

Needs and Opportunities in Diagnostics: Creating Sustainable Solutions for the Developing World

The developing world is experiencing a severe shortage of effective and appropriate diagnostic tools for neglected diseases, and not enough is being done to address this gap. A panel of representatives from diagnostic manufacturers and the Bill & Melinda Gates Foundation came together to discuss the state of the diagnostics field today and challenges in making diagnostics available for those who need them.

Without accurate diagnostics, patients in the developing world are often over-treated, treated incorrectly, or not treated at all, leading to the spread of illness, drug resistance and unnecessary spending.

As diagnostics are developed, a number of challenges must be overcome. One major hindrance is the lack of attention to the importance of good diagnostic tests. As one panelist pointed out, when President Bush reports on PEPFAR progress, "it's not exciting to say that X number of people were tested last year." It is the therapy that gets the headlines and funding attention, even though one of the principles of medicine is to make accurate diagnosis.

The infrastructure also has to be in place to support these new tools. Developing countries are facing an acute lack of nurses, doctors and lab technicians. As a result, health workers are being hired with less and less training. Thus, the diagnostics must be simple enough that they can be used by anyone. The tools also must be useable in rural or resource-poor settings where there may not be electricity or clean

water, or where extreme heat or cold prevail. The diagnosis must then be determined fast enough that the patient can be treated quickly. And if self-diagnosis tools are used, they must be objective.

There are companies who have developed models to address these problems. Wireless carriers and vaccine companies, for example, have found a way to access rural areas. Having open dialogues with these groups in-country on how they want diagnostic products deployed will be critical to their future success in developing areas.

The panel discussed potential solutions they are exploring at their companies. At Micronics, Inc., scientists continually question how to compensate for the limitations imposed in rural settings. For example, they are working on portable, battery-powered tests that can be easily recharged.

These companies are pushing innovation for developing country use, but funding obstacles remain. Although grants are given for basic research, funding diminishes at the product development phase.

While diagnostics may be the forgotten son of global health, they remain paramount in the fight against neglected diseases. There is no doubt that various hurdles will need to be overcome for their successful development. But the panel unanimously agreed that greater awareness about the critical need for diagnostic testing is important to overcoming the cycle of poverty and disease.

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