World view

By Kondwani Jambo

I have funds to buy reagents, but not remedies

Ignoring the challenges of research in low-income countries only perpetuates inequity.

Recently, I was showing visitors our brand new, white-walled laboratories at the Malawi-Liverpool-Wellcome Programme (MLW) in Blantyre, Malawi. To demonstrate the power of our US$250,000 flow cytometer, I used a $250 vial of antibodies, obtained through grant funding from the UK Medical Research Council. I did this on the first floor, overlooking the city's Queen Elizabeth Central Hospital.

There, people are dying because they lack access to a $2 course of generic antibiotics or to a hospital bed. Holding a reagent worth enough to treat more than 100 people, as I look out of the window at a hospital with many more patients than the 1,350 it officially has space for, it's impossible to not feel guilty.

I am an immunologist at the MLW, where I lead a research group, and I'm also a tenured senior lecturer at the Liverpool School of Tropical Medicine, UK. My research focuses on understanding human immune responses, including the nature of herd immunity, with the aim of optimizing vaccinations.

I tell myself I could be elsewhere in the world, holding the same vial of antibodies — and the Queen Elizabeth Central Hospital would still be underfunded and overcrowded. But I'm in Blantyre, which means I'm constantly torn between my research and moral obligations. It's gut-wrenching to study antimicrobial resistance using expensive genomic sequencing platforms, while not being able to provide a generic antibiotic to a patient who walked kilometres to reach the hospital.

But that's just how the funding works. Like many global-health researchers, I am permitted to spend money on research consumables or kitting out my lab, but can't financially contribute to local clinical infrastructure such as hospitals or supplies of medicines. This feels unfair.

After navigating that moral maze, we also face practical considerations when it comes to doing research here in Malawi. Although my lab can afford expensive reagents, it takes at least two months for me to order and receive a specific antibody. I have to predict follow-up experiments with great accuracy to purchase reagents well ahead of time and in sufficient volumes. It becomes a major challenge when reviewers demand follow-up experiments, for little real value, without considering the work this would entail. The effect, albeit unintended, is to undermine diversity in science. It's more difficult for scientists here — where health research can have the most impact — to comply than it is for those at lavishly funded universities in Europe or North America, far away from anyone needing malaria treatment.

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Kondwani Jambo is a senior lecturer at the Liverpool School of Tropical Medicine and president of the Immunology Society of Malawi, and runs the Malawi-Liverpool-Wellcome Programme Immunology Laboratory in Blantyre.
e-mail: kjambo@mlw.mw

The solution is broader recognition, by both funders and journal publishers, of the challenges researchers like myself face.

Funders could consider partitioning existing global health grants so that some of the money goes directly towards the development and maintenance of clinical-care infrastructure in countries where research is taking place.

I've seen this happen already. After senior leaders at the London-based biomedical funding charity Wellcome visited in 2017, they committed money directly to the Queen Elizabeth Central Hospital to establish the eight-bed high-dependency respiratory unit, which became a lifesaver — literally — for people with severe COVID-19.

Publishers, meanwhile, could provide a dedicated space for authors to describe the limitations and restrictions under which research is conducted. This could be a short section, entitled 'context of the research', in a paper where the authors can detail what it took to do the work, and what is and isn't possible in that particular setting. For example, when I carry out bronchoscopy studies in Malawi, I must avoid risky repeated invasive sampling of patients, because there are few critical-care facilities to treat them if anything goes wrong. If journals allowed manuscripts to include such detail, then editors and reviewers could make better-informed decisions about the relative value of follow-up experiments, and focus instead on the work already generated and its potential benefit to human health.

Some might object to making special provisions for research in low-income settings. I've heard arguments that funding clinical care should not be part of support for research; that if it were, it would dilute funds or create ethical problems for health providers, who might feel that they must woo researchers to attract the money needed to help patients. And some tell me that descriptions of logistical difficulties do not belong in a research paper: that their inclusion could serve as an excuse for lack of rigour.

But these proposed changes support worthy goals: helping people and conducting studies in real-world circumstances. Appreciating what researchers go through to generate data need not lower the bar for rigour. Understanding the context of research can aid interpretation, reproducibility and applicability elsewhere. Funders often support research for which the impact on patients in the short term is uncertain; perhaps funders would get more value for money if they also supported immediate clinical-care needs. The benefits outweigh the drawbacks.

As I look through the window of my lab, leaning against a machine that cost a quarter of a million dollars, it's disheartening to know that if nothing is done, the logistical and psychological burden of conducting excellent research here in Malawi will grow, and the inequity gap will widen. Simple changes here could matter a great deal.

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