

**GOING GLOBAL: HOW NORTH CAROLINA BECAME THE EPICENTER OF
GLOBAL HEALTH IN AMERICA**

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A thesis submitted to the faculty of the University of North Carolina at Chapel Hill in
partial fulfillment of the requirements for the degree of Masters in the School of
Journalism and Mass Communication

Chapel Hill

2012

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ABSTRACT

STEPHANIE SOUCHERAY-GRELL: Going Global: How North Carolina became the
epicenter of global health in America
(Directed by Tom Linden, Michele Rivkin-Fish and Chris Roush)

Once upon a time, thinking about disease in a global context was the purview of a few doctors who researched and documented the diseases of the tropics, colonies and Southern Hemisphere. Today, global health is an academic discipline that uses academic expertise in the humanities, social and natural sciences to explain health disparities both at home and abroad. This thesis looks at global health in North Carolina and shows how institutions, students and the local economy have embraced global health.

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ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
ART	Antiretroviral therapy; used for more than two decades to delay the onset of AIDS in patients infected with HIV
CDC	The Centers for Disease Control and Prevention, located in Atlanta, Georgia
CRO	Contract research organizations that provide outsourcing services to pharmaceutical and biomedical companies
HIV	Human immunodeficiency virus; the virus that causes AIDS
HPTN 052	Dr. Mike Cohen's trial that showed that prophylactic administration of ART prevented HIV in 96 percent of healthy people exposed to the virus\
IME	International medical experience
NGO	Non-governmental organization
NTD	Neglected tropical disease
PEPFAR	The President's Emergency Plan for AIDS Relief
RTP	Research Triangle Park
SARS	Severe Acute Respiratory Syndrome
UNC	The University of North Carolina at Chapel Hill
USAID	The United States Agency for International Development
WHO	The World Health Organization

CHAPTER 1

INTRODUCTION

In 2007, the University of North Carolina at Chapel Hill renamed its school of public health the Gillings School of Global Public Health, after Dennis and Joan Gillings gave \$50 million, the single largest donation in UNC's history. That same year, the school embarked on what former Chancellor James Moeser called the "internationalization" of health sciences at UNC, an interdisciplinary effort that saw the creation of the Institute for Global Health and Infectious Diseases and the opening of the FedEx Global Education Center. At the time William Roper, dean of the school of medicine and CEO of UNC Health Care, remarked, "Health concerns do not respect borders and the University can only reach its true potential and best serve the people of North Carolina through the globalization of our programs."¹ The school's decision to rebrand its public health mission was and is part of a continuing zeitgeist on university campuses characterized by investments in global health.

One hundred years ago global health was called tropical medicine, a field that grew out of 19th century Europe's colonial exploration. Fifty years ago, global health was known as international health and was facilitated by international organizations and aid programs that sought to use health and medicine as weapons of security in impoverished, unstable nations. Today, the Institute of Medicine

¹ UNC News Service, "Institute for Global Health and Infectious Diseases aims to improve lives" <http://www.unc.edu/news/FYI/globalinstitute1007.html> (accessed Dec. 1, 2011).

defines global health as “health problems, issues, and concerns that transcend national boundaries, may be influenced by circumstances or experiences in other countries, and are best addressed by cooperative actions and solutions.”² Unlike its historical predecessors, today’s global health is not performed “over there,” in the third or developing world. Instead, global health is the new norm in public health education and practice in the 21st century as the actions of policy makers, education leaders and researchers embrace the words of epidemiologist John M. Last:

“Dangers to health anywhere on earth are dangers to health everywhere.”³ In 2009, the *Lancet* took stock of this sea change: “Global health is fashionable. It provokes a great deal of media, student, and faculty interest, has driven the establishment or restructuring of several academic programmes, is supported by governments as a crucial component of foreign policy.”⁴ Global health has become a barometer of national security concerns and a measurement of global inequality. Some scholars even go so far as to say global health “demands the study of population health in the context of power relations in a world system.”⁵

Currently, researchers, practitioners and students from UNC work in more than 50 countries on global health projects such as clean water in Cambodia, HIV in Malawi and syphilis in China. Twelve miles northeast of Chapel Hill, Duke University has also “internationalized” its health sciences by creating the Duke Global Health Institute in 2006 and offering certificates and master's degrees in

² Institute of Medicine, *America's Vital Interest in Global Health* (Washington, DC: National Academy Press, 1997), 1.

³ John M. Last. *Public Health and Human Ecology* (Stamford, Conn.: Appleton & Lange, 1998), 337.

⁴ J.P. Koplan, et. al. “Towards a common definition of global health,” *Lancet*, 373, no. 9679 (2009), 1993, doi:10.1016/S01406736(09)60332-9 (accessed November 14, 2011).

⁵ Craig Janes and Kitty Corbett, “Anthropology and global health,” *Annual Review of Anthropology*, 38 (2009), 167, doi:10.1146/annurev-anthro-091908-164314.

global health. Undergraduate health volunteerism is also supported through Duke Engage, a \$50 million project funded by the Bill and Melinda Gates Foundation, an organization that, along with nonprofit organizations such as Doctors without Borders, has become one of the new household names in global health. Since the late 1990s, dozens of universities in the United States have changed the names of public health schools, created new majors and began new international partnerships with foreign universities, all in the name of global health.⁶

It's not just places of higher learning that have adopted a global health perspective. The Research Triangle is home to dozens of non-profits and multi-million dollar for-profits that deal in global health; the Triangle Global Health Consortium estimates that global health is a \$2 billion industry in North Carolina, or the fifth largest in the state. Quintiles Transnational, created by Dennis Gillings, a former professor of biostatistics at the UNC School of Public Health, coordinates clinical trials around the globe. GlaxoSmithKline, the second-largest drug company in the world, has one of its North American headquarters in Research Triangle Park, where researchers have worked on a malaria vaccine for 25 years. Smaller non-governmental organizations such as Family Health International 360 (FHI) help coordinate global research, while other NGOs staff medical clinics abroad or study reproductive health trends in developing nations. If the scientists at CHAVI, the Center for HIV-Aids Vaccine Immunology, have their way, the Tar Heel state, will be known not for exporting furniture, tobacco or basketball legends, but the world's first HIV vaccine.

