

New childhood tuberculosis estimates double the number previously thought

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Researchers from Brigham and Women's Hospital (BWH) and Harvard Medical School (HMS) in Boston have estimated that around one million children suffer from tuberculosis (TB) annually—twice the number previously thought to have tuberculosis and three times the number that are diagnosed every year. The researchers also estimated that around 32,000 children suffer from multidrug-resistant tuberculosis (MDR-TB) annually. These findings are published in *The Lancet* on March 23, 2014.

"Despite children comprising approximately one quarter of the world's population, there have been no previous estimates of how many suffer from MDR-TB disease," explained Ted Cohen, MD, DrPH, HMS associate professor of Medicine in BWH's Division of Global Health Equity and co-senior author of this study. "Our estimate of the total number of new cases of childhood TB is twice that estimated by the WHO in 2011 and three times the number of child TB cases notified globally each year," said Cohen, who is also associate professor in the Department of Epidemiology at Harvard School of Public Health.

"TB in a child is recognized as a sentinel event; it tells us about ongoing transmission and missed opportunities for prevention," explained Mercedes Becerra, ScD, associate professor of Global Health and Social Medicine at HMS and co-senior author of the study. "Improved estimates are essential so that we can begin to understand the unmet need for pediatric TB treatment."

In order to obtain these estimates the researchers used several sources of publicly available data and devised a new method to correct for the chronic under-diagnosis that occurs in children, using conventional TB tests which were designed for and work best on adults. The researchers used two models to estimate both the regional and global annual incidence of MDR-TB in children. Their findings indicate that around 1,000,000 children

developed TB disease in 2010 and of those, 32,000 had MDR-TB.

These findings underscore the urgent need for expanded investment in the global response to TB and MDR-TB in children. "Our findings demonstrate that there is a need for improved methods for collecting data on childhood TB. A good starting place would be improved diagnostic methods for children and more systematic collection of information on how many [children](#) are suffering with this disease," explained Helen Jenkins, PhD, HMS instructor in BWH's Division of Global Health Equity and lead statistician on the project.

Provided by Brigham and Women's Hospital

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