



COMMUNITY NEWSLETTER

July 2026

A wide-angle aerial photograph of a town in East Tennessee, likely Knoxville, nestled in a valley. The town is surrounded by lush green mountains. In the background, more mountain ranges are visible under a sky with scattered clouds and a bright sun. The town itself is a mix of residential and commercial buildings, with a prominent tall tower in the center. The overall scene is vibrant and scenic.

**ADVANCING HIV PREVENTION
IN EAST TENNESSEE**



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ADVANCING HIV PREVENTION IN EAST TENNESSEE

Recent research led by Dr. Cooper, in collaboration with the Tennessee Center for AIDS Research, provides a deeper look at how HIV prevention services are reaching communities in East Tennessee and where critical gaps remain. Working alongside a syringe services program that operates in Knoxville and extends into surrounding Appalachian counties up to the northeast corner of the state, this effort used both surveys and in-depth interviews to better understand HIV testing, prevalence, and prevention behaviors.

One of the most notable findings was the strength of HIV testing efforts in the region. Testing was routinely offered and widely accepted at rates significantly higher than typically seen in syringe services programs across the U.S., where testing can often be limited or inconsistent. In this case, HIV testing had been fully integrated into standard service delivery, reflecting a proactive, prevention centered approach.

At the same time, the data revealed a concerning trend: a higher-than-expected proportion of participants reported living with HIV, approaching roughly 1 in 10 in the study sample. This stood in contrast to similar work conducted in other parts of Tennessee, where far fewer cases were identified. While these findings are based on self-reported data, they highlight the urgent need for continued focus on HIV prevention and care in East Tennessee, particularly in rural and

Appalachian communities.

The study also examined interest in and uptake of pre-exposure prophylaxis, or PrEP, a highly effective medication used to prevent HIV. Results showed strong interest and comparatively higher uptake than seen in other regions of the state. A key factor appeared to be the close integration between the syringe services program and an HIV care provider, which made it possible in many cases for individuals to begin PrEP the same day they expressed interest. This streamlined access played an important role in turning intent into action.

However, barriers remain. Transportation emerged as a major challenge, with many individuals traveling long distances, sometimes 20 to 50 miles or even from out of state, to access services. Those in more remote areas faced additional difficulties in maintaining consistent prevention of care, including starting or continuing PrEP. Changes in funding and medication access over time have also affected the ability to provide PrEP as easily as in the past.

Another important insight was the gap between perceived and actual risk. Even among individuals engaging in higher risk behaviors, such as sharing syringes or having condomless sex, many underestimated their likelihood of acquiring HIV. This underscores the ongoing need for targeted education and counseling as part of prevention strategies.

Overall, this work highlights both promising practices and persistent challenges. It demonstrates the impact of integrated, low barrier services while reinforcing the need for sustained partnerships, expanded access in rural areas, and continued efforts to align risk perception with prevention behaviors.

RECENT FINDINGS & DISCOVERIES

Our CFAR researchers are all kinds of HIV experts like physicians, nurses, mental health professionals, epidemiologists, mathematicians, community members, and scientists. We study a range of HIV topics spanning all the way from how cells and the virus work to how communities can improve their support for people living with HIV.



IMPORTANT and THANK YOU!

Our work isn't possible without our volunteers: People living with HIV throughout Tennessee. THANK YOU to our research participants and community advisors. We appreciate you.

Generating synthetic multi-national longitudinal cohorts for clinically grounded HIV research

People living with HIV have benefited enormously from research based on long-term health records, which have helped improve treatment, identify health risks, and guide better care around the world. However, sharing these records between researchers has become increasingly difficult because of strict privacy laws and the understandable need to protect personal health information. This challenge is especially important for large international studies, where different countries have different rules for sharing data. In this study, researchers from the Tennessee Center for AIDS Research and collaborators across Latin America and the Caribbean developed a new artificial intelligence (AI) tool that creates realistic "synthetic" health records. These synthetic records closely resemble real patient data but do not belong to any actual person, making it much safer to share information while protecting patient privacy. This work

represents an important step toward balancing two critical goals: safeguarding the confidentiality of people living with HIV while allowing researchers to continue making discoveries that improve health.