⁶ Sarah Macfarlane and Ephata E. Kaaya, "In the name of global health: trends in academic institutions," *Journal of Public Health Policy*, 29, no.4 (2008), 383.

The purpose of this thesis is to understand how North Carolina became a leader in global health through education and business. As the Research Triangle's reputation as a global health powerhouse continues to draw students and job seekers to the area, the unique history, processes and challenges that surround global health should be examined. Through in-depth interviews and immersion in the global health community in the Triangle, I tried to gain a perspective on the emergence of North Carolina as a leading force for global health research and service. The following is a three-part, long-form piece titled *Going Global: How North Carolina became the epicenter of global health in America*. Part one looks at UNC-Chapel Hill, which houses one of the top public health schools in the country. UNC became a global health leader because of innovative HIV research and school leadership but stands to lose its prominence in the face of budget cuts and disorganization. Part two features UNC and Duke undergraduate and graduate students who are studying global health. These students consider themselves global citizens who have never lived in a world secure from HIV and "emerging infectious diseases." They travel to exotic locales and take courses in global health, but what is the endgame to their studies and preparations? Finally, I explored the business of global health in the Triangle through interviews with the head of the Triangle Global Health Consortium and Family Health International (FHI) 360, to examine how Triangle organizations are shaping health practices around the world but failing to communicate their messages to a national audience.

CHAPTER 2

LITERATURE REVIEW

Searches of multiple databases (JSTOR, Academic Search Premiere, and LexisNexis) returned several results for scholarship about the development of global health as a health discipline, media coverage of global health, and how and why universities have expanded public health programs to include global health curricula. Because global health is a relatively new term and field, many articles were opinion pieces or short news reports on disease outbreaks or funding initiative announcements that were not helpful to this thesis. I have identified more than 30 substantive works from the fields of anthropology, sociology, political science, public health, medicine and investigative journalism that help provide a background to the topic and offer a brief look at current scholarship on global health.

Global Health Then: Epidemiology, Tropical Medicine and the WHO

Since the plague of the Middle Ages, any mobile person or animal that crossed national borders was understood to be capable of spreading disease.⁷ As understanding of disease, microbes and infection grew, so did efforts to halt and prevent this undesirable outcome of mobility. This concern grew in tandem with advances in natural science and medicine. Global health then has held twin goals for the doctors, politicians and scientists who practice it: security and science. Many

⁷ James E. Banta, "From International Health to Global Health," *Journal of Community Health* 26, no. 2 (2001), doi: 10.1023/A:1005270111548 (accessed November 14, 2011).

scholars and journalists, including James Banta, Alison Bashford, Stephen Johnson and Laurie Garrett, have written about the development of global health through the historical lens of public health, disease containment and quarantine and international medicine. Common in these discussions is Michele Foucault's ideas of biopower and biopolitics, or the ways in which the state or nation control the body or population through exchanges of medical power.⁸ A brief review of the literature pertaining to the history of global health will help frame the 21st century trends seen in North Carolina.

Historians agree modern public health began in 19th century England when Dr. John Snow identified the Broad Street water pump as the epicenter of London's deadly cholera outbreak in the summer of 1854, thus inaugurating the practice of epidemiology.⁹ Waves of cholera routinely pummeled London, Paris and Hamburg in the mid-19th century, prompting leaders from 12 European nations to gather in Paris at the First International Sanitary Conference in 1851 to address international quarantine protocol.¹⁰ In London, a city of 2 million people at the time, Snow used surveys, church records and door-to-door interviews to map the cholera epidemic and identify the infection's relationship to the contaminated pump. Snow's map became the crowning example of modern public health, a way to thoughtfully apply epidemiological findings and institute preventive measures to quarantine the

⁸ Michele Foucault, "The Birth of Social Medicine," in J. D. Faubion (ed.), *Power: The Essential Works of Michel Foucault, Vol. 3*. (New York: New Press, 1994) p. 134–56.

⁹ Steven Johnson, *The Ghost Map: The story of London's most terrifying epidemic-- and how it changes science, cities and the modern world*. (New York: Riverhead Books, 2006).

¹⁰ Alison Bashford, "Global biopolitics and the history of world health," *History Of The Human Sciences*, 19, no. 1 (2006), 70. doi:10.1177/0952695106062148, (accessed November 12, 2011).

epidemic.¹¹ Dr. Snow discovered infection rates could be greatly influenced by the simple measures of public hygiene and sanitation.

As public health became a tool for cities and nations to protect their populations, Europeans began to study the exotic diseases of their colonies and spurred the development of the field of tropical medicine. As early as the late 1800s, tropical medicine practitioners were able to identify key health issues in non-European countries, aiding Europe in its colonial efforts: “Tropical medicine became a major concern of the imperial powers who were often inhibited in their overseas investments and explorations because of indigenous disease.”¹² Disease vectors, including mosquitos, parasites in food sources and lice became the subject of study, and many writers documented how tropical medicine created a North/South divide in disease and medicine and fed the curiosity of researchers in search of novel diseases.¹³

Historian Allison Bashford argued that the concept of *global* health emerged in the early 20th century as a combination of both tropical medicine and epidemiology.¹⁴ By World War I, new technologies such as the telegraph, intercontinental wires and shipping routes helped public health practitioners across the globe share national statistics on birth and death rates, disease epidemics and life expectancy.¹⁵ A number of global health organizations sprouted, including France’s Office International d’Hygiene Publique (1907), that promoted international

¹¹ Johnson, 113-132. Snow’s work predated Robert Koch’s germ theory. Though Snow could not explain contamination, he fought against the status quo explanation of disease, which was miasma, or the theory that disease traveled through vapors in the air.

