

Laboratories as the Core for Health Systems Building

Danny A. Milner Jr, MD, MSc (Epi)*,

E. Blair Holladay, PhD, MASCP, SCT (ASCP)^{CM}

KEYWORDS

- Laboratory • Health systems • Diagnostics • Personnel standards • Telepathology
- Cancer • HIV

KEY POINTS

- Access to medical care, including diagnostics and treatment, is a universal human right.
- Laboratories play a central role (70%) in medical care decisions.
- Building health systems through single disease programs or silos is antiquated and should be avoided.
- The diagnostic laboratory for cancer has a central role in building overall health systems because of the logistics, coordination, overlapping resources, and networks that are required to make it functional.

BACKGROUND

We live in a time of great strides in medicine and patient care in the arenas of knowledge, technology, and information. We see breakthroughs in diagnostics and treatment virtually every day. The historical challenge of our time is to deliver high-quality, impactful health care to every human being on the planet.

While the United States is in turmoil over political assignment of payer systems, much of Europe and Canada strike a balance between private care and highly functioning socialized medical systems. Similar systems, strategies, and debates are ongoing throughout the world. No country has a perfect system; in no country are all patients covered all the time, for a variety of reasons. However, 2 principal conclusions can be deduced from the authors' observations of the current debates: (1) health care is a universal right that should be provided to all people and/or (2)

Disclosure Statement: The authors of this article have no conflicts of interest associated with the material presented.

American Society for Clinical Pathology, 33 West Monroe Street, Suite 1600, Chicago, IL 60603, USA

* Corresponding author.

E-mail address: Dan.Milner@ascp.org

Clin Lab Med ■ (2017) ■-■

<https://doi.org/10.1016/j.cl.2017.10.001>

0272-2712/17/© 2017 Elsevier Inc. All rights reserved.

labmed.theclinics.com

health care is a commodity available to those who can afford it. We may find that these two conclusions can be in agreement if we modify the statements to the following: Basic health care is a universal right for all people, whereas advanced personalized medicine is available to those who can afford it. However, this statement creates an ethical conundrum that only be resolved by arriving at a single conclusion, namely, high-quality, impactful health care is a universal human right. If we start with that principal mantra, we are faced with the challenge of delivering high-quality care to everyone.

Global health has many meanings, most of which have crested and troughed with the success or failure of a range of historical and current interventions across the globe. The authors would not begin to assign a definition that should be considered universal or appropriate for everyone who functions in this space domestically or internationally. For the purpose of this article, the authors define global health, in their context, as “the practice of providing health care system solutions adapted to the disease spectrum, environment, and socioeconomic demographics of the populations served.” Using this definition, we see very quickly that the system of care for a 65-year-old woman in rural southern Alabama may be as different from the one serving a woman of the same demographic in New York City, as both are from the system used by the same woman in rural Madagascar.

Communicable diseases are a product of environment and human population stability, which includes the infrastructure and economy. There is no need for cattle ranchers in Texas to be concerned about *Trypanosoma brucei* infection of their stocks or themselves, whereas vast stretches of land in multiple African countries are unusable because of the tsetse fly. However, Texans and Africans may similarly have hypertension, diabetes, cancer, glomerulonephritis, or acral-lentiginous melanoma. Shockingly for those outside of global health, the rates of these 5 diseases are similar among these groups, although the incidence and prevalence vary highly with economic status. So we are left to ask, what constitutes a basic or essential package of health care? There is a need to cover all noncommunicable diseases affecting populations while at the same time accounting for systems that also must combat communicable diseases, such as African sleeping sickness, human immunodeficiency virus (HIV), tuberculosis, malaria, schistosomiasis, filariasis, and rickettsiosis. Is the logical solution to create one health care system in African countries based solely on communicable diseases and a second system in Texas based largely on noncommunicable diseases? Obviously, it is not. Both places need a system of health care that addresses patients' comprehensive needs.

An example the authors have used many times in discussion and recount here is the malaria backpack proposition. If one would like to lower mortality from malaria in a rural village in Africa, one need only put a backpack on one person filled with rapid diagnostic assays for malaria along with a second backpack on a second person filled with artemisinin combination therapy (ACT). With basic training, those two people can enter a village, respond to any fever that is present with a rapid diagnostic therapy, and treat those who are positive with an ACT. In short, mortality from malaria will end.

There are 2 problems with this scenario. The first is that mortality from other fever-causing diseases will not end. The authors have used a silo approach focused on malaria, although the village certainly has fevers due to virus, bacteria, parasites, non-communicable disease, and so on for which malaria drugs are of no value. Still, if we only measure malaria mortality, we look very successful. In truth, we must enter this village with a range of tools to deal with fever and a range of drugs to treat those fevers. In short, we will have to add a few more backpacks—and perhaps a large truck.

Download English Version:

<https://daneshyari.com/en/article/8757303>

Download Persian Version:

<https://daneshyari.com/article/8757303>

[Daneshyari.com](https://daneshyari.com)