INTRODUCTION

Ebola

In early december 2013, a two-year-old boy named Emile Ouomuono became very ill. He had a fever and black stools and was vomiting. Emile lived in the village of Meliandou in southeast Guinea, a few miles from the country's borders with Liberia and Sierra Leone. Four days after developing these symptoms, he died. Emile was buried in his village. Soon afterward, on December 13, his mother developed similar symptoms and also died. The boy's three-year-old sister died with the same symptoms on December 29. His grandmother, in whose house Emile had stayed when he became ill, also developed symptoms of the disease. She sought the help of a male nurse who lived in the town of Guéckédou, a bustling trading hub where people converged from Liberia and Sierra Leone. The nurse tried to offer assistance but possessed neither the knowledge nor the medical supplies needed to treat her. The grandmother returned to Meliandou, where she died on January 1. In early February, the nurse who had treated Emile's grandmother also developed a fever. When the nurse's condition deteriorated, he sought help from a doctor in Macenta, in the next prefecture. The nurse stayed just one night in Macenta—sleeping in the doctor's house—and died the next day. The doctor died several days later.[1]

Whatever was killing the residents of this remote part of Guinea was on the move. But word of the outbreak did not reach health officials in Conakry until January 24, when a doctor in the town of Tekolo called a superior to report that something strange was happening in a village under his jurisdiction. It took another six weeks before a team of physicians from the humanitarian relief organization Médecins Sans Frontières (Doctors Without Borders) was able to reach Guéckédou and collect samples, which were subsequently tested in a laboratory in Lyon, France. On March 20, the lab

identified the condition as Ebola. By then the disease had reached Conakry and was spreading farther, into Liberia and Sierra Leone. On March 25, the US Centers for Disease Control and Prevention (CDC) confirmed that an outbreak of Ebola fever was occurring in Liberia, Guinea, and Sierra Leone.[2]

The disease continued to spread. By December 2014, there were 12,000 laboratory-confirmed cases in the three affected countries, and additional cases had occurred in Mali, Senegal, and Nigeria. More than 7,000 people had died from the disease. The outbreak was the largest since the disease first appeared in Zaire in the 1970s, and it evoked a massive emergency response from global-health organizations trying desperately to contain the outbreak before it spread across the globe.

Ebola is a terrifying disease. In its most overt form it produces horrific symptoms that include high fever, vomiting, diarrhea, and massive hemorrhaging. The majority of infected people, if not properly treated, die from the disease within days of developing symptoms. Yet Ebola often presents itself with less clear symptoms, which makes it difficult to distinguish from other diseases, including malaria and cholera. Without a laboratory test, it is impossible to make a definitive diagnosis.

Ebola does not spread easily. A person infected with the virus can remain symptomless for 10–21 days. During this time, he or she is not infectious to others. The disease only spreads through direct contact with an infected person's bodily fluids once symptoms have begun to appear. But because Ebola is a severely debilitating disease, which kills quickly, a person who develops symptoms normally has limited opportunities to infect others. Despite these constraints, Ebola spread rapidly from Guinea to neighboring countries. Why?

The answer to this question is complicated, involving a number of converging factors. At the beginning of the epidemic, much of the media's and public-health groups' attention focused on the local customs and behaviors of the population affected by the epidemic. We were told about the local consumption of "bushmeat," which may have infected the first person who contracted the disease; local aversion to using Western medical services; and burial practices that brought family and friends into close contact with diseased bodies. All of these behaviors occurred and no doubt played a role in the epidemic. But they were not why Ebola burned rapidly through these three countries. Moreover, focusing on these behaviors deflected attention from other, more fundamental causes of the epidemic and represented examples of cultural modeling and victim blaming, which have been part of how those living in the global north have often made sense of the health problems of those living in the global south.[3]

The epidemic was also fueled by the poverty both of those it affected and of the countries in which it occurred. The forest area in southeastern Guinea, where the epidemic first appeared, was one of the poorest in the world. There was no industry or electricity, and roads were nearly impassable at certain times of year. Families existed on a combination of agriculture, foraging, and hunting in the forest. Average annual earnings were less than US$1 a day, and 45 percent of the children suffered chronic malnutrition. Local resources were further depleted by the influx of thousands of refugees from the civil wars that wracked Liberia and Sierra Leone. The recent expansion of agribusiness and mining had contributed to deforestation and forced residents to forage and hunt deeper in the forest, which may have increased their exposure to the animal-borne viruses. Finally, the need for local residents to seek economic opportunities outside of this impoverished forest zone produced patterns of labor migration that contributed to the spread of the epidemic.