¹² Banta, 74.

¹³ Banta, 70. Also see, Birn, Anne-Emanuelle, “The stages of international (global) health: Histories of success or successes of history?,” *Global Public Health*, 4, no. 1, (2009), 50-68.

¹⁴ Bashford, 68.

¹⁵ Bashford, 70.

exchange of epidemiologic statistics, and the Rockefeller Foundation's International Health Board (1913), that sought to "promote sanitation and the spread of the knowledge of scientific medicine."¹⁶ In 1923 the League of Nations Health Organization was formed to collect vital statistics from around the world. Between World War I and World War II, the biopolitical sphere of disease could not be contained by national borders but instead, "the ... territory at issue was often enough not national or even colonial space, but ... 'the globe.'"¹⁷

Though concern about global health may have predated the World Health Organization, no organization has been more attached to international health practices – or exhibited Western attitudes toward global disease – than the United Nation's agency. Several authors including Brown, Wong and Garrett have written about the WHO and its global health agenda setting. Created in 1948, the multilateral organization initially fought a cholera epidemic in Egypt.¹⁸ Fortuitously, the middle of the 20th century also proved to be a golden age in Western medicine: new antibiotics, the polio vaccine, DDT and other chemical agents that attacked mosquitos all led to what journalist Laurie Garrett called "the age of boosterism" in the United States, as well as the Soviet Union, China, and, by extension, the WHO.¹⁹ Garrett wrote that this time was marked by optimism for international health: "The concept was simple: as nations moved out of poverty and the basic food and housing needs of the population were met, scientists could use the pharmaceutical and

¹⁶ Dubin, M. D, "The League of Nations Health Organization," in P. Weindling (ed.) *International Health Organizations and Movements, 1918–1939*. (Cambridge: Cambridge University Press, 1995) 56.

¹⁷ Bashford, 83.

¹⁸ T.M. Brown, et. al. (2006). "The World Health Organization and the Transition From "International" to "Global" Public Health." *American Journal Of Public Health*, 96, no.1, (2006) 62-72, doi:102105/AJPH2004.050831(accessed November 10, 2011).

¹⁹ Laurie Garrett. *The Coming Plague: Newly emerging diseases in a world out of balance*. (New York: Farrar Straus and Giroux, 1995), 30-32.

chemical tools at hand to wipe out parasites, bacteria, and viruses.”²⁰ In the West, countries underwent what epidemiologists call a disease transition, when the main cause of death was no longer childhood illness or acute infections, but chronic diseases of age and wealth – cancer, heart disease and diabetes.²¹ The WHO’s own boosterism culminated in its twin goals of eradicating smallpox and malaria. Smallpox was the organization’s major victory, but malaria proved to be more difficult to treat; mosquitos were resilient in the face of new chemicals. By 1980, when the WHO declared smallpox eradication successful, “experts saw the grand smallpox success as an aberration.”²²

While public health systems in the United States and Europe reached peak funding in the 1970s, colonial powers in Africa and Latin America began to collapse, leaving ruins of health systems and waves of political instability and famine.²³ In response to this upheaval, the WHO met in Kazakhstan in 1978 at the Alma-Ata conference and declared new goals for the organization, including “health care for all by 2000” (which became WHO’s slogan) and a refocus on primary health in developing counties.²⁴ But things got worse before they got better for the WHO: In the 1980s and 1990s, when HIV ravaged parts of the Western world, wealthy donors lost confidence in the ability of the WHO to create meaningful disease-prevention strategies.²⁵ That began to change in 1998, when the WHO

²⁰ Garrett, 31.

²¹ Garrett, 31.

²² Garrett, 52.

²³ Philip Hiltz. *Rx for Survival : Why We Must Rise to the Global Health Challenge*, (New York: Penguin P, 2005.), ix.

²⁴ Yut-Lin Wong. “Taking Stock of Alma-Ata Primary Health Care/Health for All: Moving Toward New Directions in Global Preventive Health,” *Asia Pac J Public Health*, 23, no.125 (2011), doi: 10.1177/1010539511398470 (accessed December 5, 2011).

²⁵ Brown, 68.

appointed Gro Brundtland, former prime minister of Norway, as its head. Brundtland saw that globalization not only meant broader health threats, like HIV, but also deeper economic incentives for wealthy countries to invest in poor ones. Under Brundtland, global health became an “organizational strategy that promised survival and, indeed, renewal.”²⁶ That renewal came to fruition in 2000 when the WHO released the Millennium Health Development Goals. Like the Alma-Ata Declaration, these eight goals, which included combating HIV and reducing childhood mortality, focused on basic health care for all; but unlike 1978’s goals, they were couched in language that linked economic stability to health.

Global Health Now: HIV, Emerging Diseases and the Media

Many writers attribute the recent popularity of global health to one event: the spread of HIV.²⁷ A virus linked to specific behaviors, HIV became the hallmark epidemic of the late 20th century and did away with the health boosterism and optimism felt in the 1950s and 1960s. Though many have written about HIV and AIDs, journalists Randy Shilts and Michael Specter, two of HIV’s most prominent chroniclers, most eloquently detailed how the disease exposed holes in Western health care and created treatment inequalities around the world. Specter described HIV as causing an “apartheid in health care” where millions of the infected poor are unable to access effective antiretroviral treatments.²⁸

²⁶ Brown, 70.

²⁷ See Hilts and Birn.

²⁸ Michael Specter, “India’s Plague,” *The New Yorker*, 77, no 40 (2001), 78.

