

Background information on Bridge HIV for the Health Commission

June 15, 2026

Slide 5:

All the studies conducted by Bridge HIV have been/are grant-funded. Funding sources include National Institutes of Health, California HIV Research Program, Patient Centered Outcomes Research Institute, Centers for Disease Control and Prevention, and private industry.

San Francisco City Clinic Cohort Study: AIDS was first reported in 1981. This was a study initiated in 1982 when it was recognized that 41% of the people who were diagnosed with AIDS had blood stored as part of a study of hepatitis B that took place at City Clinic (SF's municipal sexually transmitted disease clinic) from 1978-1980. After providing informed consent, participants with stored blood were asked questions and blood was drawn; blood from this study was used to develop the HIV antibody test. From this study we learned what behaviors put people at risk for acquiring HIV, what factors were associated with progression to disease (AIDS), and why some people (before treatment was available) remained healthy despite many years of having HIV infection. This was the oldest and largest natural history study of sexually acquired HIV infection in the world.

Vaccine Preparedness studies: As we prepared to test HIV vaccines, we needed to know what put people at risk for acquiring HIV in the 1990s, whether they would be interested in participating in HIV vaccine trials, and what the HIV infection rate was. We conducted 2 sets of vaccine preparedness studies (national and international) before testing our first HIV vaccine.

Behavioral and Biomedical interventions: We have tested many interventions to protect against HIV infection. In the early years, we tested counseling interventions (because that was all we had) – they didn't work very well. Then we tested HIV vaccines (none effective so far, but great progress being made). We also were part of the earliest US study of pre-exposure prophylaxis (PrEP), taking anti-HIV medication to prevent HIV acquisition. We also were part of the first licensure trial of PrEP (iPrEx study), and the first licensure trials of long-acting injectable PrEP (HPTN 083 tested cabotegravir, an every 2-month injection; and PURPOSE 2 tested lenavapavir, an every 6-month injection). We are currently also testing a once-a-year injectable with lenacapavir (PURPOSE 365), and a once-a-month pill with a drug called MK-8527 (EXPrESSIVE 11).

Evaluating Intervention Delivery and Building Research Capacity: We now have highly effective HIV prevention (PrEP and post-exposure prophylaxis or PEP), but many people are not using it or not staying on it. We've been doing a number of implementation science studies to test how to help people choose the kind of PrEP or PEP that will work best for them, help them stay on PrEP, and figure out delivery of PrEP to populations where uptake is poor (people of color, transgender and gender diverse people, people experiencing homelessness, people who use drugs). There is more on these studies in the following slides.

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HIV Vaccine Trials Network (HVTN): A global network of >80 clinical trial sites in 16 countries on 4 continents. This network is designed to test the safety, immune response, and protection levels from HIV vaccines and monoclonal antibodies. Drs. Buchbinder and Scott from Bridge HIV serve on the Executive Management Team of the HVTN. Bridge HIV conducts HVTN vaccine and monoclonal antibody studies.

HIV Prevention Trials Network (HPTN): A global network of >50 trial sites in 13 countries on 4 continents. This network is designed to test the safety and efficacy of new anti-HIV medications to prevent HIV infection and strategies to increase uptake of prevention methods such as pre-exposure prophylaxis (PrEP). Dr. Buchbinder serves on the New Product Scientific Committee. Bridge HIV conducts HPTN studies.

Adolescent Trials Network: A US-based network dedicated to testing prevention and treatment strategies for youth (aged 13-24) at risk for or living with HIV. Dr. Liu serves on the Scientific Leadership Group of the ATN. Bridge HIV conducts ATN studies.

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We have conducted several large studies to test the efficacy of HIV vaccines in the HVTN. Unfortunately, none have provided protection. (One study in Thailand provided 31% protection but these findings were not replicated.) Dr. Buchbinder led 2 large efficacy studies: Step and Mosaico, both in the Americas and Europe.

Step: <https://www.dropbox.com/scl/fi/l6o1nhujyv5vsbmoggen0/Buchbinder-main-Step-manuscript-Lancet-2008.pdf?rlkey=iw17dmm0l8q2z53qdyd8k5phx&dl=0>

Mosaico: <https://www.dropbox.com/scl/fi/ybm15ubei1g57xv9g3jai/Buchbinder-Mosaico-main-results-Lancet-HIV-2025.pdf?rlkey=mm9j1p631o3u6fwte3s0klncg&dl=0>

We think that we need vaccines to generate neutralizing antibodies to provide protection, and while none have so far, we are making great progress toward that goal.

We also tested a meningococcal vaccine (4BMenC vaccine, Bexsero) to prevent gonorrhea. This is testing an observation that people who received this vaccine were less likely to acquire gonorrhea. There have been 2 large trials that have not shown a protective effect of this vaccine in men who have sex with men with high levels of gonorrhea exposure, but the study we conducted also included men with lower levels of exposure and women. The study is complete and undergoing data cleaning and data analysis. Results should be available by early 2027.