But the most immediate cause for the rapid spread of Ebola was the absence of functioning health systems. Ebola was able to go undiagnosed for three months and to spread rapidly throughout the region because the three countries in which it initially occurred lacked basic health-care services. The medical workers who first encountered the disease possessed neither the supplies nor, in some instances, the medical knowledge needed to manage Ebola cases. There is no cure for Ebola, but basic palliative care—including, most importantly, intravenous fluids for rehydrating patients—can dramatically reduce mortality; 90 percent of the patients who were transported to hospitals in Europe and the United States survived. Clinics and even hospitals in the three countries most affected by Ebola lacked these basic medical supplies. Health workers were also unprepared to control the spread of infection, lacking a basic infrastructure and the necessary protective equipment. Patients were not isolated, and health workers took few precautions to protect themselves from being infected.

Not surprisingly, health workers were among the first to contract the disease and die from it, further weakening already-stretched health systems and contributing to the spread of the disease.[4] Moreover, some health workers, especially those who had not been paid for weeks, abandoned their posts for fear of dying from the disease. As Ebola spread, clinics and hospitals became places where people with the disease went to die. The association of Ebola deaths with health services caused family caregivers to avoid these services and treat their loved ones at home. This decision contributed to the spread of the disease among family caretakers. Health services, far from containing the outbreak, often amplified it.

The epidemic spread as well because the health services that existed were not integrated into the communities they served. The early spread of the disease was linked to local burial practices. Burial activities, like burial practices everywhere, are deeply imbedded in local cultural systems. But health workers might have intervened in ways that would have limited the spread of infection from the diseased bodies of Ebola victims to mourning relatives, had the health workers been viewed as part of the community. Only after the epidemic was well under way were local efforts made to work with communities and modify their burial practices.

In addition to lacking fully prepared health services, Guinea, Liberia, and Sierra Leone did not have laboratory services to test for Ebola or epidemiological services to keep track of infected persons. The absence of a network of laboratories that could have tested for Ebola, and the difficulties of conveying samples to distant medical centers, delayed both recognition of what was killing people and efforts to mount an effective response to the disease. Lack of knowledge of the nature and seriousness of the epidemic also meant that people who were infected with Ebola but had not yet developed symptoms were able to travel to neighboring regions and, eventually, to large metropolitan areas like Conakry and Monrovia, where they succumbed to the disease, becoming foci for its farther spread. Only after it was recognized that the region faced an epidemic of Ebola were efforts begun to track patient contacts and contain the spread of the disease.

The CDC summarized the state of health service unpreparedness in Liberia in October 2014:

> Ebola emergency preparedness plans at the county and hospital level were lacking. . . . In all counties, there was insufficient personal protective equipment to care for patients with Ebola. Health care providers had not received training on the donning and removal of personal protective equipment. No training on case investigation, case management, contact tracing, or safe burial practices had been provided at either the county or hospital level. No Ebola surveillance systems were in place.[5]

As Anthony Fauci of the National Institutes of Health noted in December 2014, "if the West African countries stricken by the current Ebola outbreak had a reasonable health-care infrastructure, the outbreak would not have gotten out of control."[6]

The health systems in the rural areas of Guinea, Liberia, and Sierra Leone were among the weakest in the world. Thousands of children died every year from malaria and respiratory and diarrheal diseases, due to a lack of available medical care. The three countries also had some of the

highest infant mortality rates in the world. Yet their medical systems shared characteristics with rural health services in many countries in Africa and other parts of the global south in terms of their lack of trained medical personnel, supplies, and infrastructure. In India, for example, 66 percent of the rural population do not have access to preventive medicines and 33 percent have to travel over 30 kilometers to get needed medical treatments. Also, 3660 of that country's primary health centers lack either an operating theater or a lab, or both. The poor condition of state-run health services has led 80 percent of the patients to seek care from private-sector health providers. In the rural areas, however, medically trained physicians provide few of these private services.[7] A survey in rural Madhya Pradesh found that 67 percent of health-care providers had no medical qualifications at all.[8] The poor quality of rural health services has contributed to major health disparities between urban health and rural health. The infant mortality, neonatal mortality, and prenatal mortality rates in India's rural areas are nearly double those in urban areas.[9] In many places, urban health services, while possessing more facilities, are also plagued by limitations in supplies, infrastructure, and medical personnel.