In the seminal *And the Band Played On*, Shilts highlighted how HIV exposed failures of public health in wealthy countries, and the United States in particular, to monitor and invest in emerging infectious diseases.²⁹ Shilts' investigative journalism focused on the first five years of the HIV epidemic, when the disease was unnamed by the U.S. government and was avoided by the media, which were "skittish about covering gay sexuality."³⁰ Ultimately, because HIV was so linked to homosexuals, Haitians and other "invisibles," Shilts concluded that the disease was treated with "institutional indifference" at the cost of a global epidemic.³¹ In his reporting for *The New Yorker*, Specter covered HIV outbreaks in San Francisco, Moscow and India, where socioeconomic status, antiretroviral treatments and co-morbidities with HIV infection often determined the success or failure of antiretroviral therapies. A recurring theme in Specter's work was the failure of drug treatments in impoverished countries. Western medical solutions do not always suffice in countries "... that lack a sophisticated health-care system, and one in which tens of millions of people do not even have access to clean drinking water."³² Specter's reporting emphasized the need to focus on HIV prevention, instead of investing billions of dollars into chasing a cure.

Most recently, popular media have covered HIV from the perspective of a disease on the brink of a cure, vaccine or preventive therapy. As columnist Michael Gerson recently wrote in *The Washington Post*, "After 30 years and 30 million funerals, the end of the global AIDS epidemic is suddenly, unexpectedly, within

²⁹ Randy Shilts. *And the Band Played On: Politics, People, and the AIDS Epidemic*. (New York: St. Martins P, 2000).

³⁰ Shilts, xxiii.

³¹ Shilts, xxiii.

³² Specter, *India's Plague*, 40.

sight.”³³ Gerson, like other reporters and scientists dotting the opinion section of newspapers, is optimistic about the demise of HIV, largely because of the work of Myron Cohen’s HPTN 052 trial. Cohen is a UNC professor and director of the Institute for Global Health and Infectious Diseases. The HPTN 052 trial showed that HIV-positive people taking antiretroviral medicines from the beginning signs of infection were 96 percent less likely to infect their HIV-negative partners.³⁴ This means gold-standard treatments, or antiretroviral therapies (ART), can also be used to prevent transmission of HIV. In the summer of 2011, during the 30th anniversary of the disease, *The Economist* heralded “The End of AIDs” with a cover piece on scientific breakthroughs (including Cohen’s) in HIV treatments. In their introduction to the issues, the editors wrote that three decades of science, activism and altruism now pose a new question for wealthy world leaders; “The question for the world will no longer be whether it can wipe out the plague, but whether it is prepared to pay the price.”³⁵ Cohen’s work was also named by *Science* magazine as the “scientific breakthrough of 2011.” Journalist Jon Cohen wrote “... HPTN 052 has made imaginations race about the ‘whatifs’ like never before, spotlighting the scientifically probable rather than the possible. And now a growing number of HIV/AIDS experts are insisting that the irresponsible and appalling thing to do is nothing.”³⁶

³³ Michael Gerson, “Putting AIDS on the road to extinction,” *Washington Post*, November 10, 2012. http://www.washingtonpost.com/opinions/putting-aids-on-the-road-to-extinction/2011/11/10/gIQAoM3t9M_story.html (accessed January 2, 2012).

³⁴ UNC News Service, “UNC-led international study shows early treatment with antiretroviral therapy prevents HIV transmission” May 12, 2011, (accessed December 30, 2011).

³⁵ Editors, “The End of AIDs?” *The Economist*, 399, no. 8736 (20110), 11.

³⁶ Jon Cohen, “HIV Treatment as Prevention” *Science*, 23 December 2011, 1628. doi:10.1126/science.334.6063.1628 (accessed December 30, 2011).

Though a new sense of optimism surrounds treatment of HIV, the media has sounded notes of foreboding urgency in covering 40 other emerging diseases including SARS, avian and swine flu, West Nile and multi-drug resistant tuberculosis.³⁷ Emerging infectious diseases have been the topic of popular best sellers such as Robert Preston's *The Hot Zone*, about the Ebola and Marburg viruses, and the 1995 movie "Outbreak," about a hemorrhagic fever that infects monkeys and humans. These bio-thrillers focus on global diseases with fast-paced narratives where the villains are microbes.³⁸ Many writers covering emerging infectious diseases appropriated Thomas Friedman's idea of a modern "flat world" or "global village" where global diseases level the playing field between rich and poor countries, and modern travel makes any infection just a plane ride away. During the SARS outbreak in 2003, both *Time* and *Newsweek* featured a startling depiction on their covers: Women with face masks and wide eyes with the words "The new age of epidemics" over their covered mouths.³⁹ Scholar Priscilla Wald noted that such media coverage and popular books create an "outbreak" narrative of infectious disease.⁴⁰ According to Wald, who analyzed the language in hundreds of news articles concerning SARS, these narratives are "... the representational figures of the fact, the danger, and the possibilities of human interdependence in the changing world."⁴¹ By creating characters such as "super-shedders" and "patient zeros," and depicting remote Asian and African villages as hot zones, Walden criticized the

³⁷ Hilts, 6.

³⁸ Richard Preston, *The Hot Zone* (New York: Random House, 1994).

³⁹ "The Truth About SARs," *Time*, May 5, 2003; "SARs: What you need to know about the new age of epidemics," *Newsweek*, April 27, 2003.

⁴⁰ Priscilla Wald, *Contagious: Cultures, Carriers, and the Outbreak Narrative* (Durham: Duke University Press, 2007).

⁴¹ Wald, 9.

popular press for promoting the idea of the “infectious immigrant” who delivers diseases to the Western world.

