INTRODUCING GLOBAL HEALTH

Practice, Policy, and Solutions

PETER MUENNIG • CELINA SU

Introducing Global Health

Introducing Global Health

Practice, Policy, and Solutions

Peter Muennig
Celina Su

JOSSEY-BASS™
A Wiley Brand

Cover design by: Michael Rutkowski
Cover images: © Kamran Khan

Published by Jossey-Bass
A Wiley Brand
One Montgomery Street, Suite 1200, San Francisco, CA 94104-4594—www.josseybass.com

Library of Congress Cataloging-in-Publication Data

Muennig, Peter, author.
Introducing global health : practice, policy, and solutions / Peter Muennig, Celina Su. –First edition.
p. ; cm.
Includes bibliographical references and index.
ISBN 978-0-470-53328-4 (pbk.); ISBN 978-1-118-22041-2 (ebk.); ISBN 978-1-118-23399-3 (ebk.)
I. Su, Celina, author. II. Title.
[DNLM: 1. World Health. 2. Health Policy. WA 530.1]
RA418
362.1–dc23

2013012274

Printed in the United States of America
FIRST EDITION
PB Printing 10 9 8 7 6 5 4 3 2 1

Contents

Figures and Tables

FIGURES

TABLES

The Authors

Peter Muennig is an associate professor at Columbia University's Mailman School of Public Health, where he teaches global health policy, comparative health systems, and health disparities to graduate students in public health. He has consulted for numerous foreign governments and has run a nongovernmental organization, the Burmese Refugee Project (which he cofounded while still a student), for twelve years. He has published more than sixty peer-reviewed articles, two books, and many chapters and government reports. He or his work has appeared in many media outlets, including the *New York Times*, the *Washington Post*, *Slate*, the *Wall Street Journal*, NPR, and CNN.

Celina Su is an associate professor of political science at the City University of New York. Her research concerns civil society, political participation, and social policy, especially health and education. Her publications include *Streetwise for Book Smarts: Grassroots Organizing and Education Reform in the Bronx* (Cornell University Press, 2009) and *Our Schools Suck: Young People Talk Back to a Segregated Nation on the Failures of Urban Education* (coauthored, New York University Press, 2009). Her honors include the Berlin Prize and the Whiting Award for Excellence in Teaching. Su was cofounding executive director of the Burmese Refugee Project from 2001 to 2013. She earned her PhD from the Massachusetts Institute of Technology.

Introduction: An Overview of Global Health

Before we can begin to think about global health, we must understand how institutions work. One example of an institution is a bank. Most of us deposit our money in banks because we are confident that we can retrieve our money whenever we want—that is, that the money will still be there and accessible to us, plus interest and minus fees. Banking is an *institution,* just as banks themselves are institutions. One way of thinking about an institution is that it constitutes the habits, cooperation, and behavior of large numbers of people. It is something that we as humans, within a given culture, collectively believe in. It is real and trustworthy because everyone believes it to be. When customers lose confidence in an institution, it collapses. This is because institutions must exist in our minds for them to exist in the real world. Just think of all the banks that went under worldwide during the Great Depression. When the banks' ability to securely hold deposits became precarious, thousands of average citizens participated in bank runs and attempted to withdraw their funds from banks and place their cash under their mattresses instead.

This, in turn, exacerbated the banks' already fragile accounting books and reserves. Many of the banking laws the United States has today stemmed from lessons learned from institutional failures in the Great Depression. The government stepped in to reinforce our collective belief in US banks and other financial institutions, or—at a bare minimum—in the existence of the currency we deposit there. If we deposit US$10,000 and the bank goes out of business, the government promises to pay that money back to us. It will do so even though this money is held only as zeros and ones on some accounting database somewhere and not in any tangible form, such as gold or even paper currency. The trust that we have in the institution, therefore, extends to a trust that we have in our nation's government.

As long as (almost) everyone in your society has agreed that a US$1 bill is worth $1 and a $100 bill is worth $100, the money has value even though each bill is nothing more than a piece of paper and ink with an actual worth of just pennies. Under this system, you can contribute a portion of your life to performing a task in a factory or office and be confident that the money

you receive in return for your labors will always buy you a known quantity of avocados.

