

‘The Donors are Everything’

Precarity and the Political Economy of Global Health Science

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Abstract

Based upon an ethnography of two biomedical, scientific research institutes in Uganda funded primarily by donors in the Global North, this article examines the political economy of knowledge production in global health science. Specifically, I use the concept of precarity to illustrate the ways in which funding instabilities for scientific research shape the making of knowledge. I do this at three levels: the macro level of funding institutions, the meso level of research institutes, and the micro level of individual projects. Through analysing the experiences of researchers in these institutional environments, I elucidate the ways in which the political economy of global health science—particularly short-term, grant funding—constrains and enables knowledge production. I thus argue that for many scientists the priority of renewing or obtaining funding supersedes that of conducting research that is closely tied to local issues. Whilst I do not contend that the latter is unimportant to scientists, this article highlights the existential precarities fomented by the possibility of not being funded and argues that they play a substantial role in influencing the foci of global health science research projects, thus alienating them from the needs and interests of the people they are intended to benefit.

Keywords

Global health, Political economy, Science, Evidence-making, Partnerships.

Introduction

Science has long been at the heart of global health decision-making. While its predecessors of tropical medicine and international health both entailed scientific research on health in the global South (Tilley 2011; Packard 2016), one aspect that sets global health apart is the centrality of scientific research and methods to its theory and practice (Geissler 2018; Weisz and Tousignant 2019). This is marked by the global proliferation of biomedical scientific research projects (Petryna 2009; Crane 2013; Geissler 2015), university departments (Crane 2010), and an ever-growing emphasis on evidence-based policymaking that ‘follows the science’. Building upon the analytical approaches and theoretical interests of science and technology studies scholars (e.g., Latour and Woolgar 1979; Callon 1984, 2010; Latour 1987, 1988), scholars in critical global health and medical anthropology have described the ways in which science is systematically integrated into processes of global health decision-making. Ann Kelly (2018) and colleagues (2022) have discussed the rise of emergency experimental research and development in infectious disease outbreaks, highlighting its role in providing rapid technoscientific solutions to these emerging threats. David Reubi (2018a, 2018b, 2020) has examined the involvement of epidemiological research and reasoning in informing and evaluating anti-smoking policies in sub-Saharan Africa, reflecting on the ways that such involvement is normatively loaded and driven by ideas of modernisation and accountability (see also Mahajan 2008). In a slightly different vein, Vincanne Adams and colleagues (2016a) have interrogated the rise of metrics in global health, illustrating how the scientific analysis of these data has come to undergird policymaking and shape allocations of resources.

An underexplored aspect of the relationship between science and global health, however, is the interdisciplinary academic field of ‘global health science’—a field of transnational scientific research and practice characterised by both its epistemic commitments to scientific rigour and its moral and political commitments to improving health and wellbeing globally—and in particular, saving lives. It has greatly proliferated over the past twenty years in universities, research institutes, clinics, laboratories, and hospitals in both the Global North and South (Crane 2010, 2011, 2013), and the interventions it tests and evidence it produces goes on to inform global health policymaking. It is in this field that global health is exposed to the science that it often professes to follow, and where scientific evidence is produced and claims to efficacy are made (Adams 2016b). While the relationship

between research and practice is not deterministic (e.g., Parkhurst 2017; Biruk 2018), global health science is nonetheless the primary epistemological field of global health, one in which the relationship between evidence and efficacy is borne out in and in which knowledge about ‘what works’ is produced. It has, however, been critiqued by scholars for being extractive, with valuable data and samples taken from African research subjects and benefited in Northern public and private institutions for purposes of national defence, profit, and ‘global governance’, thereby exacerbating North-South inequalities (Crane 2013; see also Biruk 2018). This extractivism has also been tied to unethical forms of research, in which, for instance, African participants have been subjects of pharmaceutical interventions for pathogens that are not present in their locations (Crane 2011). Scholars have also observed that such research is itself permeated by inequities between Northern and Southern ‘collaborators’ (Crane 2010; Boum 2018). These problems are widely known and discussed in global health journals and conferences, and efforts to ameliorate them have garnered significant attention and prompted widespread remedial action. However, as I argue in this article, the more foundational political dynamics that have given rise to these issues nevertheless persist. Thus, while especially egregious examples of unethical and extractivist research practice are increasingly rare, structural factors and power imbalances still shape the production of scientific knowledge in ways that alienate its foci from the aims of those people actually engaged in the work itself: namely, to reduce health inequities globally. This paper argues that a key, underacknowledged aspect of this is the precarity of funding flows for research in global health.

Global health itself does not hold an accepted, unified definition given the wide variety of different actors that claim or are claimed to participate in it. Existing definitions from global health researchers and practitioners are typically normatively driven and highlight transnational efforts to reduce health inequalities globally through improving health outcomes (e.g., Koplan et al. 2009; see also Abimbola 2018). Definitions from medical anthropologists tend to be more empirically grounded and attend to the problems inherent in these definitions that not all global health actors share such a goal, with so-called ‘global health security’ for instance having been critiqued for prioritising efforts to protect Northern populations from Southern infectious diseases (Lakoff 2010). Much like ‘global health’, global health science lacks a formal and widely accepted definition amongst those who identify as global health scientists (Garcia-Basteiro and Abimbola 2021). Consequently, it is difficult to impose a definition, as the boundaries of what does and does not constitute global health science are not clearly demarcated. Indeed, many of my interlocutors referred simply to ‘global health’ in general when discussing global health science, and often conceptualised the latter in vague terms as existing within the wider field of global health.

Nevertheless, for the purposes of this article, I broadly conceive of the field as the systematic, scientific study of global health issues entailing the production of qualitative and/or quantitative data through observation and often, but not always, experimentation, which enable the testing of hypotheses and/or theories. I make an important distinction here between global health science and global health data production more generally: the latter only becomes the former when the data are analysed and used systematically to test theories and hypotheses; when this does not take place, such as in disease surveillance, I do not consider it global health science.