Many media scholars have noted that most coverage of both emerging infectious diseases and global health advancements ignore the inequalities behind public health crises. Verma pointed out that 80 percent of the world’s disease burden is in the developing world, but most media coverage of infectious diseases only surfaces when the disease presents itself in the United States or Europe.⁴² Moreover, the ethical motivation for public health is ignored in news coverage in favor of discussions of utility, or the usefulness of public health, and news reports often contain “more talk of exciting cutting edge science than gross inequality.”⁴³ In surveys of public response to stories about infectious diseases, Ho found that American’s attention to disease news coverage is event-driven; interest faded after initial outbreak report and the “public becomes complacent when outbreak is under control.”⁴⁴ Even in-depth treatments of global health, such as PBS’s 2007 five-part documentary “Rx for Survival,” have been criticized by media scholars for focusing “... on the brilliant scientists of developed countries instead of economic injustice ... with the idea that generosity and science can resolve the magnanimity of global health.”⁴⁵

⁴² G. Verma, “Analysis of the mass media coverage of the Gates Foundation Grand Challenges in Global Health initiative,” *J Med Ethics*, 2009;35:163-167, doi:10.1136/jme.2008.025353 (accessed December 14, 2011).

⁴³ Verma, 165.

⁴⁴ Shirley S. Ho “Public Reactions to Global Health Threats and Infectious Diseases,” *Public Opin Q*, 71, no.4 (2007), 689, doi: 10.1093/poq/nfm041 (accessed January 2, 2012).

⁴⁵ Anne-Emmanuel Birn, “Rx for Survival: A Global Health Challenge,” *Bulletin of the History of Medicine*, 81, no. 2 (2007), 444.

The Motivations and Trends behind Global Health

Sociologist Andrew Lakoff identified two philosophies behind modern global health: Humanitarian biomedicine and global health security. Humanitarian biomedicine is the effort to alleviate “the suffering of individuals, regardless of national boundaries or social gatherings.”⁴⁶ Several anthropologists, sociologists and physicians have written about humanitarian biomedicine, or what Peter Redfield called the “secular commitment to the value of human life” in the wake of a strong interest in Doctors without Borders, health non-governmental organizations (NGOs) and disaster-relief volunteerism.⁴⁷ For humanitarians, social inequalities explain the dramatic life expectancy disparities between rich and poor nations because “inequality itself constitutes our modern plague.”⁴⁸ Paul Farmer, Adam Parsons and Richard Wilkinson have linked modern health disparities to economic systems. “Today, although global health inequalities have become far greater than they were 30 years ago, privatization and market principles remain at the center of the international health agenda,” Parsons wrote.⁴⁹ Farmer, a physician-anthropologist (and Duke alumnus), has worked with tuberculosis- and HIV-infected patients for 30 years in Haiti with his non-profit Partners in Health (PIH). Farmer has written extensively on how “fundamentally social forces and processes come to be embodied as biological events.”⁵⁰ For humanitarians, health disparity is a universal phenomenon where “race and space are largely proxies for

⁴⁶ Andrew Lakoff, “Two regimes of global health,” *Humanity*, 1, no.1 (2010), 66.

⁴⁷ Peter Redfield, “Doctors Without Borders and the Moral Economy of Pharmaceuticals,” in *Human Rights in Crisis*, A. Bullard (Ed.). (Aldershot, UK: Ashgate Press, 2008), 132.

⁴⁸ Paul Farmer, *Infections and Inequalities: The Modern Plagues*, (Berkeley: U of California, 1999), 15.

⁴⁹ Adam Parsons, “The Global Health Debate” (Washington, DC: Foreign Policy In Focus, September 18, 2009).

⁵⁰ Farmer, 14.

poverty.”⁵¹ Anthropologist Richard Wilkinson noted that the inequalities that lead to biological events in other countries also happen in wealthy countries: In the United States, disparity has led to high TB rates among Harlem’s poor that rival Bangladesh’s.⁵²

Global health security is less focused on the individual and her living conditions and more concerned with the vulnerability of the nation state from infectious diseases. This is the global health vision that inspired President Bush in his 2003 State of the Union address to pledge \$15 billion to fight HIV infections across the globe, creating PEPFAR (President’s Emergency Plan for AIDS Relief), the largest health initiative in U.S. history and an example of what political scientists and policy makers call the “enlightened self-interest” of global health.⁵³ Global health security proponents acknowledge that material conditions lead to poor health outcomes. But they believe that it’s in a nation’s best interest in a rapidly globalizing world -- where bioterrorism and infection are possible threats -- to invest in science, not political systems.⁵⁴ Foremost among the security chroniclers of global health is journalist and immunologist Laurie Garrett. Garrett’s *The Coming Plague* documented microbes’ consistent victories in the face of science, technology and rapid globalization. Like Richard Preston, Garrett used narratives of diseases and outbreaks to portray a vulnerable ecological world where microbes sit atop the food chain but also pointed out that attempts to secure global health through science alone

⁵¹ Farmer, 49.

⁵² Richard Wilkinson, *The Impact of Inequality: How to Make Sick Societies Healthier*. (New York: The New Press, 2005), 127.

⁵³ Ilona Kickbusch, “Influence and Opportunity: Reflection on the US role in global public health,” *Health Affairs*, 21, no.6 (2002),132, doi:10.1377/hlthaff.21.6.131 (accessed December 30, 2011).

