What is the TRACE Project?

With funding from the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR) through the Centers for Disease Control and Prevention (CDC), ICAP at Columbia University is working in collaboration with CDC, ministries of health, and local organizations to roll out rapid HIV recency testing in selected high-burden countries as part of a comprehensive approach to respond to the HIV epidemic.

Why HIV Recency Testing?

People who have recently acquired HIV are often unaware of their positive status and not on antiretroviral treatment. Their elevated viral load has health consequences for themselves and makes it more likely that they will spread the infection to others.

In addition, individuals with recently acquired HIV infection may have sexual or injecting partners who are unaware of their own HIV infection, who may be aware but are not on treatment, and/or who may be on treatment but are not virally suppressed.

Identifying individuals with recently acquired HIV infection is the first step toward offering targeted interventions to improve health outcomes for the infected person and prevent viral transmission to their sexual and injecting partners.

Recency testing can also identify geographical clusters with high rates of recent infections, enabling HIV programs to launch a rapid prevention and intervention response tailored to a specific population and context.
How Does HIV Recency Testing Work?

HIV recency tests take advantage of a specific feature of the immune response to HIV-1 infection. Individuals who acquire HIV-1 will, over months, develop an antibody response with increased avidity to specific HIV viral targets. The HIV-1 recency test is focused on detecting these types of antibodies.

- If high avidity antibodies are present, this suggests long-term infection.
- If high avidity antibodies are absent, this is consistent with a recent infection.

This type of testing was used to estimate national HIV incidence in the surveys conducted as part of the Population-based HIV Impact Assessment (PHIA) surveys.

New rapid tests for HIV-1 recency that can be done in minutes with whole blood, at the point-of-care, without the need for a laboratory or special equipment, are now available. This innovation allows wider roll-out of recency testing and its potential incorporation in routine HIV testing. The recency tests cannot be performed on those who have HIV-2 infection only.

Treat Recent Infections. Prevent Further Transmission.

Recency testing can inform action with precision.

In the current era of “test and start,” people diagnosed with HIV are strongly encouraged to begin treatment as soon as possible. This is especially important for those with recent infection, since they are likely to have a higher viral load than those with long-term infections. Linking people recently diagnosed with HIV to treatment services can save lives, and successful treatment leading to viral suppression can prevent further transmission.

Furthermore, knowing where and among whom recent infections are occurring can inform rapid action to prevent new infections through direction of precision prevention efforts.

Bringing Different Data Streams Together

HIV recency testing offers a valuable data source to help create a fuller picture of an HIV epidemic.

Together, the combination of data from recency testing and other surveillance data, including surveys and program data, will go a long way toward enabling policymakers to make informed decisions about focusing resources to maximize their response to HIV.