With this definition in mind, I build upon previous scholarship on biomedical and scientific research in global health to interrogate the ways in which the political economy of global health science shapes knowledge made in the field. In particular, I elucidate this through the lens of precarity, which I conceptualise as a state of uncertainty, anxiety, fragility, and instability experienced by individuals and institutions as a consequence of fluctuating, changeable, or volatile flows of the resources necessary for action. Understood thus, precarity is not confined to global health science—indeed, in *The Aid Chain*, Wallace et al. (2006) illustrate how fragile and changeable financial relationships between development funders and NGOs shape the work that these NGOs do. Focusing on knowledge production in global health science then, this article examines the ways in which the precarity of flows of economic resources (in this case funding) shapes action (in this case knowledge production). Through a multi-scalar analysis of the political economy of the organisation, planning, and conduct of global health science research, I thus conceptualise efforts by scientists and administrators to obtain and maintain funding as efforts to manage and mitigate the precarities to which they and their institutions are exposed. In such terms, precarity is both an affective and material paradigm for understanding the political economy of global health science: it captures both the fragile and unstable economic uncertainties involved in obtaining funding for research, and the related anxieties, stress, and awkwardness that these uncertainties engender—with ensuing implications for decision-making on the part of scientists. Consequently, precarity shapes the knowledge produced in global health science in profound and important ways. Thus, I argue that the precarious system of transnational scientific research funding relegates questions of relevance to public health and national development policy beneath the prevailing priority of maintaining funding from Northern donors. The ostensibly banal and technical landscape of academic science funding therefore plays an active and important part in the maintenance of North-South inequalities in the production of scientific knowledge for global health.

I make this argument by analysing the perspectives and actions of scientists and administrators acting in response to the precarity of global health science funding

at the macro, meso, and micro levels respectively: from the funders and those involved in negotiating continued global health funding as a whole, to the management of transnational research collaborations, and finally to the principal investigators (PIs) of individual projects.

The empirical material and analyses presented herein emerge from my doctoral research, for which I conducted a year’s ethnographic fieldwork in two scientific research institutes in Uganda in 2022, as well as 70 unstructured, key-informant interviews with global health scientists and researchers, administrators, fieldworkers, and clinicians working with Ugandan, US American, and/or British institutions. I have given pseudonyms to all my named interlocutors and the institutions with which they are affiliated, with the exception of the National Institutes of Health (NIH).¹

Who funds global health science—and to what end?

Before explaining the ways in which precarity shapes the production of scientific knowledge in global health, I will first address where this funding comes from.

Funding for scientific research in global health is not centralised, and working out exactly which institutions fund what number of global health research projects to what extent is not an easy undertaking. While there have been efforts to identify how global health as a whole is funded (McCoy, Chand, and Sridhar 2009; Clinton and Sridhar 2017; Apeagyei et al. 2021), there have been (to my knowledge) no efforts within the past decade to identify the exact proportion of these funds that are directed for research.

Nonetheless, some data do exist that give at least an indication of the global health science funding landscape. The health research and policy organisation Policy Cures Research, for instance, collects and collates data annually on research and development (R&D) expenditure in global health. These data describe expenditure on ‘research and development of new health technologies for global health issues such as neglected diseases, emerging infectious diseases, and sexual & reproductive health issues’ in ‘middle- and lower-income countries’ (Policy Cures Research 2023). Policy Cures Research’s most up-to-date data report that global health R&D spending increased from US\$3.7 billion in 2014 up to US\$6 billion in 2019, before almost doubling over the course of the COVID-19 pandemic to US\$11.3 billion in 2020. The majority (>60%) of this funding has come from public institutions every year listed in their dataset, which at the time of writing runs from 2007–22. Of these, the US government’s NIH is by far the largest funder of global health R&D internationally, contributing US\$3.75 billion of the US\$9.82 billion

¹ The size of this particular institution, along with the steps I have taken to anonymise key details about individuals, shields my interlocutors from identification.

spent in 2022. The aggregate investment of the pharmaceutical industry in global health R&D is the next largest in Policy Cures Research’s database, contributing a total of US\$1.9 billion, while the Bill and Melinda Gates Foundation (BMGF) is by far the largest philanthropic funder, spending US\$820 million in 2022.

Policy Cures Research’s data also helpfully illustrates the spread of funding for disease-specific R&D. Excluding coronaviral diseases (including COVID-19, which led R&D funding from 2020 until 2022), HIV/AIDS had commanded the largest proportion of R&D investment since 2007, followed sequentially by tuberculosis, malaria, and filoviral diseases, such as Ebola. In 2019, HIV/AIDS accounted for 27% of total funding, tuberculosis 13%, malaria 11%, and filoviral diseases 9%, while other diseases, including some research targeting multiple diseases at once, round out the remaining 41%. Since 2007, the majority of this funding has gone toward either vaccine or drug development, with basic² scientific work (on which vaccine and drug development are based) also accounting for a significant proportion.

What these data do not capture, however, is expenditure on kinds of global health science research other than health technology R&D. These might include: health systems and operations research (studies on the structure of and practices in health systems, including the programmatic delivery of interventions not directly related to the generation of new technology, such as drugs that have already been developed and which are not new); implementation science research (studies looking at how best to carry out particular pharmaceutical or behavioural interventions); monitoring and evaluation research; disease surveillance research; and social scientific or behavioural research that is not directly concerned with producing and testing new pharmaceutical and medical products (Policy Cures Research 2023).

These are important exclusions from the dataset. Indeed, many of the projects at the two research institutes in which I conducted my ethnography would not be included in the above figures. Likely understated in Policy Cures Research’s numbers is the expenditure of multilaterals, who are much more likely to invest in, for example, monitoring and evaluation research testing the efficacy of a particular set of interventions, or clinical research not directly concerned with the development of new health technologies, rather than in the development of new pharmaceutical products. Conversely, funding coming from the pharmaceutical industry is likely overstated in the Policy Cures Research data in proportional terms, as this industry invests little—if anything—in forms of research that are not specifically about the development of new health technologies. Furthermore, the

² Basic science, also known as pure research, refers to science concerned with answering fundamental questions to better understand phenomena, natural or otherwise.

dataset underestimates research spending overall, as almost every institution listed in the database with the exception of the pharmaceutical industry also dedicates varying amounts of funding for research on topics without a direct connection to R&D for new technologies.

