



Lilly **Structured Collaboration Leads to New Solutions to a Global Health Crisis**

Multi-drug resistant tuberculosis (MDR-TB) is one of the world’s major public health challenges. The Eli Lilly Foundation’s MDR-TB Partnership enlisted Innosight to convene a group of multi-disciplinary thinkers for an ideation event aimed at new solutions.

CONFRONTING A GLOBAL HEALTH CRISIS

The two-day event attracted a wide range of leaders—including public health and supply chain experts—from places as diverse as the World Health Organization (WHO), MIT, Partners in Health, and Wal-Mart. Convening at Innosight’s Business Design Lab, the MDR-TB Solutions Summit began by laying out the severity of the problem for those who held no expertise in global health. Since tuberculosis has been around for thousands of years and because vaccines are fairly cheap, there’s a perception in the developed world that the problem is well under control. But that’s not the case for “multi-drug resistant,” or MDR-TB, which arises when treatments are improperly applied. MDR-TB accounts for about 10% of total TB fatalities worldwide, or about 150,000 deaths per year, according to USAID. The highest concentrations of the disease occur in India, China, Russia, and many parts of Africa. “Due to incorrect treatment, MDR-TB is a man-made disease,” said Lucica Ditiu, executive secretary at WHO. “That is unacceptable.”



A DISCIPLINED APPROACH TO DISCOVERING SOLUTIONS

Overcoming such a complex cluster of problems requires “systems thinking,” said Innosight senior partner Joe Sinfeld. He outlined an integrated discovery process inspired in part by how Thomas



Edison invented an entire city-wide system for power generation. The process involved “diverging,” or breaking down a giant problem into more solvable components, and then “converging,” or putting those components back together into a holistic system. The team identified a set of 14 barriers—such as lack of detection methods, laboratory capacity, awareness, and financing—that stand in the way of averting the crisis. The group of 40 then broke into

seven groups, with each tackling one barrier per day. Each group got a background kit as well as brainstorming resources, such as movable white board walls, to facilitate collaboration.

PREVENTING AN EPIDEMIC

Drug resistance forces public health officials to turn to “second-line” drugs. But just 5% of patients are properly treated each year, which leads to super strains that threaten to become an epidemic. That’s because all TB is caused by bacteria transmitted through the air. TB ravages the body, causing severe pain, night-sweats, fatigue, and coughing of blood. Bleak as the outlook was, even those who were wary about bringing outsiders into the mix turned hopeful as the summit progressed. “When it started, I said I was skeptical,” said Dr. Lee Reichman, author of *Time Bomb*, a seminal book about the crisis. “A lot of people in the room didn’t know about TB. But then, all of a sudden, they say ‘wow, this is a monumental problem; maybe we could solve it this way or that way.’ We need more thinking like this by people of diverse backgrounds.”



GENERATING HOPE AND IMPACT

The participants generated more than 90 specific solutions to meet the MDR-TB challenge. Those raw ideas were consolidated down into a set of 14 “solutions platforms” that address the key barriers. Out

of those, the team outlined a targeted selection of projects, including:

- a global MDR-TB awareness and storytelling campaign
- a mobile phone-based reporting system for tracking new cases in real time, so that treatments can be rushed to those locations to prevent wider outbreaks.
- a “Pharma Fabber” micro-laboratory setup for mixing quality-assured drug treatments, to be developed at MIT

Each of these projects moved forward through partial funding by USAID and the Gates Foundation. “I am very optimistic coming out of our work together,” said Tracy Sims, vice president of the Lilly Foundation. “That optimism is tempered against the size of the challenge, but the only way we are going to resolve MDR-TB is by finding precise methodologies to overcome the known barriers.”

“The whole Innosight process brings together people of diverse backgrounds, including those who knew nothing about TB but who can break a giant problem into little pieces then reconstruct those pieces into a larger solution.”

– Salmaan Keshavjee, Director of the Harvard Medical School Center for Global Health Delivery