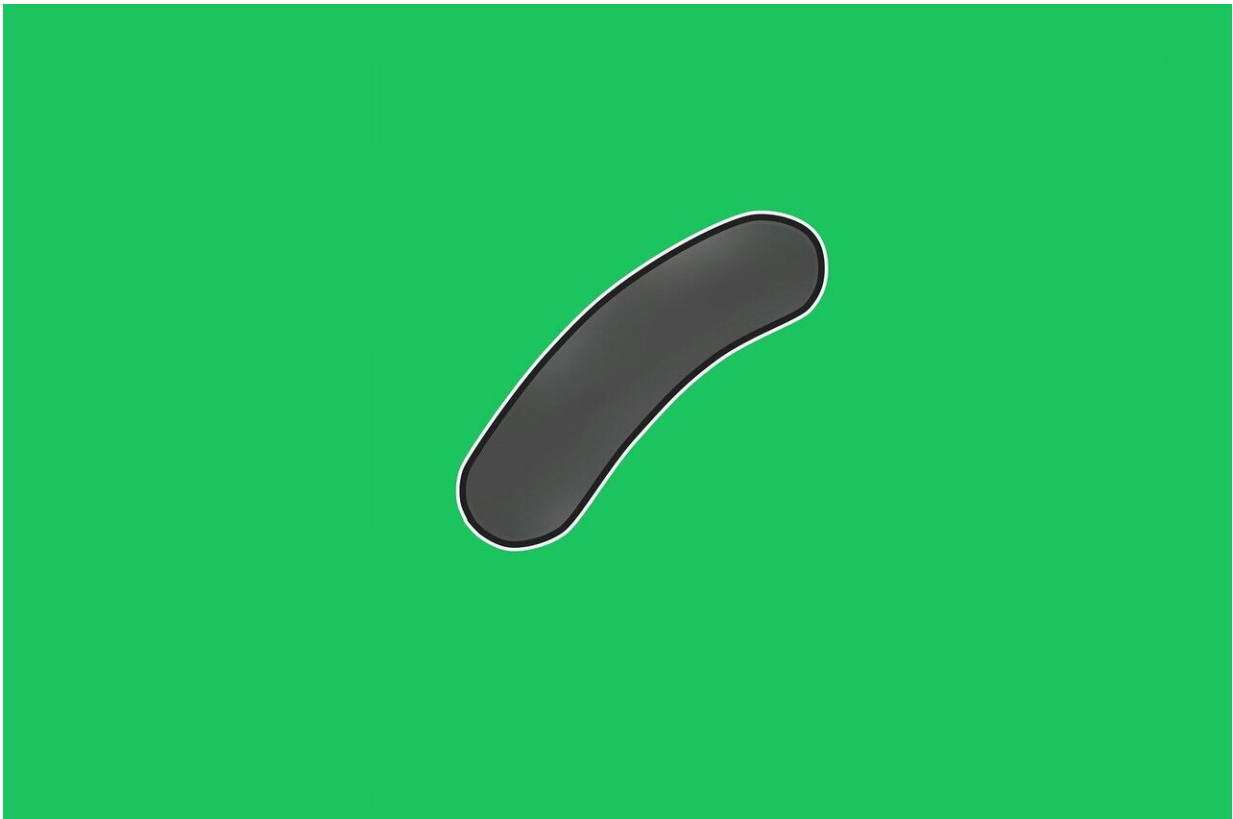


Team finds increased rate of tuberculosis infection among adolescents in Tanzania

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Published today in *PLOS ONE*, "Serial T-SPOT.TB responses in Tanzanian adolescents: transient, persistent and irregular conversions," investigators from the Geisel School of Medicine and Muhimbili

University of Health and Allied Sciences (MUHAS) report high rates of new tuberculosis (TB) infection among adolescents in Tanzania. Multiple blood tests for TB infection were conducted over three years in 650 schoolchildren age 13-15 and showed that the risk of acquiring new TB infection was 3 percent per year. In addition, by performing six or more blood tests on each volunteer with an interferon gamma release assay (IGRAs) the study team identified new patterns of transition between positive and negative IGRA tests for TB infection.

The data were obtained during the DAR-901 TB vaccine trial supported by the Global Health Innovative Technology Fund (GHIT, Tokyo), with additional support from Oxford Immunotec (Oxford, UK), and the Jack and Dorothy Byrne Foundation (New Hampshire).

"Although not all TB infections lead to TB disease, at a [population level](#) this annual rate of infection is expected to lead to significant future rates of morbidity and mortality," says lead author Maryam Amour, MD, MPH '15, a lecturer in the Department of Community Health at MUHAS. "This highlights the importance of developing TB control measures for this high-risk age group."

Christiaan Rees MED '20, Guarini '18, co-lead author and an [internal medicine](#) resident at Brigham and Women's Hospital in Boston, MA, who analyzed the trial data during his Geisel elective in Tanzania, says of the study, "One of our novel findings was that conversion of IGRA results to positive was usually not sustained—in fact, some participants converted to negative and then back to positive again. This raises the possibility that we may have been seeing TB infections that were cleared."

The findings demonstrate the feasibility of using the T-SPOT.TB (Oxford Immunotec, UK) IGRA test for serial testing of adolescents in a school setting.

Principal Investigator for the DAR-901 [vaccine trial](#), Ford von Reyn, Ph.D., a professor of medicine and director of the DarDar International Programs at Geisel, indicates the results suggest a new possible approach to TB case finding. "Early TB infection is not associated with symptoms and is not usually detected until a skin test or IGRA blood test is performed years later," he says. "If you can test schoolchildren in a TB endemic region every 3-6 months and identify newly acquired [infection](#), you have an opportunity to find and treat the person with symptomatic TB disease who infected the adolescent and thereby reduce further transmission."

More information: Serial T-SPOT.TB responses in Tanzanian adolescents: transient, persistent and irregular conversions, *PLoS ONE* (2022).

Provided by The Geisel School of Medicine at Dartmouth

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