Nonetheless, the Policy Cures Research data is useful in giving a rough sketch of the funding landscape in global health science and, importantly, in emphasising the significance of publicly funded institutions in global health science funding, and particularly the NIH, the largest single spender on global health R&D. In 2022, the US Biomedical Advanced Research and Development Authority (US BARDA) was the second largest funder of global health R&D, but spent less than 29% of what the NIH did in the sector in the same year. This serves to demonstrate the prominence of the NIH in global health science. This is important because, as the NIH states on its website, it is an institution that ‘provides leadership and direction to programs designed to improve the health of the Nation [the US] by conducting and supporting research.’ (NIH 2024). Thus, the largest player in global health science—a field concerned at least in part with the improvement of (some aspects of) public health in the Global South—is an institution primarily tasked with advancing scientific knowledge nominally to the benefit of the US taxpayer, rather than to fund the production of knowledge that is useful for development and public policy practitioners in African countries. While some NIH officials with whom I spoke voiced their desire to use NIH funding to advance development goals, they acknowledged that this is not the main responsibility of the NIH, a point highlighted by the fact that the Fogarty International Center (FIC)—the only NIH body explicitly responsible for global health research—represents just 0.2% of the NIH’s total budget, at about US\$84.2 million in the period 2019–23 (NIH 2023). The remainder of the NIH’s enormous budget has to be defended to the US Congress on the basis of its relevance to advancing scientific knowledge in the national interest, and therefore the funding it distributes must at least ostensibly be in the furtherance of these interests.

The predominance of the NIH and its scientific bent are also illustrative of a wider feature of the global health science funding landscape: the lack of purchase of development issues in this field. While global health science is not made up by the NIH alone, much of the funding available for knowledge production in global health is explicitly tied to advancing a particular, normative understanding of scientific knowledge first and foremost. Funding also targets ‘global health security’ issues, such as disease surveillance and research into ‘emerging infectious diseases’—work that has been critiqued extensively in the critical global health literature for being concerned primarily with protecting Northern populations, rather than those in the South (Ingram 2005; Lakoff 2010; Benton 2017). Behind the NIH, the aggregate spending of the global pharmaceutical industry outpaces any other

single funder, including the BMGF, in the Policy Cures Research dataset and accounts for a substantial proportion of research funding, with such research characterised as ‘global health’ despite its primary motivation being one of profit: to produce new health technologies and generate return on investment for shareholders. A sizeable proportion of global health science funding is thus ostensibly dedicated to advancing scientific knowledge in Northern national interests and/or producing profitable technologies.

Another important dimension of global health science research funding is that it is generally given out as short-term grants, typically lasting between three and five years, with few grants lasting beyond six years. Such grants are an aspect of global health science funding that can cause great precarity for individual researchers and research projects, as there is a constant sense of insecurity around where the next round of funding will come from to continue to employ staff, provide care for patients, or produce important data. However, I should note that there are also many reasons why short-term research grants have become predominant in global health science. They enable funders: to more quickly divert money to new issues in the face of new evidence or events; to give money to institutions with less capacity to administer complex, large, long-term grants; to more quickly demonstrate the value of the research they are paying for to the government (or other entity) which provides money to the funder; to hedge against the risks associated with longer-term research, in case the data being generated are not useful or poor quality; and perhaps also to exert more control over the direction of knowledge production, as longer-term grants might necessarily be more flexible in terms of what knowledge they end up producing, while disbursing shorter-term grants can enable funders to better direct knowledge production along particular strategic lines according to established priorities. Yet while some of these rationales are clearly quite sensible, the environment of precarity engendered by these short-term grants has important ramifications for the production of scientific knowledge in global health.

Macro: Funding agencies

It was late afternoon on the third day of Africa’s largest HIV/AIDS conference. Professor Ed Davis and I sat sandwiched between deck chairs and a seesaw, just outside the main conference hall of Kampala’s Speke Resort: a sprawling, luxurious hotel on the glaucous shores of Lake Victoria. He and I were exhausted. We had started our day at dawn for a ‘capacity-building’³ workshop that he had run, which was followed by nine hours of presentations on HIV/AIDS research.

³ I use this term as my interlocutors do and will not use scare quotes around it henceforth.

Davis is one of the conference organisers: an experienced professor in microbiology and molecular genetics at a top US university and an experienced NIH grantee. He was in high demand during the short tea breaks throughout the day, but I managed to pull him away for an hour before dinner for an interview. It was not until we met, though, that he enquired in greater detail about my research. Yet I had scarcely said more than a sentence on my interest in the politics of global health science before he interrupted. My research was important, he told me, because global health is all about politics, and politics is all about money. He elaborated: 'Global health has to have a politically friendly environment behind [it], because [if] you have 8 years of somebody like Donald Trump [as President] there is no global health.' What he told me next resonated strongly with what I would come to hear regularly throughout my fieldwork: that global health funding for both science and practice is fundamentally precarious due to the potential for government funding of global health to change. While other sources of funding exist for global health, such as in the philanthropic and private sectors, national governments—and particularly that of the US—provide the majority of the cash the field needs to survive. 'Remember,' Davis told me, holding up a single finger,

Global health is nothing else but a big foundation at a governmental level . . . [If] the government changes, you may not have money tomorrow because all the global health institutes are running on grants. If somebody decided that, politically speaking, investing in the health of Africa or other [resource-]limited countries doesn't mean crap to the US and it's more important to go for people that are living with Alzheimer's [in the Global North], that pot of money within 24 hours will be shifted . . . And it's a big reality check . . . You cut the money to the UN, you cut the money to any organisation because America comes first [and] most of the [global health] programmes are going down the drain, and so the [question of] sustainability of some of these programmes is clear and [now] yes, we have [US President Joe] Biden. [But] I don't know if Biden is gonna survive another 4 years after his term, and if somebody like Trump comes back, it's gonna be tough shit for all of us . . . without government support we are doomed to failure.

Davis' allusion to Trump's 'America First' agenda is one that I heard articulated during many of the interviews I conducted in 2020 for my Master's fieldwork, prior to Biden's election as President. At that time, all of my US American interviewees expressed their profound concern for the future prospects for global health under then-President Trump. While this was expressed less frequently in conversations and interviews I had with such people during the Biden administration, anxieties regarding a potential Donald Trump comeback were nonetheless still pervasive. For Davis and others, the political instability of global health funding flows represents an existential concern for policymakers and scientists and makes life extremely difficult for those in these jobs, who must endlessly persuade those in

power to continue to dedicate substantial resources to efforts to improve the health of people in the global South.

