIV was approved by the Food and Drug Administration (FDA) in 2012, but in 2022, South Carolina still has limited PrEP uptake. As reported by the Centers for Disease Control and Prevention (CDC) in 2021, South Carolina had about 3,000 individuals who were prescribed PrEP and over 10,000 that were eligible for PrEP.

The Southern states combine to make up a crucial target region for increasing HIV prevention and PrEP uptake due to Southern states accounting for more than nearly 50 percent of new HIV infections. Increasing awareness and providers' knowledge about PrEP will support the rise in PrEP uptake across the state. Please visit scdhec.gov/PrEP to learn more about PrEP.

HIV PrEP Statewide Plan and Guidance scdhec.gov/sites/default/files/media/document/CR-012836



scan here for link to HIV PrEP
Statewide Plan and Guidance



Reconnect Us: A Prison Initiative

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Data & Evaluation Program Coordinator
Division of STD/HIV & Viral Hepatitis

Research has shown that two-thirds (67%) of people living with HIV (PWH) released from prison experience interrupted care (MMWR,2016). Effective linkage to care between corrections and community services is essential to ensure viral suppression and retention in care.

What is ReConnect Us?

ReConnect Us is a collaborative partnership between the South Carolina Department of Health and Environmental Control (DHEC), the South Carolina Department of Corrections (SCDC), and Prisma Health that supports HIV viral suppression among previously incarcerated individuals diagnosed with HIV re-entering the community.

ReConnect Us Goals

- Identify individuals diagnosed with HIV and assist with monitoring and care management after release.
- Enhance the pre- and post-release planning to strengthen and coordinate medical, behavioral health and social services for incarcerated individuals.
- Provide partner services and testing to identify partners and associates in need of HIV and STI treatment or prevention services.

How Will ReConnect Us get in contact with you?

Approximately two months before the client's estimated release date, Prisma Health's Transitional Coordinator – Cheryl Brown – will contact the HIV medical provider to set a medical appointment for the client. The transitional coordinator will ensure that all paperwork is completed and forwarded to the HIV medical provider before the client is released.

Near the appointment date, the Enhanced Discharge Program Coordinator (EDPC) – Brandi Johnson – will contact the Medical Case Manager (MCM) to confirm that the client has been linked to medical care and obtain the most recent lab results. Through the ReConnect Us program, the EDPC will be able to assist clients with resources such as non-medical transportation, gift cards, telephones and additional support. ReConnect Us works with HIV medical

providers across South Carolina to help individuals link and stay in care. The EDPC will contact the MCM for updates on lab results and medical appointment attendance for the next 18 months.

Benefits of ReConnect Us

- Links individuals to medical care.
- Fosters a support system.
- Provides care package with toiletries, gift cards and a safe sex kit upon release.
- Connects individuals to peer support advocates.
- Makes referrals for transportation, food and housing assistance services.
- Supports individuals to achieve and maintain viral suppression.

Eligibility Requirements

- Current or previous (2017 or later) incarceration experience at SCDC.
- People living with HIV (PWH) and currently out of care.

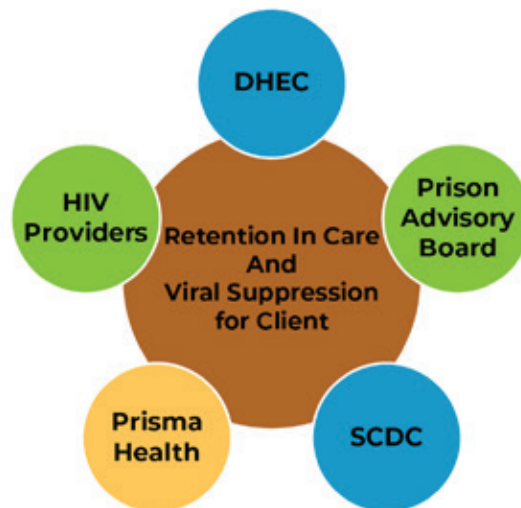
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STD/HIV Laboratory Reporting in South Carolina

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Disease reporting can provide a better understanding of disease trends and patterns in South Carolina and allows for public health intervention for patients and rapidly growing transmission or disease outbreaks. It is important to report diseases timely, completely and accurately.

Health care facilities, physicians and laboratories are required by SC law to report HIV/AIDS, Chlamydia, Gonorrhea and Syphilis. Reports should be submitted within a specified timeframe to the Division of Surveillance, Assessment, and Evaluation (SAE). Upon receipt, reports are reviewed for completeness, timeliness and accuracy and entered in the state's databases, enhanced HIV/AIDS Reporting System (eHARS) and South Carolina's Infectious Disease and Outbreak Network (SCION) for reporting and management.

Cases are updated and confirmed by regional coordinators and followed by Disease Intervention Specialist for partner services. Refer to the List of Reportable Conditions for complete reporting requirements.

What to Report

- Patient's name
- Patient's complete address, phone, county, date of birth, race, sex, last five digits of social security number
- Physician's name and phone number
- Name, institution, and phone number of person reporting
- Disease or condition
- Date of diagnosis
- Symptoms
- Date of onset of symptoms
- Treatment
- Lab results, specimen site, collection date
- If female, pregnancy status
- Patient status: In childcare, food-handler, health care worker, childcare worker, nursing home, prisoner/detainee, travel in last 4 weeks

Chlamydia Trachomatis	HIV and AIDS clinical diagnosis
Gonorrhea (Neisseria Gonorrhoeae)	HIV CD4 test (all results, positive and negative) (L)
* Syphilis: congenital, primary, or secondary (lesion or rash) or Darkfield positive <i>report the results of all congenital syphilis follow-up tests (positive or negative)</i>	HIV exposed infants
Syphilis: early latent, latent, tertiary, or positive serological test <i>report all test results (treponemal & nontreponemal) if at least one serological test is positive.</i>	HIV subtype, genotype, and phenotype (L)
	HIV 1/2 Antibody and Antigen (rapid)
	HIV 1/2 AB/AG (confirmatory, all positive and negative) (L)
	HIV 1/2 AB/AG+ and/or detectable viral load with each pregnancy
	HIV viral load (all results, positive and negative) (L)
	HIV HLA-B5701 and co-receptor assay (L)

* Urgently reportable within 24 hours by electronic notification. Other conditions are reportable within 3 business days.

(L) Only laboratories required to report.

How to Report

HIV, AIDS, and STDs (excluding hepatitis)

- Do not fax HIV, AIDs, or STD results to DHEC
- Submit electronically via SCIONx; or
- Mail to:
Division of Surveillance, Assessment, and Evaluation
Mills/Jarrett Complex
2100 Bull Street, Columbia SC 29201; or
- Call 1-800-277-0873 (HIV/STD Reporting Hotline)

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