⁵⁴ Hilts, 230-238.

often failed in the face of global instability. “Ultimately humanity will have to change its perspective on its place in Earth’s ecology if the species hopes to stave off or survive the next plague... Microbes and their vectors, recognize none of the artificial boundaries erected by human beings.”⁵⁵

A new wave of scholarship has criticized both humanitarian biomedicine and global health security. These scholars have addressed the dangers of developing a “Marshall Plan” of health, where outside actors from wealthy nations build co-dependencies with sick foreign lands. In a 2007 *Foreign Affairs* piece, Garrett summarized the concerns, namely that global health philanthropic efforts are short-sighted and lack central planning and leadership: “Few of the newly funded global health projects, meanwhile, have built-in methods of assessing their efficacy or sustainability. Fewer still have ever scaled up beyond initial pilot stages. And nearly all have been designed, managed and executed by residents of the wealthy world (albeit in cooperation with local personnel and agencies).”⁵⁶ These problems have prompted other writers to note that global health efforts have created a “new colonialism,” where disorganized NGOs, international aid foundations and student volunteers -- like colonial powers -- have limited the ability of local governments and private enterprises to attack health problems. In a *Foreign Policy* piece, journalist Michael Cohen wrote, “though the new colonialists are the glue holding society together in many weak states, their presence often deepens the dependency of these states on outsiders.”⁵⁷ Others have also noted that donors who want to support health reform in developing countries consistently donate money to NGOs, instead of local

⁵⁵ Garrett, 618.

⁵⁶ Laurie Garrett, “The Challenge of Global Health,” *Foreign Affairs*, 86, no.1 (2007), 14.

⁵⁷ Michael Cohen, “The New Colonialists,” *Foreign Policy*, 167 (2008), 75.

groups capable of reforms or even uprisings.⁵⁸ The most cynical have reported that the popularity of global health promotes a system that, “recommends greater amounts of ‘charity/international aid’ in order to preserve the status quo of a deeply unjust and irrational economic order.”⁵⁹

Global Health and the University: Considerations and Challenges

Although most young Americans first learn about global health in college, the development of global health as a field of study within the United States’ university system is poorly understood.⁶⁰ Those who have studied the phenomenon have found a uniquely American academic discipline, one that’s both commodified and codified to bring universities prestige. In 2008, Sarah Macfarlane, director of program development for global health sciences at the University of California, San Francisco, analyzed mission statements from 18 American university global health programs. Macfarlane found that most American global health programs promoted classes through three general ideas: 1) global health affords greater mobility and interconnectedness for global travel and research; 2) greater mobility of people in the modern world results in a greater threat of communicable disease; 3) technology results in exposure to and discomfort with the largely visible health disparities in the world. However, global health, unlike tropical medicine or traditional public health, “...has not emerged as an activity or as a discipline that corresponds directly to a set of skills.”⁶¹ Nor does global health have any standardized assessments, entrance or

⁵⁸ Arundhati Roy, “Help that Hinders,” *Le Monde Diplomatique*, November 1, 2004.

⁵⁹ Alison Katz, “New Global Health: A reversal of logic, history and principles,” *Social Medicine*, 3, no.1 (2008), 1.

⁶⁰ Macfarlane, 386.

⁶¹ Macfarlane, 388.

qualifying exams, or national guidelines. In the mission statements analyzed, Macfarlane found common language of health disparity and justice but ultimately concluded that the main motivation behind American universities' involvement in global health is money: Students pay for international travel experience. Such travel “brands the global prestige of an academic institution ... providing education that fulfills the expectations of students, offering research opportunities that meet the international interest of the faculty, and by accessing new and large sources of funding for global health.”⁶²

Anatoly Oleksiyenko and Creso M. Sá interviewed 60 academic leaders and researchers to investigate the growth of global health programs at Harvard, Johns Hopkins, University of Toronto and University of McGill in 2009.⁶³ The authors suggested which global health programs thrive at leading North American universities for one main reason: North American schools have public health school structures in place which have willingly absorbed global health. These institutions receive funding from private foundations (Gates, Rockefeller, Kaiser, Kellogg, for example) for global health research. In the United States, “domestic research sponsors play a critical role in shaping universities’” initiatives in global health.⁶⁴ In other words, private donors and funders have helped shape the global health field in America.

Few scholars have approached global health through the student experience.

Lori Hanson followed the six-year outcome evaluation of two undergraduate courses

⁶² Macfarlane, 392.

⁶³ Anatoly Oleksiyenko and Creso M. Sá, “Resource asymmetries and cumulative advantages: Canadian and US research universities and the field of global health,” *Higher Education*, 59, no. 3, (2010) 367-385, doi:10.1007/s10734-009-9254-5 (accessed November 14, 2011).

⁶⁴ Oleksiyenko and Creso M. Sá, 373.

in global health at the University of Saskatchewan with the goal of understanding if such classes inspired global citizenship or global health action and awareness after the courses were completed.⁶⁵ Through multiple focus group discussions, ethnographic interviews and written evaluations, Hanson identified what universities must emphasize in the classroom to counter “intellectual tourism.”⁶⁶ Students responded to course offerings when self-reflection was built into the curriculum, but unfortunately many students reported, “courses had at once stimulated ongoing awareness and fallen short of providing clarity on how to use information.”⁶⁷ Although many students reported a self-awakening to global problems, many wrote that these courses resulted in more questions than answers. One student remarked that he “felt more confused after the class about what my role should be. I ended up questioning everything.”⁶⁸

Hanson also noted that without proper ethical guidelines and oversight, global health students’ international medical experiences (IMEs) “are potentially ripe sites for the reproduction of colonialist ideas of North-South relationships.”⁶⁹ In a survey of scholarly literature on North American medical student IMEs, Hanson found three common themes in students’ motivation to participate in global health: “altruism, self-serving rationale (i.e., adventure), and the allure of the opportunity for medical practice.”⁷⁰ The literature on IMEs often contains accounts of students

⁶⁵ Lori Hanson, “Global Citizenship, Global Health, and the Internationalization of Curriculum: A Study of Transformative Potential,” *Journal Of Studies In International Education*, 14, no. 1, (2010) 70-88.

⁶⁶ Hanson, 74.

⁶⁷ Hanson, 80.

⁶⁸ Hanson, 81.