To this point, Davis gave me a remarkable example from what happened during the Trump administration. Anthony Fauci, then coming to the end of what would be a 40-year stint as the head of the NIH, attracted global attention for his handling of the COVID-19 pandemic in the US and his robust responses to Trump's myth-mongering about, for example, the potential for ingesting bleach to be an appropriate medical treatment for the disease, amongst other such outlandish claims. Davis told me, amidst impassioned gesticulation and with some pride, about what was going on behind the scenes during this period, and how Fauci managed to protect the NIH's budget:

What saved us was that Fauci convinced Trump to put this policy that he was going to end the HIV pandemic in the US by 2030, and because he is a fucking idiot, he believed that. Because there is no damn way that you're going to end the [HIV] pandemic in the racist climate that he was creating—I mean, the only way to end the pandemic would have been to kill all the people infected with HIV, you know, cremate them—I'm serious you know, I'm not kidding, I really think that he didn't realise—Fauci is very polite, he said: 'Blah blah blah, come my way and I'll show you [all the] good you can do—establish this policy and give us the money because [then] our policy will end the pandemic by 2030,' and [Trump] said, 'That's a great goal!' That saved our asses, because Fauci was able to play the psychology of this piece of shit in our favour . . . [So,] we are definitely worried about funding. And never more than now we appreciate as I said the work that people like Fauci [have done]. But who is our next Fauci?

This story Davis told me, in which the fate of the NIH was seemingly balanced on a knife edge, speaks to the sense of precarity felt amongst my interlocutors regarding the continued flows of funding for global health science, something also reflected in Davis' emotive choice of words and fervid body language. Whether it is true or not, Davis' narrative illustrates how the maintenance of global health science funding in the US is talked about by these scientists as something almost arbitrary, something that could be stripped away from them the moment that the political winds change, and something that requires delicate work for its preservation on the part of global health actors, like Fauci leading Trump up the garden path. Such precarity is important to foreground here: whether Trump or any other leader, if people working in global health cannot convince those that fund them that their work is necessary and in the national interest, they fear that the flows of funding will disappear or dramatically reduce, and thus unravel the decades of progress, capacity-building, and trust they have built with Southern governments, scientists, and research participants. As Davis explained: 'The reality is that global health is a very complex intertwining of politics and desire by

the scientific community to do good for the people, and how you can make them work [together] is very complicated. For us, in my opinion, you can do a lot of good . . . as long as the political effort is there.’ For Davis, this deeply held ‘desire’ to ‘do good’ animates his experience of and shapes his anxious reactions to the precarities to which he is exposed.

What can be made from this discussion and what are the implications of these precarities for knowledge production?

Firstly, funders often support knowledge production on topics around which there is already agreement that effort should be made to address a particular health issue. For many funders explicitly concerned with advancing global health, this means sticking to an existing consensus around global health priorities. Once something is agreed upon as a priority, particularly by the US government and to a lesser extent the governments of other countries in the Global North, funding can be marshalled around it. Examples of this include HIV/AIDS research in Africa, which boomed alongside malaria and tuberculosis following the founding of the Global Fund in 2002 and was then bolstered by George Bush’s commitment to spend US\$15 billion⁴ on treating and controlling HIV/AIDS in the Global South through his President’s Emergency Plan for AIDS Relief (PEPFAR) programme, launched in 2003.

Another example is the West African Ebola crisis, which led to increased funding for global health security and filoviral and zoonotic disease research, then boosted again by the COVID-19 pandemic. People working in agencies that distribute the funding for research tend, or are obligated, to support these priorities, rather than going out on a limb and deciding that other health conditions around which an international consensus to address them has not yet been built should be a focus. Global health science research thus tends to go hand in glove with funding for global health practice, rather than in accordance with national public health priorities in the Global South (Viergever 2013). Alternatively, global health science research can pursue the answers to scientific questions of relevance to the global North, as there is a strong sense among those working for funders that the scientific research they fund should stick to the remits of their institution.

This applies to much of the work the NIH funds, for instance. As Dr Douglas Williams, a senior NIH official, told me in one interview, the NIH is ‘a science agency and not a development agency’: its remit is to provide funding for research into important scientific questions pertinent to the US public first and foremost. As Williams put it: ‘[The NIH has] certain priorities, and so if you can say here’s something that’s the number one killer of Americans, that’s gonna get more

⁴ A figure which has since climbed to US\$120 billion as of August 2024 (KFF 2024).

attention than something that really isn’t an issue in the US—I think that shouldn’t be very surprising.’ Consequently, the research the NIH funds in the Global South from its constituent institutes, other than the FIC (the only NIH body explicitly tasked with global health research), should address ‘important basic science’ questions, or issues that are important to US taxpayers, such as testing new drugs that might also be useful in US patients, or work around global health security. Regardless, whether pertaining to advancing scientific knowledge relevant to Northern populations or producing knowledge around global health priorities, funders of global health science research are strongly incentivised and in some cases institutionally obliged to support and extend existing priorities through the knowledge production they fund, rather than supporting research into other issues.

A second implication of funding precarities for knowledge production is the need for funders to demonstrate to the institutions that fund them that the work they support is effective and impactful. As noted above, this is an important, but not the only, reason for the proliferation of ‘impact-driven’, short-term scientific research. This kind of research targets global health priority areas and endeavours to generate quick results, conclusions with wide generalisability, and scalable solutions, rather than slower, more iterative work building out of descriptive epidemiological research and localised sociological and behavioural research. Such research enables funders to better describe the effects of the work they support, and thereby hedge against political instabilities in global health funding flows: ‘the era of grants’, as one Ugandan clinician put it to me, has substantial implications for knowledge production. Parallels here can be drawn with the ‘projectification’ of global health described by Meinert, Whyte, and colleagues, in which short-term, time-limited, soft-funded financing of healthcare provision in Uganda by international donors privileges some forms of care and service provision over others (Whyte et al. 2013; Meinert and Whyte 2014).

Macro-level funding precarities are thus important in shaping the kinds of global health science research that gets funded. These precarities limit the scope of knowledge production to this end, with funders often sticking to priorities from which it is difficult to deviate. Shorter-term research only compounds this issue, as it is by necessity narrow and specific in its focus, addressing particular questions and rarely possessing the breadth of scope to understand the implication of studying one health issue rather than an under-researched other.