During times of financial stress, investors go to the currency that most people believe in most firmly. This way, despite the fact of the Great Recession that began in the United States in 2007, global investors bought US dollars. This sent the value of the dollar soaring relative to that of other currencies. Investors bought dollars precisely because the US dollar is widely recognized as the most reliable of the global currencies—at the time that we went to press, at least.

Institutions vary by geographical and historical context. Slavery was an accepted social institution in ancient Greece and Egypt. It was the rare leader who thought that people should not be owned by others. Now, slave-holding is rare. (The absolute number of slaves held is larger than at any point in history, but as a proportion of all inhabitants on earth, it is quite small [Bales, 2004].) Arranged marriage is a social institution in some places but not in others. Thus, institutions can be social or cultural in nature. They do not have to be inscribed into law or have official governmental agencies or buildings representing them.

Institutions—even ones that, at first glance, have little to do with an individual's health, such as banking or marriage—are important in global health in several key ways. First, much of what shapes population health around the world lies outside of the official medical and health care systems. As one example, traffic accidents are a leading cause of death globally, and whether we obey traffic light signals or drive into oncoming traffic is determined by institutions within each country. Another example might be whether we wash our hands after using the bathroom or a surgeon washes her hands before a surgery. Second, many areas around the world currently do not have rules and regulations that explicitly promote healthy institutions (such as ensuring affordable access to safe drinking water) and prohibit unhealthy ones (such as tobacco advertisements aimed at children). This is partly because some institutions that are considered "normal" in some settings—such as access to family planning, including condoms and safe early-term abortions—are quite contentious in others. Third, even if governments attempt to develop helpful public policies and programs, they may not be successful because corruption is often endemic in governmental agencies.

This last point is important for global health. Many institutions in many low-income countries—banks, currencies, or even rules of conduct, such as everyone driving in the same direction on an agreed-on side of the road—are weak. In fact, it might be argued that such nations have a low income and low life expectancy *precisely because these institutions are weak.* When the trust in institutions breaks down, it becomes difficult to build social infrastructure, such as roads and schools. That is, the banks can be too weak to lend

money for such projects. If the money is acquired, institutionalized corruption may make it impossible to successfully pay for such programs. At every step of development, what we believe to be acceptable behaviors matters.

In extreme cases, when trust disappears, it becomes difficult to perform basic, everyday activities, such as buying basic goods by any means other than bartering or using some other nation's currency. At the time of this writing, the cost of a medical examination in most clinics in Zimbabwe was listed in terms of units of grain or livestock. This is because people had lost all faith in the value of their currency.

These institutions sometimes break down when individual self-interest overrides collective interest—this is sometimes known as the "tragedy of the commons." Those who take bribes in exchange for a road project break down the notion of trust that we hold in the overall institution.

In nations with weak institutions, it becomes not only almost impossible to run government programs but also to deliver aid. Thus, the real challenge of global health is to figure out how to make institutions work to get global agencies and individual countries functioning to improve health.

This is partly challenging because the needs of one region are so very different from those of another. In some areas, the average person can expect to live only thirty to forty years because there is no clean water to drink, and the soil is contaminated with feces because there are no toilets. This, in turn, leads to high rates of mortality, especially among children, because of diarrhea. At this level of health development, small sums of money can go a long way because the leading health problems—lack of clean water and sanitation—are so basic and cheap to fix. But this is precisely also the context in which institutions are often weakest. In fact, these problems still exist precisely because it is so difficult to get anything done.

In a wealthy country such as the United States, however, problems such as poor access to medical care, reliance on the automobile for transit, poverty, and weak pollution controls form the major institutional challenges. Nations solve these problems in different ways. For instance, the United Kingdom has a centralized, socialized medical system. Switzerland, however, relies on highly regulated private health insurance to get the job done. In both cases, these nations are successful because their institutions work well—there is logic to how their systems run, in a way that seems to reflect many of their respective peoples' overall wishes and reasoning.

This textbook focuses on institutions and the policies that might help government to develop them if they do not exist and to reform them if they are not running well. It covers most of the pressing global health problems from this angle. This way, the student not only will learn about the leading health concerns but also will get a sense of some of the ways that these problems might be fixed at the international, national, and local levels. As such

we emphasize policies that either shape or bypass existing institutions. At a minimum, we point out the difficulties in doing so (as in our discussion of international aid in chapter 3).