⁶⁹ Lori Hanson et. al., “Undergraduate International Medical Electives: Some Ethical and Pedagogical Considerations,” *Journal Of Studies In International Education*, 15 no. 2 (2011), 171, doi 10.1177/1028315310365542 (accessed November 14, 2011).

⁷⁰ Hanson et. al, 176.

acting inappropriately in the clinical setting by diagnosing diseases without supervision and dispensing medicine; “indeed, that students can practice on patients of the Global South beyond their competency levels and ‘brag about it’ is a motivation.”⁷¹ Hanson linked these motivations to institutional language, which in its description of IMEs emphasized the “exposure to rare clinical experiences” and “diversity of diagnoses.”⁷² In the absence of any institutional board defining IME ethical guidelines, these motivations for engaging in global health become default measure of success (for the student, not the patient population). In other words, the success of IMEs is determined by the host university, not by the host country. Other authors have also noted this lack of clear guidelines for IMEs. Crump and Sugarman noted that the framework of IMEs rests in beneficence and not “mutual and reciprocal benefit” between university and host country.⁷³ These unintended consequences of IMEs, echo what Kathleen Jobe saw in humanitarian aid effort in Haiti after the 2010 earthquake.⁷⁴ Jobe documented how in the aftermath of the Jan. 12, 2010 earthquake, medical volunteers flooded Haiti and quickly became a liability to NGOs, which had to account for their credentials and handle volunteers physically and mentally unprepared for the stresses of working there. Volunteers often failed to understand the unique political infrastructures of the country that they were serving.

⁷¹ Hanson et. al, 178, as cited in Shah & Wu, 2008.

⁷² Hanson et. al, 176.

⁷³ J.A. Crump, et. al., “Guidelines For Global Health Training,” *Health Affairs*, 30, no. 6 (2011), 1458, doi:10.1377/hlthaff.2011.0428Letters (accessed November 14, 2011).

⁷⁴ Kathleen Jobe, “Disaster relief in post-earthquake Haiti: Unintended consequences of humanitarian volunteerism,” *Travel Medicine and Infectious Disease*, 9, no. 15 (2011).

Several authors have concluded that what's missing from global health or "disparity-focused" health training is a discussion concerning the historical and political roots of global health inequalities.⁷⁵ Rivkin-Fish revealed that the structures that create health disparities in patient populations are often masked by medical education altruism, or using free clinics as a site of medical or dental student training and volunteerism. The question medical students must learn to ask themselves when faced with underserved patients is not "How can we help these people?" but "why are conditions this way?"⁷⁶ Such lessons are one way to prevent "neocolonialist" attitudes toward the "Global South," where problems seem simplistically reduced to "a lack of resources."⁷⁷ IMEs also produce students who have inflated ideas of their skills, an under-appreciation of language barriers and prove to be time consuming for the local staff who often have to deal with students unequipped to work in the field. Ultimately, what can occur is a student "pursing a learning experience at the patient's expense."⁷⁸

The most thorough discussion of these ethical problems in global health education has come from Pinto and Upshur, who developed a framework of questions for global health students. Currently, medical and public health students are exposed to four values in their educational training: justice, beneficence, non-maleficence and autonomy. These values are insufficient, however, for students practicing global health. What is justice in a country outside of your own? Does the

⁷⁵ Hanson et. al, 181.

⁷⁶ Michele Rivkin-Fish, "Learning the Moral Economy of Commodified Health Care: Community Education, Failed Consumers, and the Making of Ethical Clinician-Citizens" *Culture, Medicine, and Psychiatry*, 35, no. 2 (2011), 188.

⁷⁷ Crump et. al., 1459.

⁷⁸ A.D. Pinto and R.G. Upshur, "Global Health Ethics for Students," *Developing World Bioethics*, 9, no. 1, (2009), 3, doi:10.1111/j.1471-8847.2007.00209.x (accessed November 14, 2011).

culture you're working in support autonomy? To remedy this, Pinto and Upshur suggested adding other values to the curriculum, such as humility, which "is crucial and helps undermine neo-colonial trends that often permeate relationships between the North and South."⁷⁹ They also suggested introspection and solidarity as keys to producing a balanced and comprehensive global health program.

⁷⁹ Pinto and Upshur, 3.

CHAPTER 3

JUSTIFICATION, RESEARCH QUESTIONS and METHODS

Michael Specter wrote that in the 21st century global health is a vital issue because “we are better at detecting diseases, and we are much better at spreading them.”⁸⁰ Journalists are agenda setters, but the review of the literature shows too few journalists have tackled this role when it comes to global health. Health and medical journalism that attempts to analyze global trends and movements runs counter to the more common “outbreak coverage” that is a staple of global health news for many media outlets. In-depth, long-form reporting will help readers understand how and why global health has taken hold of North Carolina.

The following questions guided my project and reporting:

- Why has global health become an industry in North Carolina?
- How did North Carolina become a global health leader?
- Why did UNC shift its public health focus to global health? How does this curriculum affect students who need to spend money to travel abroad?
- Why are students drawn to study and practice global health? How does this affect the other health disciplines?
- As global health grows in prominence in the state, what are the underlying ethical and moral implications that are discussed -- or not discussed -- by local global health leaders?

⁸⁰ Michael Specter, “Nature’s Bioterrorist,” *The New Yorker*, 81, no. 2 (2005), 50.

I conducted in-depth interviews with students, academic leaders and business representatives in the Triangle. I also attended several global health events and networking meetings to fully experience the global health community in North Carolina. I gathered information from the aforementioned sources, as well as from supplements and reports supplied by Duke, UNC, and the Triangle Global Health Consortium (including web pages). I interviewed the following faculty or staff for information about UNC: Myron Cohen, Rohit Ramaswamy, Peggy Brantley, Lara Markstein, Don Holzworth and Lisa Chensvold. I also interviewed two graduate students, Kristen Brugh and Chelsey Beane. For the second piece, addressing why students are drawn to global health, I interviewed Anna Gage, a UNC global health student, and Braveen Ragunathan, a Duke global health student, as well as several other undergraduates. To discuss global health business in the Triangle, I relied on Richard Kouri, a professor from North Carolina State University; Matt Epstein, director of Triangle Global Health Consortium; Don Holzworth and Dr. Ward Cates, director of research at FHI 360.