Meso: Research institutes

The week before Christmas 2021, I presented my PhD project proposal to an elite biomedical scientific research institute. The institute was a collaboration between several Ugandan institutions and a top US university. After months of emails with

the scientists at the Ugandan end, my request to conduct part of my ethnography within their institution had finally been—in principle—approved. All that was left was to outline the details of my project to the US Americans on the management team in a fifteen-minute Zoom presentation. Unfortunately for me, I was COVID-ridden, in quarantine from my parents and sister in the small attic room of my family home in London, but rescheduling was out of the question: I needed their approval to begin my ethnography in the new year as soon as possible. Pleasantries and introductions were brief after I joined the call with the management team. With their cameras off and mics muted, there appeared to be little interest in or enthusiasm for my project. An eerie, heavy silence persisted throughout my presentation, as I spoke to a series of vacant black squares, each labelled with the names of prestigious scientists whose work I had been reading since I was an undergraduate.

As I finished the presentation, the most senior among them spoke, a US American professor who had co-founded the research collaboration many years previously. 'What do you mean when you say you're interested in the politics of funding? Are you interested in the donors?' Her question was thick with cautious apprehension. I attempted to explain what I meant by this; that I was interested in the ways that the donor-funding landscape shapes the knowledge that gets made in research institutes like this one, and that my research would be using their institute as a window into the world of funding, but the conversation was already over. The professor was clearly worried about the possibility for my research to harm the relationships with donors that the collaboration had built over more than thirty years. Her voice seemed agitated as she responded, expressing concern that what I would write could seriously jeopardise the financial sustainability of their work. Two weeks after the call, I received a terse email informing me that my research would be too much of a burden on their time and that my request to research their institute had been denied.

Eight months later, something similar happened. It was a Friday in mid-August, and I had just returned to my desk at the Centre for Virology and Health Sciences (CVHS, one of the two institutes in which I conducted my ethnography) from a late lunch with some of the research assistants when I received an email from Professor Margaret Oppenheim, a senior social scientist at the institute who had been a great help in setting up my research. She told me to come to her office with Dominic Magezi, a colleague and mentee of hers that had been tasked with supervising me during my time at the institute. When we arrived, Oppenheim explained to me that my recent efforts to recruit interviewees from amongst the senior scientists at CVHS had caused quite a stir in the most recent management meeting at the institute. Professor Jane Richardson, a British virologist with whom Oppenheim and others had had various disagreements over the years, had

received an email from me explaining my research and inviting her for an interview, and had panicked. Richardson hadn't been told that my project was happening, and she had voiced her profound misgivings in the meeting that my research might cause trouble and hurt CVHS' relationships with donors: having an independent researcher within the institution investigating the politics of research was a recipe for disaster, in her mind. My work could risk the reputation of CVHS, and potentially endanger the financial sustainability of the institute if my research suggested that the donors or CVHS were doing things wrong. Fortunately, Oppenheim and others on the committee supportive of my work had soothed the situation somewhat, but Oppenheim advised me to lay low for a couple of weeks and wait for everything to settle down.

These two experiences were but two glimpses of a much wider phenomenon in global health science: the sensitivity grantees have with respect to the precarious sources of their funding, something felt particularly strongly by those managing complex research institutes with multiple, long-term funders, each with their own interests and expectations. As one US American epidemiologist put it to me: 'The donors are everything.' Anything that might compromise the integrity of the relationships between scientists and their funders generates discomfort and angst, and scientists are protective of these lucrative but potentially unstable relationships, relying on them to continue to conduct research, hang on to good staff, and continue to 'capacity-build' African research partners. The fears scientists have with regard to institutional partnerships with funders borders on the existential, and effectuates action with implications for knowledge production, as scientist-leaders try to mitigate the precarity of their relationships with donors. This is particularly important given that those involved with the management of research institutes feel a duty of responsibility to their junior colleagues to create and sustain research infrastructure through which they can conduct research.

One of the most important ways in which research institute management attempt to deal with what they see to be fragile relationships with donors is to enhance the institute's ability to win grants: the more grants that can be won, the more that valuable research can be done, but also the more resilient the institution is to changes in funding availability if a particular funder changes what they're looking for, stops giving out money, or if investigators do not win grants that they hoped they would. Moreover, given the competitive nature of winning grants, having an intelligently organised research institute, optimised to fit the scientific research funding landscape, helps to augment the institute's financial sustainability in the long run. In what follows, I present an example, reconstructed as an ethnographic vignette from my field notes, of the kinds of strategic decisions that scientists in management roles take to do this—to boost the institute's scientific

competitiveness amidst an environment of financial precarity—and the effects these have on the knowledge-producing architecture beneath them.

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CVHS, Entebbe

20 July 2022

I am packing up my bag for the day when Dominic [Magezi] walks into the office we share with some CVHS RAs [research assistants]. The white, flimsy door slams abruptly behind him, as it always does; Lake Victoria's breezes flow unceasingly into the office from the open windows opposite the door. The room is bright with the glare of the afternoon sun, reflecting off white tables, white walls, white floors, and the timeworn laptop screens of the RAs transcribing interviews. Most of them turn around in their swivel chairs, one shielding their eyes from the sun, to look at the source of the sudden noise. Dominic greets them all, and headsets are removed, and audio files paused as the greetings are returned. They are all, apparently, aware that Dominic had come from a meeting with some of the senior scientists in charge of running the research unit, where they had been discussing some organisational changes that were to be made, but this is only made clear to me from his explanation to another colleague that seems just as curious as I am at the uncommon intrigue amongst the other inhabitants of the office at Dominic's arrival. Dominic begins to report back what he had heard. 'There will be a reorganisation of the unit into three priority groups', he says, leaning slightly against the desk closest to the door: 'Vaccines, viruses, and non-communicable diseases.' There is an air of bemusement and perplexity in the room. 'What does it mean?' one of the younger RAs says. Dominic explains that the reorganisation is about funding—it's about making the institute more competitive and effective, although he seems unconvinced himself, even as he explains it. He advises the rest of the group: 'If you want to survive here, you have to go with the change.' There is a moment of silence in the office as the news sinks in, before Dominic begins to reassure them: 'You can still try to do research in what you find interesting, but you need to find a way to put it in one of the priorities.' There are murmurs of assent amongst the RAs, and Dominic walks back to his chair and sits down.