The Ebola epidemic that occurred in West Africa in 2014 and 2015 was a symptom of a larger, global health-care crisis. At the best of times in many countries in Africa, Asia, and Latin America, clinical coverage is inadequate, forcing patients to travel long distances for treatment. Once they get to medical facilities, they find drug shortages or outages of basic medicines to treat common health problems. Basic equipment, such as disposable gloves and syringes, rehydration fluids, and bandages, is unavailable. Patients or their family caretakers are required to purchase what is needed outside the hospital. Staff are underpaid or not paid for months on end, encouraging them to set up parallel private services on the side instead of attending to public-sector patients. The ties between local health services and the communities they serve are often tenuous, at best. It is not surprising that local populations have little faith in these services. Health systems also lack the surveillance capabilities, including testing laboratories, necessary to track and report emerging epidemics in a timely manner. In short, health services in many parts of the world lack what Partners In Health cofounder Paul Farmer refers to as the four *S*'s: "Staff, Stuff, Space, and Systems."[10]

These conditions tend to be viewed by those in the global north as just the natural state of affairs in so-called underdeveloped parts of the world: "It's Africa or India, after all. What do you expect?" Yet these conditions have a history. They are the product of the unwillingness or inability of governments to fund health services, particularly in rural areas. Health systems

have also been weakened by civil wars, such as those that occurred in Sierra Leone and Liberia before the Ebola outbreak, that continue to disrupt large areas of the globe. But they are also the product of a long history of neglect on the part of multinational and bilateral aid donors, including the United States. It needs to be pointed out that over the 10 years preceding the Ebola epidemic, Liberia, Guinea, and Sierra Leone received nearly US$1 billion—directed toward improving health conditions—from the President's Emergency Plan for AIDS Relief; the President's Malaria Initiative; the World Bank; and the Global Fund to Fight AIDS, Tuberculosis and Malaria. Yet very little of this aid was directed toward training health workers or building a health-care infrastructure.

Little attention has been given, as well, to the underlying determinants of ill health. Many rural regions may have access to clinics but lack basic sanitation or a clean water supply. Sewage, contaminated water, overcrowded housing, and unhealthy diets also haunt the populations of many low-income countries. These conditions continue to undermine the health of millions of people across the globe.

Investments in efforts to improve the health of peoples living in resource-poor countries (what we now call global health) by governments and organizations situated in the global north have focused primarily on the application of biomedical technologies—vaccines, antiretroviral drugs, insecticide-treated bed nets, vitamin A capsules—to eliminate specific health problems through vertically organized programs. Yet these programs are only loosely connected to the recipients' national health systems, which struggle to provide even the most basic forms of care.

Today, global health is a multibillion-dollar enterprise. It is driven by growing recognition of the interconnectedness of the world's populations; fears that deadly diseases like Ebola or avian flu can rapidly spread around the globe; the threat of bioterrorism; humanitarian concerns for the well-being of the world's poor; a desire to reduce global inequalities in health; efforts to promote economic development; and the political and economic interests of donor countries. It is funded by large multinational organizations, such as the World Bank, UNICEF, the World Health Organization, and the Global Fund to Fight AIDS, Tuberculosis and Malaria. It is also supported by bilateral organizations, including the United States' Agency for International Development, Britain's Department for International Development, and China's Department of Foreign Aid. Public/private partnerships, such as the Global Alliance for Vaccines and Immunizations, and private philanthropies, including the Bill & Melinda Gates Foundation, also fund global-health efforts.

These organizations employ an army of researchers, program developers, physicians, project officers, health educators, project evaluators, and health workers, scattered across the world. They also support a vast development industry, including thousands of nongovernmental organizations (NGOs) and development contractors, as well as pharmaceutical and chemical corporations that produce the biomedical technologies that have become the cornerstone of global-health interventions.

These organizations also support schools of public health that train students who will join the ranks of global-health workers and have faculty whose research depends on global-health funding. Global health has become a major focus of higher education. Across the United States and in many European countries, thousands of students take courses in global health every year and sign up to work in short-term health projects in Africa, Asia, and Latin America. Medical students, in particular, view short-term residencies in low-income countries as a kind of necessary rite of passage. These students, many of whom have been inspired by the work of Paul Farmer and Doctors Without Borders, hope to make a difference in the lives of others.

