

NIH researchers highlight progress, path forward for developing TB vaccines

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In the past decade, scientists have made significant progress building the critical knowledge and infrastructure needed to identify and develop novel tuberculosis (TB) vaccine candidates and move the most promising ones into human clinical trials. The results of those trials, coupled with advances from other TB studies, have paved the way for the next 10 years of research on TB vaccines, a critical component of TB control efforts, note scientists at the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health. Their editorial, co-authored by NIAID Director Anthony S. Fauci, M.D., and Christine Sizemore, Ph.D., appears in the journal *Tuberculosis* to coincide with the publication of *Tuberculosis Vaccines: A Strategic Blueprint for the Next Decade*.

The new *Blueprint* on TB vaccines updates the original one, which was published in 2000 as the result of an NIH-sponsored workshop.

Since that time, TB researchers have assembled a significant pipeline of [vaccine candidates](#) and assessed them in clinical trials. However, to transform the field and help make licensure of new vaccines a reality, the editorial co-authors stress, scientists must investigate remaining fundamental questions, including the following:

- Why does infection with the [TB bacterium](#) cause active disease in some people but not others?
- Why does the current licensed [TB vaccine](#), Bacille Calmette-

Guérin, protect children more effectively than adults?

- What immune responses must effective vaccines elicit to successfully protect against TB?

NIAID, part of the team that helped to develop both iterations of the *Blueprint*, supports scientists working worldwide to contribute important data to these and other areas of inquiry. The authors also note that along with basic and clinical trial data, recent innovations in systems biology, genomics and bioinformatics, animal modeling, and immunologic and molecular tools will play important roles in developing safe and effective TB vaccines. The authors emphasize that close coordination among biomedical researchers, product developers, funders and TB health care programs worldwide will be essential to eventually develop and deliver new vaccines as part of the global fight against TB.

More information: C Sizemore and AS Fauci. Transforming biomedical research to develop effective TB vaccines: The next ten years. *Tuberculosis* 92(S1):S2-S3 (2012).

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