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This vignette reveals some of the uneasiness felt about the organisational changes being made at CVHS. As I later discovered, this was not an uncontroversial decision, and there was a sense amongst some of the senior scientists in the

institute that the focus on viruses and vaccines, both of which would foreground laboratory science work, was indicative of a broader shift at the institute away from more descriptive, implementation-related, epidemiological work, and away from the interests of the 'communities'⁵ with which the institute has worked for over thirty years. Indeed, such was the strength of the internal resistance to this change, that some marginal concessions were quietly made to earmark at least a little funding for other kinds of research projects. Nevertheless, the reorganisation as a whole would be going ahead, as some of the scientists involved in the management of the institute were confident that laboratory and basic science work, particularly that involving vaccines, would be the surest bet financially going forward, and would give the institute the greatest potential for maintaining funding.

The particulars of the above case are also important to unpack. The meeting from which Dominic came involved many of the most senior scientists involved with CVHS, including Professor Jane Richardson, who would later take such issue with my own research. The relationships between those on the committee were, and still are, fraught, with scientists divided along disciplinary lines around the direction that the institute should take. Professor Oppenheim and others advocate for more 'engaged' research and more 'social science', based on what they see to be the big issues in the Ugandan context, while their virologist and molecular biologist colleagues are more supportive of the laboratory-based work that is better valued in their disciplines. But the argument they made, both in the meeting Dominic came from and many others, is that the money is in vaccines and laboratory science work, and this is a difficult point with which to contend for Oppenheim and others. At the end of the day, when it comes to the direction research institutes should pursue in their quest for knowledge, money leads the way.

These kinds of proactive steps by senior scientists to try to optimise their institutes and programmes to an ever-changing and precarious funding landscape are important ones—albeit controversial, divisive, and occasionally alienating. They also have clear implications for knowledge production: the effort to reorganise the institute around the perception of what will get the most funding in the future illustrates the responsiveness of researchers in global health science to the priorities of donors. This latter point is especially important. Research institutes are highly sensitive to changes in the funding landscape. The anxieties of senior scientists regarding the precarities of this funding give rise to this sensitivity and responsiveness, and it is therefore these international donors to which the scientists adapt their work first and foremost, not the demands of the Ugandan state, nor of the Ugandan communities with which they work. This is not to say that governmental and community perspectives are altogether disregarded—far from

⁵ I use this term as my interlocutors do and will not use scare quotes around it henceforth.

it—but rather that there is a prioritisation process in which funding takes precedence over government and community engagement. Furthermore, the kinds of expertise and experience that are built amongst the more junior Ugandan research staff involved in this research is also reflective of these international priorities, with those in the office described above evidently concerned that their skills in interviewing and transcribing would not mesh well with the ‘harder’ scientific work involved in laboratory-based and vaccine research. Thus, the economic precarities of the funding landscape cut across hierarchies and geographies, affecting all those reliant on the continued flows of money.

Micro: Research projects

What about individual projects? How is precarity felt by principal investigators (PIs) in charge of running scientific research projects? As is the case at the higher levels of funders and research institutes, funding for projects is also precarious. Grants are competitive, and it is no easy task for PIs to endlessly find money with which to support their research activities. As is the case for much of academia globally, research grants are an important means for researchers to remain employed. This is felt most acutely by many of my US-based interlocutors, some of whom rely entirely on research grants to retain their university jobs. This is true even for some senior scientists—for example, one head of department at a top US university whom I interviewed has to fundraise more than 70% of their salary. By comparison, the situation is generally slightly less precarious for senior British PIs, many of whom have permanent jobs involving teaching, and who are less dependent upon grant funding for job security. The experiences of Ugandan investigators meanwhile are varied—some have university or clinical posts that diminish the necessity for them to have grant funding, but those holding posts in research institutes are invariably much more dependent on grant funding to maintain their employment. Nevertheless, for all of my interlocutors, grant funding is also important in building prestige in their fields and institutions, as well as a crucial component of ‘having an impact’ in global health, as high-quality research is a potent source of legitimacy for scientists hoping to improve the lives of people living in ‘resource-limited’ settings. Irrespective of the nature of their employment however, the precarity of global health science funding cuts across geography, discipline, rank, and experience: researchers across the board experience precarity with respect to their ability to, for instance, continue to employ junior staff, provide opportunities for Master’s and PhD students to do research, and maintain their provision of various benefits for study participants, such as drugs and treatment that might be difficult for participants to otherwise obtain.

Clearly then, PIs have a lot to lose if they do not continue to win grants, and continuing to win them is a source of stress, as well as a great burden on their time. As a consequence, most research projects tend to be more responsive to the research priorities of global health funders—much as research institutes and funders themselves are to the institutions above them from which they draw their own funding—than to what could be identified as important where the research is taking place. Getting funded is just too important not to prioritise.

Project PIs attempt to mitigate the precarity that comes with global health science by conducting 'fundable'⁶ research (i.e., topics and methods that are more likely to get funded). What is understood within global health science to be fundable is neither static nor consistent, but generally projects of this character are those that constitute what is referred to as 'good science'.⁷ Through the example of SHINe (Surveys on HIV Networks), one of the studies in which I conducted my ethnography, I show how this plays out ethnographically by highlighting the ways in which researchers in individual projects deal with the precarity of funding in global health science. I show how the researchers in SHINe prioritised the methodological and thematic fundability of their work above other issues in the locality in which they conducted their research—a small rural parish just outside of Mbarara. To do so I discuss how the project came about, and the 'community engagement' it entailed, but argue that despite these well-intentioned steps to make the research more relevant to the local context in which it has been conducted, the necessity of fundability exerts too strong a pull to ignore. I show that this resulted in a project that produces knowledge that is considered neither by its participants nor its RAs to be particularly important locally.