At its core, global health is about efforts to improve the health of peoples living in countries that used to be called underdeveloped, or Third World, and are now known as low-income countries. These efforts are not new. They have a history that stretches back to the early twentieth century. The current scale and complexity of global-health assistance is unprecedented, but the central motivations, organizing principles, and modes of operation that characterize it are not. It is the history of these efforts—what used to be called technical assistance or development assistance (under the banner of international health or world health) and, before that, tropical medicine or colonial medicine—that I explore in this book. The volume is an effort to explain why, despite the investment of billions of dollars in programs aimed at improving global health, basic health services, public-health infrastructure, and the underlying social and economic determinants of ill health have received so little attention.

I first became aware of the limits of international-health interventions while serving as a Peace Corps volunteer in a trachoma-eradication campaign in eastern Uganda in the late 1960s. The campaign, which I described briefly in an earlier book,[11] was well intentioned but poorly designed and implemented. It was sponsored by the Uganda Foundation for the Blind, a local nongovernmental organization that had no direct connection to the Ugandan Ministry of Health. It was, like many global-health programs today, a freestanding vertical program. It was staffed by teams of recent

college graduates who had no formal public-health or medical training. There were no provisions for training Ugandans to work on the project or take it over after we left. The treatment required patients to attend our clinic once a week for 12 weeks. This was a challenge for many of those who lived miles from the clinic. In addition, the campaign was limited to one district, which was surrounded by other districts where the disease existed but in which there were no trachoma-control programs. It thus ignored the fact that people frequently moved back and forth between districts. Our patients would disappear for weeks at a time, interrupting their treatment. Overall, the program's dropout rate was high. Finally, many of the people in the district lacked the economic resources needed to practice the basic sanitary measures that could prevent infection. It was little wonder that, after two years of work, the estimated prevalence of trachoma in the district had actually risen slightly.

This experience shaped my thinking about global health and influenced the course I have taught since 1992 on the History of International Health and Development.[12] A central argument of the course and this book is that there have been remarkable continuities in how health interventions have been conceived and implemented over the past century. Many of the problems I experienced in Uganda have a history that stretches back to the early twentieth century and still persists today. These trends have worked against the development of effective basic-health systems and efforts to address the social determinants of health:

1. Health interventions have been largely developed outside the countries where the health problems exist, with few attempts to seriously incorporate local perspectives or community participation in the planning process. During the first half of the twentieth century, this planning occurred primarily in the metropolitan capitols of European and American colonial powers. After World War II, new centers of international-health planning and governance emerged in Geneva, Atlanta, and New York City, and at conference centers in Bellagio, Italy; Talloires, France; and Alma-Ata, in the former Soviet Union.
2. Health planning has privileged approaches based on the application of biomedical technologies that prevent or eliminate health problems one at a time.
3. Little attention has been given to supporting the development of basic health services.

4. The planning of health interventions has often occurred in a crisis environment, in which there was an imperative to act fast. This mindset has privileged interventions that are simple, easy to implement, and have the potential to quickly make a significant impact. On the other hand, it has discouraged longer-term interventions aimed at building health infrastructure, training personnel, and addressing the underlying determinants of ill health.
5. Global-health interventions have been empowered by faith in the superiority of Western medical knowledge and technology and a devaluing of the knowledge and abilities of the local populations.
6. Health has been linked to social and economic development, but this connection has focused primarily on how improvements in health can stimulate economic development, while ignoring the impact that social and economic developments have on health. What we now call the social determinants of health have received little attention.

There have been moments when these continuities have broken down, when alternative formulations and approaches to health have been proposed and, to some degree, implemented. Most importantly, the late 1920s and 1930s saw a growing interest in understanding and addressing the social and economic causes of ill health and in developing more-comprehensive approaches to health and health care. A second shift occurred in late 1970s, with the movement to promote "health for all" and primary health care. Yet each time, these movements toward more-comprehensive approaches to health failed to gain widespread support, and the world of global health returned to interventions that reflected the six trends described above. By placing the history of global-health strategies within a broader political and economic history of international development, this book attempts to explain why these continuities have persisted and why they have occasionally broken down, only to reemerge again. By doing so, I hope to provide an historical context for understanding the current global health-care crisis.