The research team, which included CFAR members Drs. Chao Yan, Bryan Shepherd, and Stephany Duda, developed a new AI model called Medical Longitudinal Latent Diffusion and tested it using a database of more than 49,000 adults living with HIV who have received care over a period of more than 30 years. Unlike previous methods, this approach was able to recreate complex medical histories that included clinic visits, laboratory results, medications, and health conditions while preserving the relationships between these pieces of information over time. The "synthetic data" closely matched the real data in predicting important health outcomes, such as survival and the development of conditions like cardiovascular disease, tuberculosis, and cancer. At the same time, the researchers found that the synthetic records could not be traced back to individual patients, demonstrating that the approach can provide both scientific value and strong privacy protection.

This work has important implications for people living with HIV and for the scientists and healthcare providers working to improve their health. Access to high-quality data is essential for developing new treatments, identifying the causes of long-term health problems, and improving care for conditions such as heart disease, diabetes, and other chronic illnesses that are increasingly common as people with HIV live longer. By allowing researchers to share realistic synthetic datasets, patient privacy is assured and new studies can begin more quickly. The synthetic datasets can also be used to train students, physicians, and data scientists, helping prepare the next generation of researchers while maintaining the trust and privacy of the people whose experiences have made HIV research possible.

The findings are especially relevant for Tennessee and the Southeastern United States, where HIV continues to affect thousands of individuals and where strong partnerships

among academic medical centers, public health agencies, and community organizations are essential for improving care. Members of the Tennessee Center for AIDS Research played a leading role in developing this technology, highlighting the region's growing leadership in HIV research, biomedical informatics, and artificial intelligence. Although the synthetic dataset described in this study was created from an international HIV cohort, the same approach could eventually help researchers throughout the Southeast collaborate more effectively while protecting patient confidentiality. As healthcare increasingly relies on large datasets and AI, innovations like these may accelerate discoveries that lead to better prevention, treatment, and long-term health outcomes for people living with HIV, while ensuring the privacy and trust that remain at the heart of clinical research.



Chao Yan, PhD, MS

Research Instructor
Department of
Biomedical
Informatics

For decades, the data capable of accelerating HIV research has been locked behind a patchwork of incompatible privacy laws. Even the best international consortia can only approve a handful of data requests a year. Our goal was to open that door without ever compromising patient privacy. What drew our team to this problem is that the technical challenge and the human stakes line up so cleanly. Better generative models here translate directly into faster, more open, more inclusive HIV research."

If you are interested in learning more, you can [read the article](#) here.

JULY HIV AWARENESS DAYS



#ZEROHIVSTIGMADAY

July 21st marks Zero HIV Stigma Day, spearheading a movement and uniting people, communities, organizations, and entire countries to raise awareness and take action against HIV stigma, which reinforces and amplifies the HIV pandemic and related inequalities. While occasions such as World AIDS Day bring needed awareness to HIV in general, there has never been a global awareness day specifically to challenge the impact of stigma, which persists despite biomedical advancements in HIV prevention and care.

OPPORTUNITIES TO ENROLL INTO RESEARCH STUDIES

Local CFAR investigators lead studies to improve the lives of people living with HIV, to protect people from acquiring HIV, and other important issues.

Studies are looking for:

- peri or postmenopausal women with HIV and hot flashes
- people living with HIV and depression, to study treatment
- people living with or without HIV, to study gum disease
- Black or multiracial women who are sexually active
- people living with HIV who regularly drink alcohol
- people without HIV, to find a vaccine against HIV
- men without HIV, to study long-acting PrEP to prevent HIV

Studies typically provide compensation to participants.

If you know of studies that we missed, please let us know at: tn-cfar@vumc.org

Are you experiencing **hot flashes** or **night sweats**?

You may be eligible to participate in a study!

We are testing an investigational menopausal hormone therapy for hot flashes, night sweats, and other symptoms

We are looking for study participants who are:

- Women living with HIV
- Aged 40–60
- Perimenopausal or postmenopausal
- Experiencing hot flashes or night sweats



The study lasts up to 5 months. Menopausal hormone therapy consists of a transdermal estradiol gel (to be rubbed on skin) and a progesterone pill.

Total Compensation for completing the study is up to \$775.