SHINe was initiated in the mid/late-2000s by a young US American researcher named Johanna Donovan. Donovan was looking for a site to conduct her doctoral research, and wanted to conduct something that was, as she put it to me, 'community-based' in a 'resource-limited' setting. Donovan was connected to Professor Jim Graham, director of the newly established MUSCo⁸ research institute in Mbarara, by her PhD supervisor, and the two met to discuss the possibility of her coming to Uganda to devise a project. Graham had been working in Uganda since the boom in global health funding in the early/mid-2000s, and while Donovan's desire to do 'community-based' research represented a departure from MUSCo's more clinical research portfolio at the time, Graham was only too

⁶ I use this term as my interlocutors do and will not use scare quotes around it henceforth.

⁷ I use this term as my interlocutors do and will not use scare quotes around it henceforth. Good science here is commonly understood both as a methodological/epistemic and an intellectual/thematic category; it entails using highly regarded, rigorous scientific methods to produce evidence that addresses specific issues that are identified by global health scientists, funders, and policymakers as being important to tackle. In short, good science involves using the right methods, but also asking the right questions. While the epistemic dimensions of this are important, and I address these in forthcoming work, I focus here on the political-economic context in which global health science is conducted.

⁸ Mbarara-US Collaboration for Global Health—one of the two institutes in which I conducted my ethnography.

glad to bring her into the fold. Soon after her meeting with Graham and after having attained some funding through him and her supervisor to set up a research project, Donovan flew out to Uganda to meet with various faculty members from Mbarara University and set up a research collaboration that would be the foundation of the work to come. Donovan found great enthusiasm for a research partnership among these Ugandan researchers, and she then moved to Uganda for a couple of years to establish and implement her project on social networks and HIV—an unusual move in the world of global health science. While in the country, she started to set up her project's research site in a rural parish outside of Mbarara, which initially involved reaching out to members of the community alongside Mbarara University faculty. As she told me:

We had many conversations around what are some of the issues that they see as being critical to health and wellbeing and development among the people in the villages and together we collaborated and came up with a list of topics that we thought would be important to assess in this context. We talked a lot about the idea of social networks and how relationships are important and people in the communities thought, 'Yeah, yeah, yeah, we get that idea, it is really important', and so from there we designed this massive, massive research project where we were going to measure the social networks of all the adults in these eight communities and collect data on a variety of health related topics that could provide some info that could enable us to do interventions, write larger grant applications, sorta some really formative work, and that could provide opportunities for students at Mbarara University and myself and others to do Master's theses and PhD theses.

Donovan explains that she then began to hire and train research assistants, many of whom have remained with the project for over a decade since its inception, and the team collected a large amount of data over the following years. In this early period in particular, Donovan, her Ugandan collaborators, her US American co-PI,⁹ and her research team met with their prospective research participants several times.

We had many, many, many local leader meetings as well as community sensitisation meetings where we talked with them about what has been done, what we're thinking about doing, what are some of their concerns, what are some of the things that they've enjoyed or appreciated or benefitted from, what are their interests or foci that they'd like us to look at, so it [has] been an ongoing sensitisation, mobilisation, inquiry—conversations periodically over the past 10 or 12 years since SHINe first started. We always get really great questions and feedback from our local leaders and our community members. We have these meetings periodically to introduce new members of our team, and also before we start, as part of the creation of any new projects or new

⁹ Doctoral students are typically not allowed to be the sole PI on research projects.

supplements to SHINe, we have these meetings to have community feedback. We also have a community advisory board so whenever we have new ideas or we get new ideas from these conversations, we meet with [them] to get their feedback on where we're at with these ideas and whether they think they're appropriate or beneficial . . . We also do dissemination of our findings with local leaders and whatnot and so we'll say here are some ideas that we're having, do you have any feedback on this, do you think these are good ideas, what are some additional areas of inquiry that you'd like us to take a look at, and so we take that into consideration when we're designing these projects, and they have to sign off to support these research projects. We're not paying them or anything to sign off so they're not being financially coerced in any way . . . At this point, we have a decade of relationships built up and so these conversations are long-running and ongoing. And some of it is 'what do we think can get funded so we can keep this research ongoing?', because the community members want us to keep working with them and they want us to be able to get funding to do interventions and to keep working with those populations, and so some of it is in part well what can we possibly get funded. And so, I think it's a balance between trying to do what the local community needs and wants and what can get funded.

What Donovan here calls the 'balance' between what the local community want and what can get funded is an idea that was commonly expressed throughout my fieldwork by Northern scientists: that there is a compromise to be made between what the community wants or needs, and what is fundable. Yet when I spoke with the very RAs mentioned by Donovan, who had worked on the SHINe project for in some cases over a decade, without exception they asserted their lack of a belief that the project actually addressed the key issues in the parish in which it was based, and there was no mention of such a 'balance'. As one put it:

Normally when we are starting another phase of interviews, we try to remind ourselves: we go through those questionnaires, we go through consents, we go through study procedures—why? Because we are trained to keep in our lane. And at times when you go to the village and you are running those questionnaires, you are bringing them a project, yet they needed something else. You are bringing them water, yet they needed pigs. At times, most of the projects are about [benefits to the researchers], like their own things, which don't benefit the community.

I asked the RA if this is something that they hear regularly from SHINe participants and the other RAs, to which they replied:

Of course we get comments. We get comments from those participants. They tell us: 'Ahh, last time you gave us this, but we had it already. At least if you gave us 'alternative A' it would be better.' Like they have their own needs which we can't meet, either because they're expensive or there is someone who

designed the questionnaire, who designed the project and at the back of [her] mind knew at the end of this project I want to do something [in particular].

The RA added that the study team felt perfectly comfortable feeding some of this back to the management team and PIs, but that they are routinely told there is not much that can be done, as there is nothing in the budget to do additional work.

This disconnect between what Donovan told me happens during the community engagement parts of her research project and what the RAs said is neither unique nor surprising. Throughout my fieldwork I heard similar such things: Northern PIs talking with pride about how the work they do is well-tailored to the communities in which they conduct their research, and Ugandan scientists and researchers nuancing or rejecting such claims. Meanwhile, the material inequalities undergirding any engagement that takes place are argued to have substantial implications for the nature of any compromise or balance that might emerge from such discussions. As one experienced Ugandan research coordinator put it, 'Local government in Uganda does not have money, so of course they cannot say "No" to research because it brings money': it is difficult for local leaders to do anything other than encourage research programmes to work in their areas given the scale of resources that these programmes bring relative to the level of material wealth in, in the case of SHINe, eight rural Ugandan villages. Research perks, be they infrastructure, time-compensation for research participants (sometimes financial, but oftentimes in the form of bags of sugar or bars of soap), jobs, or interventions such as water supplies, pharmaceutical products, and so on, are extremely valuable to people living in these prospective research sites, and are opportunities not worth risking through extensive negotiations with researchers about the topic and method of research (see also Biruk 2018). Thus, the disconnect emerges between what PIs like Donovan claim, and what their own employees and collaborators refute.