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Instead of using vaccines (what we call active immunization) to generate neutralizing antibodies, another approach is to infuse man-made antibodies themselves into people (passive immunization) to provide protection. We have been using passive immunization to protect against infectious diseases for more than 100 years. In the case of HIV, we call these antibodies broadly neutralizing antibodies (bnAbs) because they attack parts of HIV that the virus can't change, and therefore these antibodies should be protective against a variety of strains of HIV.

The AMP (Antibody-Mediated Prevention) study tested a single broadly neutralizing antibody infused intravenously every 2 months to provide protection. It found 75% protection against HIV infection with virus that was sensitive to the antibody. The main results of the study are published here:

<https://www.dropbox.com/scl/fi/v3jf5qv2lo4svpodzoxhx/AMP-results.NEJM.Mar-2021.pdf?rlkey=rt8ckgx60dccjxf9wtx8qj6i5&dl=0>

However, there were many strains of HIV that were not covered by the single antibody. So, the next step is to use a combination of antibodies (a cocktail, like the cocktail of HIV drugs that is needed to treat HIV infection) to provide protection. Combo-AMP will test a combination of 3 broadly neutralizing antibodies to provide protection, as this is expected to work against a broad range of viruses. Laboratory studies suggest this bnAb combination could provide >90% protection. These antibodies have been altered so they only need to be given every 6 months. The Phase 1 Combo-AMP trial which Dr. Buchbinder will lead will be testing the safety and blood levels of the antibodies to confirm their promise before moving into an efficacy study to see if the combination of bnAbs will provide protection against HIV infection.

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The 5 PrEP options are:

1. Daily Truvada
2. Daily Descovy
3. On-demand Truvada (just around the time of sex, also known as 2-1-1)
4. Every 2-month injectable Cabotegravir (CAB-LA or Apretude)
5. Every 6-month injectable Lenacapavir (LEN or Yeztugo)

All are highly effective when taken as prescribed, likely >99%.

We are currently testing a monthly PrEP pill (instead of a daily pill) which could be easier to deliver in the field and which may be more desirable to some people than either a daily pill or an injection. We are also testing a once-yearly injection of lenacapavir that could revolutionize how we do HIV prevention.

Slide 12:

Mobile health tools that are in development:

1. MyPrEPStudy website: a decision support tool that is based on a website used in African women that doubled PrEP uptake.
 - a. Displays all PrEP options that are currently available and details such as dosing, delivery method, common side effects, etc.
 - b. Allows users to compare different types of PrEP options to help them fight the right fit.
 - c. Includes an FAQ
2. PrEPsmart: This is an app for people who are using on-demand (2-1-1) PrEP (around the time of sex) to help them figure out when their next pill is due and to track their level of protection.
 - a. App iOS/Android
 - b. Users can track their pill taking and sexual encounters on the app.
 - c. Displays protection level
 - d. Gives users reminders of when their next pill is
3. PrEPMate: A 2-way texting platform that helps triage those PrEP users that need more help. It also sends out daily pill reminders in the form of fun facts to help people with their daily PrEP.
 - a. Texting service
 - b. Sends automatic check-ins to users on a weekly basis. Replies are monitored by site staff. This helps the site identify those people needing more support with their PrEP.
 - c. Can send different types of messages: jokes, trivia, fun facts, etc. These serve as reminders to take PrEP pills and is a way of maintaining contact with study participants.

Slide 14:

Most of the studies on this slide are just underway.

Pharmacy-based PrEP: This is important because 89% of people in the US live within 5 miles of a pharmacy and >96% live within 10 miles of a pharmacy. Having pharmacists prescribe and deliver PrEP could “task shift” away from busy primary care providers’ offices to pharmacies. The first pharmacy study mentioned was a test about whether having a pharmacist prescribe PrEP through an app and delivering PrEP same-day at home would increase adherence to PrEP compared to having a navigator help the potential PrEP user find a PrEP provider. Using the pharmacist-prescribed PrEP resulted in a 3.5 fold increase in PrEP adherence by 6 months after enrollment.

<https://www.dropbox.com/scl/fi/1h78ox6co1ea6hzliwgo/CROI-Poster-PrEP-3D-FINAL.pdf?rlkey=ja86bmv8a7f36c2ujwlu9d4gy&dl=0>

The other 2 pharmacy studies are trying to “task shift” responsibilities for PrEP onto pharmacists.

Home-based HIV testing reaches a population of people who may not go to a healthcare provider for a test. This strategy links people who test negative to PrEP services.

Almost 1 in 5 new infections in San Francisco occur in people who use drugs or people experiencing homelessness. We have 3 studies we are undertaking to better serve this population. One is to deliver PrEP in a low-barrier walk-in clinic at Ward 81 (the Lobby) at SFGH. Another is to see if this population would like to receive a monthly pill (that could be delivered in the street) and where and how they’d like it delivered. The 3rd study is using a mobile van to deliver PrEP and HIV care services to people experiencing homelessness.