Interested? Reach us at: **Call (615) 294-3733**





Do you find it hard to enjoy the things you used to love?

If you are living with HIV and are experiencing depression, you may qualify for a new study.

A research team at Vanderbilt is doing a study to find a better way to treat depression in people living with HIV. The study will compare two different medications. Half of the people who sign up will take a medication that's already commonly used for depression. The other half will take a medication that is used to treat a different condition but that may help with depression in people living with HIV. Our researchers want to learn if the medications improve symptoms of depression without having too many side effects.

Total Compensation for completing this trial is \$775



Ready to get started?

Scan the QR CODE to see if you are eligible

Approved by Meharry IRB
Expires on 10/13/2026

MEHARRY MEDICAL COLLEGE SCHOOL OF DENTISTRY

Volunteers needed for research project:

Effect of dental care treatment on gum disease with and without HIV

The purpose of the study is to determine the best way to
remove bad bacteria from the mouth and provide better
dental treatment

Who Is Eligible To Participate?

-Adults that are not pregnant, with or without gum disease

Participants will receive \$50 for each visit

(5 visits): total \$250

Interested?
Scan QR Code

Complete short survey,
and the research team will
contact you



If you have questions, please contact

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Are you a Black woman living in Middle Tennessee?

Researchers at Vanderbilt University Medical Center are exploring HIV prevention among Black women in Middle Tennessee. Participation includes one brief survey and a one-time interview at a time chosen by you.

We would love to hear from you if:

- You are aged 18 years and over
- You are a woman
- You are Black, including multi-racial
- You are or have been sexually active with a man in the past year

Participants are compensated with up to \$50 in e-gift cards for their time and contribution to better understanding preventing HIV in our community.

If you are interested in participating, scan the QR code below for more information!



Date of IRB Approval: 10/14/2025





**META
HIV CVD**

IF YOU HAVE HIV, THIS STUDY MAY BE FOR YOU!

MICROBIOME, METABOLITES, AND ALCOHOL IN HIV TO REDUCE CVD



We're looking for adults ages 18 and older who drink alcohol regularly, are HIV+, and take antiretroviral therapy. We want to see whether taking a supplement called a probiotic can help with some of the gut-related health problems related to alcohol use and HIV.



Participants will be asked to:

- Come to 5 study visits at Vanderbilt over 1 year
- Complete study phone calls about once a month
- Have their blood drawn
- Provide stool samples

Total compensation for
completing the entire
study is \$675

Take our survey to see if you are eligible!

<https://redcap.link/metastudy>

HIV VACCINE STUDIES, TO DISCOVER A VACCINE THAT PROTECTS PEOPLE FROM ACQUIRING HIV



In the United States HIV disproportionately affects certain groups and populations; however, HIV can affect anyone. Worldwide there are currently over 40 million people living with HIV. That number is growing.

The Vanderbilt HIV Vaccine Program is looking for healthy adults (ages 18-55) from all walks of life who are not living with HIV to participate in an HIV prevention study.

You cannot get HIV from participating in the study.

Volunteers must be available locally for approximately 12 months. Volunteers will be compensated. You can help fight the HIV/AIDS epidemic

.

Call 615-936-7327 or email [**vic.sorrell@vumc.org**](mailto:vic.sorrell@vumc.org) for more information.

In order to develop HIV prevention methods that will work for everyone, we need help from everyone!

ALL RACIAL AND ETHNIC GROUPS ARE ENCOURAGED TO CONTACT OUR PROGRAM.

EXPRESSIVE

OUR STUDY

- HIV prevention research
- One daily vs. one monthly pill for two years
- Monthly visits
- Compensation for each visit
- Your protection is always our priority

**SCAN QR CODE
FOR MORE
INFORMATION**



CONTACT

- Principal Investigator :
 - Dr. Vladimir Berthaud
- Research Staff | 615-327-6353

Clinical Research Team, 4th Floor, Old Hospital Building



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Thank you to everyone who was able to collaborate with us on this issue of the Tennessee CFAR Community newsletter. Your contributions and insights have enriched our content and helped us highlight the incredible work being done across our community. We are grateful for your support and dedication to advancing research and education.

Contact Us!

Website tn-cfar.org

Email tn-cfar@vumc.org

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