I argue that this disconnect is affected profoundly by the precarity of funding in global health science. SHINe is in many ways uncommon, and its long-term community engagement practices are far from the norm in global health science research—a testament perhaps to Donovan's commitment to living in Mbarara for two years during the initial design of the research. Yet as Donovan acknowledged, even with the best intentions, the question for her and her fellow co-PIs remains: 'What do we think can get funded so we can keep this research ongoing?' given, as she also pointed out, 'the community members want us to keep working with them'. Here, it is important to note the lack of incentive on the part of most global health science research funding for extensive forms of engagement with prospective participant populations and, indeed, with government departments. This latter component is particularly critical: SHINe did plenty of engagement with the village- and parish-level politicians and other leaders, but nothing at all with

any department of the Ugandan government, like the Ministry of Health—a common neglect in global health science that stems from the financial incentive structures outlaid by donors. Consequently, community engagement—even where it does take place—is not a necessity for projects to get funded, and much more pressure is placed on the ‘balance between trying to do what the local community needs and wants and what can get funded’ from the side of the funder seeking good science than from the community, with resultant implications for knowledge production.

For projects to get funded, they must choose a topic that will attract the attention of funders, and which represents fundable, good science. This means picking a topic that funders have identified as a priority and studying it in a rigorous way. SHINe is an HIV/AIDS study, so it immediately hit one of the most central priorities in global health. It is also a social networks study, using complex quantitative methods to map and analyse the social networks of every individual in the parish. When SHINe began, social networks research was in vogue in some prestigious scientific journals, so its focus on the role of social networks in shaping ‘health-seeking behaviours’ was timely and of interest to funders—likewise for its methodological innovation and offer of statistical validity in its use of complex quantitative methods. In its first iteration, SHINe was an ‘ego-centric’ study: the cheaper and smaller of the two main forms of social networks research. This kind of research generally involves asking study participants to list up to a given number of social contacts—twenty is a common figure—before asking extensive questions about the nature of each of those relationships, in addition to the participant’s health behaviours and perceptions of those of others in their network. Ego-centric studies survey a sample of people in a population, and this is how SHINe began. The project’s initial success meant that it subsequently won funding to conduct a sociocentric study—the second variety of social networks research which is far more complex, expensive, and detailed, consisting of mapping every individual’s social network in a defined population so that much more sophisticated analysis can take place. SHINe won funding to develop into a sociocentric study because it represented an exciting opportunity for good science to take place; findings from the research represented important contributions to the development of statistical methods in social analysis and advanced the literature on the importance of social networks to health seeking behaviours relevant to HIV control and beyond. These findings could be published in high-profile journals. Crucially, however, the publication of this work was relatively context-free, and far more about demonstrating what could be done with such complex forms of quantitative analysis than attempting to address or describe health issues amongst the population SHINe was investigating in Uganda.

Through the story of SHINe, we can begin to see the ways in which funding precariousities experienced by project PIs shape the nature of knowledge production, even when these PIs have apparently good intentions about the levels of engagement they will undertake with the local community. The balance Donovan referred to is not an equitable one at all. Rather, funding incentives which reward good science over all else were the more primary driving-force behind the study, and this takes the focus of knowledge production away from local or national issues and towards issues of interest to global scientific and policymaking communities.

Conclusion

The precarity of funding flows in global health science is a critical aspect of the field's political economy, with profound implications for the knowledge produced within it. This article has examined the nature of this precarity, how scientists seek to manage and mitigate it, and the consequent implications for knowledge production at three levels: those working in funding bodies, those in management and leadership positions within research institutes, and PIs of individual projects. Across these three scales, I have highlighted the responsiveness of scientists and researchers to the funding landscape and thus the potency of funding incentives and disincentives in constraining and enabling the production of knowledge in global health. Overall, the implications of this funding system for knowledge are myriad, and here I have but gestured toward some of these. Particularly important is the time- and cost-pressured nature of scientific knowledge production resulting from the short-term, precarious grants model, which puts pressure on any form of community or government engagement without incentivising it, while at the same time putting a premium on contributions to scientific knowledge in Northern journals and the advancement and extension of global health priorities identified far away from the locations in which projects collect data. This has significant implications for the scope of research, with the almost unending pursuit of developing fundable research protocols a process disconnected from national health policy agenda-setting and the functionings of public health systems. This leads to massive amounts of data and knowledge being produced that advance globally identified health priorities and global health science as an epistemological field, without linking this together with what might be helpful for *public* health policymaking at the national and sub-national levels.

Precarity, I have shown, undergirds this disconnect: it is a structural component of global health science and an essential aspect of the current funding system. Yet it works against a central aim of the field itself—to produce knowledge that helps reduce health inequity. If scientists are more concerned about where the next grant

is coming from than about figuring out first and foremost what issues to research to improve people’s lives, then this aim will remain a challenge to accomplish.

Authorship statement

The author confirms sole responsibility for the study conception and design, data collection, analysis and interpretation of results, and manuscript preparation. The author declares no conflicts of interests.

Ethics statement

This research that informs this article received ethical approval from Oxford University’s Central University Research Ethics Committee (C1A_21_086), the London School of Hygiene and Tropical Medicine (27938), the Ugandan Virus Research Institute (GC/127/902), and the Ugandan National Council for Science and Technology (SS1262ES).

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Joshua Parker Allen is an ESRC-funded PhD student of International Development at the University of Oxford. His research focuses on the politics of scientific knowledge production in global health in Uganda.

His doctoral thesis is based on 15 months of multi-sited and multi-scalar ethnographic research. In this work, Josh examines the ways that global health science, while aiming to reduce health inequalities, often remains disconnected from the populations it seeks to serve. His research shows how and why this disconnect emerges and persists, shedding light on the cultural and epistemic logics and political-economic contexts that shape the practice of global health science—and thus the scientific knowledge that informs policymaking.

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