At a very local level, if we wish to build latrines in a poor village, for example, we attempt to get buy-in, that is, we attempt to get the people in the village to believe in the idea of latrines. At a global level, the challenge is to build institutions that a much wider range of people (or at least their political representatives) view as legitimate and worthy of respect. Neither the World Health Organization (WHO) nor its parent, the United Nations (UN), has always instilled a great amount of trust among those who are aware of their existence.

Building stronger institutions at the global level, though, is not a straightforward process. This is difficult when the UN has few regulatory powers to punish nation-states and agencies that flout its rules and recommendations. Then, for every recommendation that the UN or the WHO writes but is subsequently ignored, the institution becomes weaker, provoking a vicious cycle. The institutions fail because people believe they are ineffective, and people believe they are ineffective when they fail. Organizations work best when local branches are built around a central list of priorities and each arm is staffed with an outstanding manager who is accountable for his or her department's performance and who can operate with relative independence and agency.

Of course, getting everyone to collectively believe in a solution—to institutionalize a solution—is very challenging. Moreover, "solutions" can backfire. These unintended consequences of our policies frequently arise when we fail to fully consider the systems that gave rise to the problem in the first place. Our world is a world of paradoxes. Building a healthier world requires at best an understanding that these paradoxes are possible and concurrently and systematically thinking about public health at the individual, social, local, regional, national, and global levels.

WHY A PUBLIC HEALTH PERSPECTIVE?

The place you live is the single most important determinant of how healthy you will be and how long you will live. Imagine that you are a fetus nestled comfortably in your mother's womb. If you are borne in rural eastern parts of the Democratic People's Republic of the Congo (DPRC), the chances of you or your mother dying during your birth or shortly thereafter can be as high as 50 percent (WHO, 2012). Bleeding, infection, or other labor complications are easily managed by a health worker with just a few months of training, but chances are that your mother was never able to get these services (Kruk, Galea, Prescott, & Freedman, 2007). If you make it out of the womb, your chances of seeing your fifth birthday are also low, with about a 20 percent chance of

death in many areas (WHO, 2012). The lack of basic sanitation or clean water means that you are almost certainly likely to be exposed to bacteria and parasites that cause diarrhea and intestinal bleeding. Poor mosquito control means that you are also likely to contract malaria. You mother probably does not make much in a day, and lacking access to basics such as fertilizers and seeds, local farmers are unlikely to produce food at a cost that your mother can afford. Weak from poor nutrition, you immune system probably cannot fight off all these infectious diseases.

Now imagine that you were born in Malmo, Sweden. Your mother not only has free access to high-quality medical care at birth, but she also started receiving care as soon as she discovered that she was pregnant, including free essential vitamins, such as folate. After a carefully monitored birth in a cutting-edge hospital, you are discharged into a comfortable home. Even if your mother is single and unemployed, the government ensures that she has access to high-quality housing, health care, and nutrition. There are no infectious agents in the water, no mosquitoes infected with malaria, and no West Nile virus. Your chances of making it to your seventieth birthday are greater than your chances of making it to age five in the DPRC (CIA, 2012; Oeppen & Vaupel, 2002; WHO, 2012).

You might see this Congo-born you as having low chances of survival because there is lousy medical care and bad economic circumstances. That is true. But where do the bad economy and lousy health system come from? Health systems cannot be repaired unless political institutions are repaired as well.

THE GLOBAL HEALTH LANDSCAPE

Water, water, everywhere,
Nor any drop to drink.

—Samuel Taylor Coleridge, "The Rime of the Ancient Mariner"

With global climate change and the human destruction of natural protective barriers, such as mangrove forests, many of the world's coastal regions are now exposed to cyclical flooding. This, in turn, leads to destruction of homes and livelihoods. Many of these areas will one day be permanently under water because global warming exacerbates the destruction already done by human habitation (Bush et al., 2011).

The Polynesian island nation of Tuvalu, for example, is only 4.5 meters above sea level, and it will be uninhabitable by 2050 (Connell, 2003). It is one of twenty-two Pacific island nations. Together, these nations contain seven million inhabitants that, altogether, contribute 0.06 percent of global greenhouse gas emissions. But these nations will suffer a disproportionate blow

from the climate changes caused by their wealthy, industrialized neighbors, particularly China and the United States. On Tuvalu, the government is arranging to move the remaining ten thousand residents off the island. The residents will try to establish themselves and earn their living in countries such as New Zealand and Australia. They will disperse, and linguists expect the Tuvalu language to disappear within two or three generations (Farbotko, 2005; Hammond, 2009).

