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Supporting, Mobilizing, and Accelerating Research for Tuberculosis Elimination

SMART4TB Consortium

The BREACH-TB Trial

Bedaquiline Roll-out Evidence in Contacts and People Living with HIV to Prevent TB

BACKGROUND

Tuberculosis (TB) is a leading infectious killer globally, causing an estimated 1.3 million deaths in 2022. While we lack a broadly effective vaccine, preventive therapy is crucial to prevent TB disease especially in those who are at higher risk and have complex considerations including children, people with HIV, and pregnant people. Short-course regimens, which are more easily accepted and completed, meaning they can be more effective than longer treatments, have been available for several years for preventing drug-susceptible TB, but have not been tested in all these populations, and are not effective against the most common forms of drug-resistant TB. The powerful and safe anti-TB medicine bedaquiline offers potential for universal short-course TB preventive therapy.

STUDY GOAL

To test a four-week regimen of bedaquiline as preventive therapy for both drug-resistant and drug-susceptible TB in adults, children, pregnant people, and people with HIV.

STUDY LEADER

BREACH-TB is led by Eric Nuermberger and Sonya Krishnan at Johns Hopkins University in partnership with University of California, San Francisco, KNCV Tuberculosis Foundation, Treatment Action Group, and the Elizabeth Glaser Pediatric AIDS Foundation.

STUDY POPULATION

- People of all ages who are high-risk close contacts of adults with drug-susceptible and drug-resistant TB, including pregnant people who test positive for tuberculosis infection and children up to age five regardless of TB infection test result
- People with HIV of all ages, including pregnant people

SAMPLE SIZE

This study will enroll approximately 1,600 people.

STUDY DESIGN

BREACH-TB is a Phase III, **open-label**, **multicenter**, **randomized**, **controlled**, **non-inferiority** trial. The main objectives are to find out:

- If treating adults, adolescents, children, and pregnant close contacts of drug-sensitive TB (DS-TB) who are high risk for developing TB disease as well as people living with HIV in high TB burden regions with bedaquiline (BDQ) will be noninferior in reducing the risk of developing TB disease compared with standard of care TB preventive therapy.
- If treating adults, adolescents, children, and pregnant close contacts of rifampin-resistant tuberculosis (DR-TB) who are high risk for developing TB disease will be noninferior in reducing the risk of developing TB disease compared with standard of care TB preventive therapy.

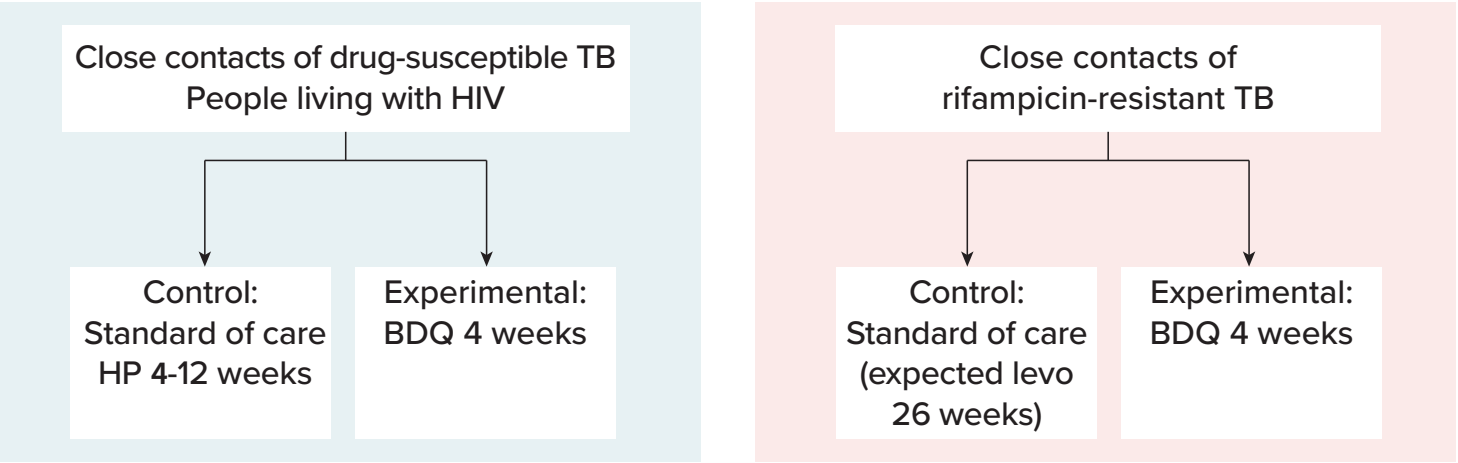
Open-label means the researcher and participant know the drug that is being used.

Multicenter means the trial is conducted at many sites, offering more diversity in participants, results relevant to more settings, and more efficiency in recruiting participants and sharing resources.

A **randomized controlled** trial assigns participants to the study intervention (in this case, the one-month bedaquiline regimen) or the control (the standard of care) at random, to balance participant characteristics with a goal of minimizing bias.

Non-inferiority trials test that the treatment being studied is not worse than standard treatment.

STUDY DESIGN, CONTINUED



H= isoniazid, P= rifapentine, BDQ = bedaquiline, levo= levofloxacin

ABOUT SMART4TB

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If you have any questions, please contact us at: smart4tbinfo@jh.edu