

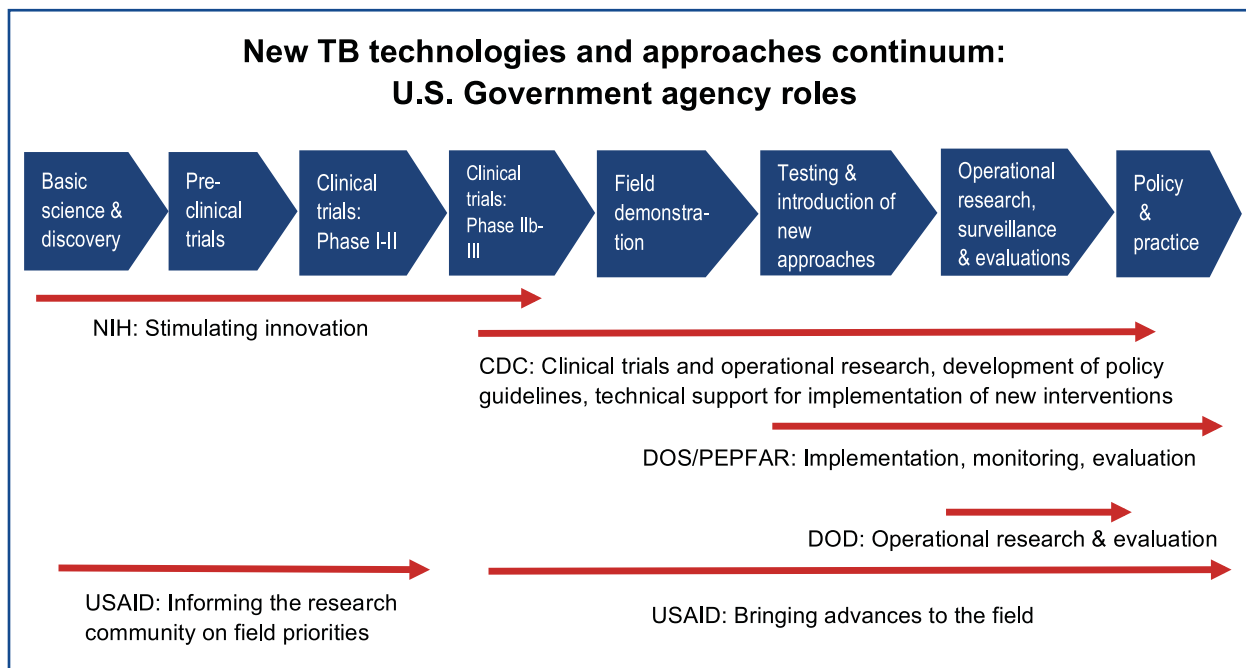
and management of human resources is critical to providing high-quality, patient-centered TB care. The ability of a country to meet its health goals depends largely on the knowledge, skills, motivation, dedication, and appropriate deployment of the workers responsible for organizing and delivering health services. Many countries, however, lack sufficient human resources to deliver even the most basic of health interventions for a variety of reasons, including limited education and training capacity; migration of health workers within and across countries; mismatched skills and needs at the facility level; and demographic disparities. The U.S. Government will work with countries to develop and improve human resources for combating TB by:

1. Developing and implementing national policies and plans for improving human resources for health

2. Integrating disease management at the primary health facility level
3. Promoting task shifting to increase the efficient and effective use of existing human resources
4. Developing comprehensive approaches to pre-service and in-service clinical training, especially among those serving poor and neglected populations

## OBJECTIVE 4. ACCELERATE RESEARCH AND INNOVATION

Global progress in the development and introduction of new tools and approaches for TB has been slow. However, biomedical research, largely supported through the NIH, has made great strides in our understanding of TB and the pathogen that causes it, and the translation of research funding into the



development of new drugs, vaccines, and diagnostics. Nevertheless, new tools are not yet widely available and further progress requires a two-pronged approach. Specifically, the U.S. Government will:

1. Continue support for fundamental research the development of new tools and approaches for detecting, treating, and preventing TB
2. Augment its efforts to improve program impact and introduction of new tools through operational and implementation research

Given the limited global resources currently focused on TB research, the U.S. Government will work to leverage existing research sites, programs, and study capacity of U.S. Government agencies, as well as those of our domestic and international partners, to examine critical TB questions and potential ways to translate research findings into program practice. In addition, efforts to strengthen the pathway from biomedical investigations to implementation need to be intensified. The successful interventions will be rapidly introduced and scaled up to ensure access to benefit those most in need of the new tools and practices. The U.S. Government will convene and support research partnerships at all levels (global to community, public, and private) to improve the likelihood of successful introduction and broad implementation of useful scientific advancements.

U.S. Government agencies collaborate on the development, testing, roll-out, and assessment of new tools and approaches to combating TB. The figure on page 21 demonstrates how various agencies work together to bring research findings to the field.

### **A. NEW TOOLS/APPROACHES TO PREVENT, DETECT, AND TREAT TB MORE EFFECTIVELY**

The U.S. Government is committed to supporting the development and uptake of new, more effective

tools and approaches to preventing, detecting, and treating TB. Over the next five years, the U.S. Government will:

1. Support the development, introduction, and implementation of shorter, less toxic, and more effective treatment regimens for drug-susceptible TB and DR-TB in adults and children
2. Collaborate with national and international partners, including WHO, on the introduction of new drugs for adults and children into existing or new treatment regimens approved at the national level
3. Promote the evaluation of biomarkers to diagnose TB infection and TB disease and to monitor disease progression and treatment outcomes
4. Support studies to evaluate the accuracy and feasibility of promising diagnostic tools for TB and DR-TB in adults and children with an emphasis on point-of-care products
5. Evaluate the programmatic impact of new tools
6. Examine the effectiveness of new and existing treatment regimens for LTBI
7. Support the development of TB vaccines to prevent TB disease

### **B. PERFORMANCE AND POLICY IMPROVEMENTS THROUGH IMPLEMENTATION RESEARCH**

To improve TB program performance in each of the areas outlined in this strategy, the U.S. Government will continue to examine and evaluate the implications and outcomes of scalable interventions as they are rolled out in “real world” settings. The U.S. Government will also evaluate the cost-effectiveness of interventions to optimize TB service delivery, prevent new infections, and improve large-scale implementation. Research activities will be tailored to country contexts and will target improvements at the programmatic level.