Even without forced migration and displacement, flooding greatly increases human exposure to infectious agents. Sanitation systems become useless as sewer water mixes with rising ocean waters. On a planet with an expanding population, *there is too much water.*

Perhaps an even bigger problem arises from the damming of rivers and water pollution from industry and human settlement, choking off vital international waterways. With irrigation and damming, many major rivers fail to reach the sea at all. Those that do are often contaminated with salt, lead, mercury, pesticides, trash, and sometimes with thick black toxic sludge that no one dares to test. Some inland seas and lakes, such as the Aral Sea, have become either too dry or too polluted to sustain life, let alone use as a source of drinking water (figure I.1.). This water shortage problem is only getting worse with climate change. *There is too little water* to sustain the rising human population.

Figure I.1. This river makes finding recyclables easy.

Source: Copyright © Jurnasyanto Sukarno/epa/Corbis.

Thus, the global water supply presents major public health challenges not only because there is massive flooding resulting from human activities, but also drought resulting from human activities. There is simultaneously too much water in some places and too little water in others.

Low-income nations are growing at a blinding pace, even as they are having trouble supporting the people that are already there with their already weak institutions. Rising populations lead to poverty, pollution, human waste, and overcrowded schools. Sub-Saharan Africa and India are growing at such a rapid pace that it seems that many regions cannot overcome the **poverty trap.** A poverty trap occurs when the conditions underlying poverty prevent poor people (or their children) from escaping poverty. In this case, they cannot eat, and without adequate nutrition they cannot fight off infectious diseases or learn in school. This combination of disease and undereducation makes it almost impossible for future generations of children to escape poverty, thus perpetuating the trap from one generation to the next. *There are too many people.*

At the same time, rich nations are in stark population decline. Japan's birthrate is so low that, by 2050, the country is projected to be half the size it was in 2004 and its social services will be straining under the load of one million people over the age of one hundred. If trends continue, most European nations, along with Chile, Singapore, South Korea, and China, will soon follow in Japan's footsteps. *There are too few people.*

Thus, there are no simple trends in public health. We do not simply have too much water or too little, too many people or too few. The fundamental questions in public health are complex and sometimes paradoxical. Most common health problems are local. Nevertheless, there is emphasis on the *global,* the buzzword of the early twenty-first century. This suggests that our policies are best directed transnationally.

Economic and public health projects fail time and again because global institutions tend to take one policy and apply it to all localities as one giant bandage. Many of the misadventures of global health agencies can be attributed to thinking globally rather than locally. For instance, the International Monetary Fund (IMF) and World Bank got together in the 1980s and contributed to the **"Washington Consensus,"** or the idea that rising debt in low-income countries can be addressed only by tough love. (This is a simplification of a very complicated and controversial topic. We will keep it at this simple level for now and expand later.) The Washington Consensus probably worked in some places, but in others it probably set the development agenda back a few decades.

The **structural adjustment programs** recommended by the IMF and World Bank (described in more detail in chapter 1) essentially led to the wholesale destruction of the middle class in sub-Saharan Africa. These "programs" required cuts to nations' social programs, such as health, education, and

transportation, along with other economic changes. As a result, sub-Saharan Africa has never really recovered. The WHO's recommended tuberculosis treatment program did not take into account local patterns of drug resistance (Khan, Muennig, Behta, & Zivin, 2002). People living in areas where the drugs simply did not work were treated so many times they sometimes died from the treatment rather than the disease (Farmer, 2004).

Although there is no such thing as a one-size-fits-all solution to economic, health, or education policies, global public health *does* exist. Pollution, infectious disease, people, and products all cross borders. These problems exist because countries with weak pollution controls and cheap labor tend to be more attractive for business investors. Global environmental regulations would go a long way toward solving problems like these.

A more nuanced vision of health is needed to solve "global" problems. Poverty might be viewed as a global phenomenon, but if so, it is certainly very different in Germany than it is in Sierra Leone. Despite a proliferation of doctors, journalists, and even clowns "without borders," borders most definitely exist, with very real consequences to the lives of those who live within them. Habits, laws, social networks, means of grievance, economic stability, and stratification and mobility by class, race, space, caste, and language—institutions—vary profoundly from one place to the next. So, why would a one-sized formula for development or public health fit all?

