BIZCOMMUNITY

The desperate global need for medical diagnostics

By Julia von Oettingen and Rajesh Vedanthan

12 Jun 2018

Prince, a three-year-old boy, is brought to the emergency room in Monrovia, Liberia, with fever and a decreased level of consciousness. He is critically ill. He is treated for malaria.

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Time is the only way to tell if this was the right treatment choice — but time may not be on his side. An astute nurse asks a visiting doctor if she can borrow a blood glucose monitor and nails the diagnosis: Type 1 diabetes, requiring urgent administration of insulin to save the boy's life.

While Prince was lucky to get a correct diagnosis on time, blood glucose monitors are rarely available in resource-limited clinics in sub-Saharan Africa.

Situations like this occur daily in low-resource settings: A sick patient, a clinical suspicion, but no confirmatory testing. As a result, many patients are misdiagnosed, receive unnecessary or harmful treatments, or die.

Thankfully, blood glucose measurement — an important laboratory test — just made it onto the first edition of the WHO Essential Diagnostics List (EDL).

This new list is a great step forward in making the most crucial diagnostic tests available globally.

However, future editions of this list will need to cover an even broader range of tests.

Beyond the 'Big Three'

The WHO EDL, published on May 16, 2018, is a first step towards addressing the "diagnostics desert" that health-care providers and patients alike still face in many resource-limited settings.

WHO and its expert committee carefully put together a priority list of essential “in vitro” (laboratory-based) diagnostics to guide governments and health-care stakeholders on what tests to make available. The aim was to address the highest priority health-care needs.

Like its 40-year-old WHO sibling, the Essential Medicines List, this list promises to have a big impact on the availability of laboratory-based diagnostics globally, and on the quality of health-care delivery and population health.

WHO and its expert committee should be applauded for this essential accomplishment, including the effort to look beyond the traditional “Big Three” infections (TB, HIV and malaria).

While the list still has an obvious focus on infectious diseases, the consideration of essential non-communicable diseases (NCD) diagnostics is timely, if not overdue.

Detecting diabetes and heart disease

Cardiovascular disease, chronic respiratory disease, cancer and diabetes have emerged as the most important epidemics of the 21st century.

In an era where such NCDs have surpassed infectious diseases as the major killers globally, it is essential then that international organizations, and specifically the WHO, adapt their policies and guidelines to this reality.

The number of NCD-related diagnostic tests that made it onto the 113-item list establishes an important starting point for the future. For example, making blood glucose measurements a priority will help to improve detection of diabetes among the striking 50 per cent of people in low- and middle-income countries who do not know they have it.

This may give millions the chance of timely treatment and improved long-term outcomes.

A vital blood test for Troponin levels, for example — which helps diagnose a heart attack — can be life-saving. Other laboratory tests (e.g. liver function tests) can help diagnose many NCDs.

An incomplete list

Certainly, this list is not yet complete, but we hope future editions can be.
We hope, eventually, to see other essential diagnostics included.

The diagnosis of cancers, such as colon, breast and lung cancers, can be facilitated by tumour markers and pathology diagnostics. Neurologic disorders frequently require cerebrospinal fluid and drug levels. Thyroid function studies help diagnose thyroid dysfunction — one of the most common endocrine disorders.

We also hope to see an eventual expansion of the family of “essentials” to include medical equipment and devices.

These include: Growth charts and blood pressure cuffs at a primary-care level; electrocardiogram, X-ray and ultrasound at a secondary-care level; and CT and MRI scanners, lung function tests, surgical devices and fiber-optic scopes at a tertiary-care level.

Affordable and accessible testing

If the EDL is to improve the health of the global population, we will also need to lobby for the five “As” of access: Affordability, availability, accessibility, accommodation and acceptability.

With political guidance, will power and necessary pressure, public and private entities can work towards affordability of essential diagnostics. We must strengthen national, regional and local health systems — to work out supply chains and laboratory networks that ensure availability and accessibility for a wide public.

We must develop innovative testing strategies that accommodate the needs of remote and vulnerable populations — such as point-of-care tests that can be used by community health workers.

The expansion of the WHO essential list family to include an EDL is a promising start to broadened access to essential diagnostics globally, and to deliver on WHO’s goal of Universal Health Coverage.

We need action now — to ensure the list becomes a powerful tool, addressing an ever-broadening spectrum of diseases. This way, every individual can have the chance of a proper diagnosis, treatment and survival.

This article was originally published on The Conversation. Read the original article.

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