The book is based in part on earlier research I have conducted on various aspects of the history of international, or global, health and disease, yet it is largely synthetic, drawing on a wide array of published works in a number of disciplines. The recent outpouring of studies examining the history of international, or global, health has been impressive. Hundreds of books and articles have been published over the past two decades. Many of these studies have attempted to complicate earlier histories of major public-health institutions, such as the Rockefeller Foundation's International Health

Division, the League of Nations Health Organization, and the World Health Organization. They have explored the histories of a wider array of institutions involved in international-health activities; focused on the important role played by national, regional, and local actors in implementing health programs and shaping health strategies; drawn attention to the varieties of ways in which health interventions have impacted local societies; revealed greater levels of variation in how international health institutions operated in different settings; and reexamined earlier assumptions about the motivations, modes of operation, and impact of major health initiatives, such as the global smallpox-eradication campaign of the 1960s and 1970s. A great deal of recent attention has also been paid to the growing role of biomedical research in shaping health interventions.[13]

The production of historical and anthropological studies will continue apace. I have chosen this moment, however—when the limits of efforts to improve the health of peoples living in the global south have been so clearly revealed—to survey the changed landscape of global-health history and construct a historical narrative that links many of the studies that have been produced over the last two decades. I hope this overview will provide those interested in global health, be they policy makers, researchers, program managers, students, or fellow historians, with a better sense of why the field looks the way it does, while also suggesting alternatives to this vision. A number of the interventions described in this book are familiar to those engaged in global health. Yet the longer histories of these interventions and the complex sets of events that have shaped them often are not. By offering a more comprehensive historical narrative, this book will, I hope, encourage those in global health to think more critically about their field.

I recognize from the start that such a broadly synthetic history cannot be comprehensive. Space constraints have required me to choose which themes and examples to include and which to leave out. Not everyone will agree with these choices. For example, global health today encompasses much more than the kind of north–south interventions that I focus on here. There are other players involved in designing and implementing health interventions and clear examples of south–south and even south–north assistance. In addition, global health has come to include domestic health problems within donor countries, localized efforts to improve health within former and current recipient countries, and a much wider range of activities than was part of earlier conceptions of international, or world, health. These are not part of my story.

More importantly, global health is not just about the interventions of bilateral and international organizations. It is about the lives of people in

countries across the globe and how they have been touched in one way or another by the efforts of strangers to improve their health. It is also about the roles that local public-health workers and laypeople have played in shaping these interventions and working to improve their own health. The stories of these individuals and their experiences, while occasionally highlighted here, regrettably play a smaller roll in this story than I would have liked. This is largely because there has been much less ground-level scholarship on the history of global health. Recent studies by anthropologists and a few historians have begun to explore these experiences, but a great deal more work needs to be done to recapture them.

Also largely missing from this story are women. It will become immediately apparent that this is a history that is dominated by men. This does not mean that women were not involved in global-health interventions. Women have always played a central role in health care and were a part of many international-health activities. Yet women hardly appear in the histories of public-health programs organized by international or bilateral organizations. With few exceptions, some of which are described in the following chapters, it was not until the 1970s, in the context of family-planning activities, that women began to take on larger leadership roles and not until the 1990s that they became prominent in global-health organizations. The photographs from international-health meetings prior to the 1990s contained few women. As late as 1984, a photograph of participants at the Bellagio children's vaccine meeting contained the images of only two women among the 33 conference participants. Clearly, the role of women in the early history of international health needs more attention.

These are important elements of the history of global health, yet at its core, this history remains predominantly about flows of goods, services, and strategies along well-trod, north–south pathways. This book hopes to provide a clearer understanding of global health in the early twenty-first century by exploring these historical paths. Why have particular ones been chosen while others have been, if not avoided, only occasionally explored? Why have certain sets of ideas, policies, and practices come to dominate global-health interventions at particular points in time? Why have other ideas, policies, and practices had less success in achieving and maintaining purchase? If we can answer these questions, we can begin to understand why people continue to die from preventable diseases and why epidemics like Ebola are able to find fertile ground to expand out to the world.

Finally, while I argue that health interventions have failed to address the basic health needs of people living in many parts of Africa, Asia, and Latin America over the course of the previous century, this book should not be

read as an attack on the work that has been carried out by thousands of men and women who have dedicated their lives to improving the health of the world's populations. I may question the choices made in the past, and the political and economic interests that drove them, but I recognize that the selected paths often resulted in improvements in health. Deciding which avenues to follow is never simple. Arguments can be made for moving in different directions. On what basis does one choose between improving health by building sustainable systems of primary health care, or saving lives by distributing insecticide-treated bed nets or vitamin A capsules? In the end, the choices that were made were often shaped by complex sets of historical circumstances. We need to understand these forces and how they have defined and limited global-health interventions. We also need to acknowledge the limitations and consequences of the choices that have been made. It may be time to explore new pathways or, as Paul Farmer and his colleagues have recently suggested, to "reimagine global health."[14] It is my hope that this book will help us do this.