If *global* is such a misused word, why is it in the title of this book? Ultimately, policy responses to most local public health problems are shaped by and require global governance. And this brings us to the focus of this book. We ask, "How can we better understand global health problems and strengthen the institutions that fix these problems?" We do our best to teach students the status quo and then try to tear it apart. We ask whether the current set of buzzwords and policies are really going to address the problems that they set out to fix. By dissecting these problems as critically as possible, we hope that the student can come to a better understanding of the issues altering the world's health and well-being.

ABOUT THE BOOK

The remainder of the book is organized as follows. Part 1, which consists of chapters 1 and 2, focuses on the foundational basics of global health. In chapter 1, we give a brief history of major historical forces, such as industrialization and urbanization, that helped to shape the major epidemiologic trends and public health challenges we face today. Because population health outcomes are integrally tied to economic and human development overall, and because they increasingly cross national borders, we emphasize the ways in

which intergovernmental institutions and international actors have struggled to implement policies that are coordinated and appropriately contextualized.

In chapter 2, we introduce China, Chile, and a state in India called Kerala as case studies. We use these case studies to explore how different types or sets of social and economic investments influence health and why. We chose these case studies because they represent different types of governance (democratic and nondemocratic) and different types of social investments (social investments versus free market). Kerala has generally been democratic in governance but has elected communists to power for long stints punctuated by more market-leaning officials. Chile has experienced periods of heavy social investment and periods of heavy social divestment. We revisit these three political economies again in chapter 7.

For instance, some nations that make effective investments in basic education might gain more in longevity than nations that invest in universal medical care. Although medical care treats disease after it has already struck, basic education provides a survival toolkit. In Darwinian terms, education can be used to optimize one's environmental niche for survival over the course of an entire life. This way, in some cases, education can prevent disease before it has a chance to strike.

Part 2, "Global Health and the Art of Policy Making," will help students to identify the major policies shaping global health and will critically investigate how these policies might be improved or better implemented. Chapter 3 presents the predominating diseases in different development contexts. Chapter 4 looks at the aid that is delivered to address this burden of disease. Chapter 5 explores health delivery systems that are charged with using this aid to reduce the burden of disease, and chapters 6 and 8 investigate how effective global governance is at helping low-income nations stem disease and to prevent it from spreading between nations (first examining social policies and then the global governance institutions that implement these policies).

Finally, part 3 takes a look at some of the issues and cutting-edge solutions in global health today. Chapter 9 discusses poverty as the central node in a complex web of public health challenges, the ways in which poverty manifests differently in low- versus high-income countries, and what antipoverty programs should look like. Chapter 10 reviews some of the ways in which poor physical environments—especially lack of sanitation, air pollution, and outerring development and urbanization—lead to poor population health. Chapter 11 takes a look at how our social environments, especially social forces such as race and gender, shape patterns in health outcomes. Chapter 12 examines challenges in trade liberalization, especially nations' attempts to avoid the so-called resource curse, whereby countries with great natural resources surprisingly do worse in terms of economic, social, and human development. Chapter 13 focuses on cutting-edge solutions to addressing these problems.

These include changes in how we think about the cities we live in, innovative ways of incentivizing people to be healthier, and radical reshaping of our drug and immigration policies. As these chapters suggest, students studying global health need to analyze problems and potential solutions on many levels—individual, local, national, and international—at once. Chapter 13, our conclusion, attempts to articulate emerging trends and next steps in global health by presenting several prominent case studies of social policy interventions.

As a final word, we should note that instead of listing key concepts in sequential order, we try to revisit and discuss certain complex themes throughout the book. So, for example, we do not have a chapter on **epidemiology** (the study of health problems in populations). Such a chapter would be full of information on how to calculate disease rates and how to conduct public health studies. Instead, we mention the major bits of epidemiology that you will need to understand how to study global health as they arise in real-life situations or in the news. For example, when we discuss the politics of making policies, we talk about how to understand how policies are tested and improved. It is here that the relevant concept in epidemiology is briefly discussed, and always within the context of a real-world example. In social environments and health in chapter 13, for instance, we discuss how, from the standpoint of maximizing health, girls tend to benefit more from education than boys. This is because girls respond to education by having fewer children when they become women (partly because it may allow them to make better-informed decisions and to participate in the workforce). Many researchers believe that educated women also tend to pass their knowledge on to their children and thereby help increase their children's survival to a much greater extent than educated men. But in some nations, such as India, boys tend to be favored over girls. This is true not only when it comes to deciding which children go to school but also which children get fed when food is scarce. Because food is needed for education, girls lose out twice over. In fact, in India, China, and parts of the Middle East, there are many fewer girls than boys because some families abort female fetuses and some starve or otherwise neglect female children in order to better provide for males. This has led to massive gender imbalances, a phenomenon known as *missing women.* Although this has been a long-standing problem, it may have been made worse by the advent of low-cost ultrasound machines that allow for the quick determination of fetal sex and sex-selective abortions. This section builds on discussions on the root causes of health, governance structures, and disparities in outcomes from previous chapters.

Because of the pedagogical approach we use, readers who read this book front to back will benefit most. It also helps to read it completely through because, after introducing a concept, we try to revisit it, building on it in a fresh way. This allows the mind to naturally learn and absorb the material

without the need for notes. Although readers who skip around may occasionally encounter unfamiliar concepts, the good thing about our approach is that we redefine and reintroduce more-complex ideas as they arise and let less-complex ideas relax comfortably where they first appear.

One consideration that readers should keep in mind is that all works in the social sciences—be they works of journalism or academic articles—are influenced by the opinions of their authors. Researchers tend to focus on topics and concerns that they believe in or feel emotionally compelled by and—often unwittingly—interject their beliefs in a search for truth in numbers. Negative findings often go unpublished in the academic literature because editors do not see them as likely to promote their journals. Few fields are as rife for editorials presented as fact than global health. Authors of textbooks are no different. We attempt to bring you informed opinion that covers multiple sides of the issues we present.

ACKNOWLEDGMENTS

Elly Schofield, who worked hard to smooth and unify the text, and Jana Smith, who wrote most of the class exercises, were graduate students at Columbia University at the time of writing. Muhiuddin Haider, Marilyn Massey-Stokes, and Joyce Pulcini provided thoughtful and constructive comments on the complete draft manuscript. Javeria Hashmi and Amira Ahmed, then students at Brooklyn College, provided invaluable research assistance.

KEY TERMS

epidemiology *poverty trap* *structural adjustment programs* *Washington Consensus*

REFERENCES

Bales, K. (2004). *Disposable people: New slavery in the global economy*. Berkeley: University of California Press.

Bush, K. F., Luber, G., Kotha, S. R., Dhaliwal, R. S., Kapil, V., Pascual, M., et al. (2011). Impacts of climate change on public health in India: Future research directions. *Environmental Health Perspective*, *119*(6), 765–770. doi: 10.1289/ehp.1003000.

CIA. (2009). *Life expectancy at birth.* Available online at www.cia.gov/library/publications/the-world-factbook/rankorder/2102rank.html

Connell, J. (2003). Losing ground? Tuvalu, the greenhouse effect and the garbage can. *Asia Pacific Viewpoint*, *44*(2), 89–107.

Farbotko, C. (2005). Tuvalu and climate change: Constructions of environmental displacement in the *Sydney Morning Herald*. *Geografiska Annaler: Series B, Human Geography*, *87*(4), 279–293.

Farmer, P. (2004). *Pathologies of power: Health, human rights, and the new war on the poor*. Berkeley: University of California Press.

Hammond, R. (2009). *Tuvalu: Islands on the frontline of climate change*. London: Panos Pictures.

Khan, K., Muennig, P., Behta, M., & Zivin, J. G. (2002). Global drug-resistance patterns and the management of latent tuberculosis infection in immigrants to the United States. *New England Journal of Medicine*, *347*(23), 1850–1859.

Kruk, M. E., Galea, S., Prescott, M., & Freedman, L. P. (2007). Health care financing and utilization of maternal health services in developing countries. *Health Policy Plan*, *22*(5), 303–310. doi: 10.1093/heapol/czm027.

Oeppen, J., & Vaupel, J. W. (2002). Broken limits to life expectancy. *Science*, *296*(5570), 1029.

WHO. (2012). *World Health Organization health statistics: Mortality*. Available online at www.who.int/healthinfo/statistics/mortality/en/index.html

Introducing Global Health