Because of time and logistics, there were limitations to this thesis. I did not answer some important questions: How does global health funding change in a recession? What role do megaphilanthropic organizations, like the Gates Foundation, have in setting the global health agenda? How do programs at Duke and UNC compare to similar programs at other schools? And what about the people on the receiving end of global health? While I will address some of these issues in my project, these questions deserve more in-depth reporting.

CHAPTER 4

WHAT HAPPENS TO A MANTRA DEFERED?

This is the first in a three-part series that examines global health in the Research Triangle of North Carolina. This first piece tells the story of the University of North Carolina at Chapel Hill. In 2002, the university embarked on an internationalization of its public health curriculum. Now, with budget woes, discouraged students and increasing competition from other programs, the once promising office of global health is at crossroads.

Part I: I know there's snickering

On a January afternoon Peggy Bentley celebrated a quiet victory in her office, the headquarters for the University of North Carolina at Chapel Hill's Office of Global Public Health. UNC had just named Bentley a distinguished professor, a title that brought prestige to Bentley, the associate dean of UNC's global health office.

"It's something, everything helps," said Bentley. For almost 10 years Bentley has led the UNC Gillings School of Global Public Health in its internationalization of the health sciences. "I believe in the manta 'local is global,'" Bentley said. "I walk the talk."

Bentley's office, once the promising epicenter of international health activities on campus, now sits quiet and mostly empty on the north wing of Rosenau Hall. On the day she was named distinguished professor, she caught up on work before the start of the spring semester. UNC recently downsized her office staff, and university funding troubles, including a three-year faculty salary freeze and difficulty retaining

faculty courted by rival institutions, threatened the viability of the global health effort on campus.

“All our good people are looking; although it’s a wonderful place to live, you have to be proactive about your career,” said Bentley. “For this institution to stay where we need to stay, we can’t cut too many corners for global because we’re just going to be left in the dust.”

In 2011 US News & World Report ranked UNC the top public health school at a public institution in the country and has done so for the last decade. Since 1936, when UNC founded the nation’s first state public health school, the university has been a leader in the field, something Bentley didn’t realize when she came here in 1998 from Johns Hopkins University.

Bentley, a nutritionist and medical anthropologist interested in breastfeeding practices, was surprised by what she found at UNC: Dozens of faculty in the schools of public health and medicine were doing global health, but nobody knew about each other’s efforts.

In 2002, Dr. Bill Roper, then dean of the public health school, tapped Bentley to lead a global health initiative. Since the early 2000s, UNC tried to globalize its campus. The health sciences, where many researchers already were working on international sites, seemed a logical place to start. Bentley applied for the prestigious Fogarty International Framework Grant for programs in global health, which offered universities start-up money of \$134,000 for three years to begin global health programs on campus. At first, Bentley said she thought about approaching Duke University to work on the grant together, but push back from other UNC faculty

stopped her. Yielding to her colleagues, she applied solely in behalf of UNC. She got the grant in 2003. Duke did not.

UNC matched Fogarty's start-up grant, and Bentley hired a full-time director and administrator to begin internationalizing the required courses all public health graduate students had to take (epidemiology, biostatistics, health policy and management). She created a web portal and newsletter to allow for cross-campus global health communication and developed a plan for cluster hires, strategic hiring in groups of researchers with similar goals and interests (not individuals), of faculty with global and local experience. She created a popular global health certificate program that allowed graduate students to minor in global health, and an online certificate for continuing professionals. Bentley said UNC philosophically decided not to make a separate global health major within the school. Instead, global issues would be embedded within the traditional public health school courses, so courses like epidemiology, for example, would cover local and global health issues. Bentley said she was concerned that separating global health issues from local health issues in separate classes and programs would lead to what Bentley called a "silo structure" of the health sciences, where different departmental faculty wouldn't talk to each other and would remain as isolated as grain silos on the horizon.

"We don't believe public health issues are separated geographically," said Bentley. "What's an issue in Bangladesh can be an issue here." Bentley suggested breastfeeding as an example of a local-global issue: She's researched breastfeeding in HIV-positive mothers in Africa and has also looked at feeding practices in the rural South.

But almost a decade later, some complain the school hasn't gone far enough in becoming a truly global institution. Those complaints are especially strident among graduate students who come to the institution expecting international experiences.

"I left a job in corporate financing to get into global health," said Chelsey Beane, a second-year master's student from Boston in the Department of Health Behavior and Health Education. "I can't really afford to study abroad, and a lot of my professors have not been internationally focused."

Other graduate students, such as maternal and child health Ph.D. candidate Kristen Burgh, said the school lacks a global health community. Burgh, 27, is from Roanoke, Va. She came to UNC to do a masters in public health, but has stayed on for a doctorate. She said global health has suffered at UNC because the current budget crisis cut administrative positions.

"It feels like all different departments have people doing global health, but there's not the administrative leadership to get that information out there," said Burgh. "It seems a lot of things fall through the cracks."

The student complaints don't shock Bentley. But they do drive her crazy.

"From their perspective it's not enough. I know there's snickering behind our back," said Bentley. "Like, global school, really?"

Bentley conceded that many of the department's faculty are not internationally focused and lamented the inability to hire new faculty with a global focus, or compensate those existing faculty members appropriately. She pointed to her own office, now lacking the full-time director and administrative assistant she had five years ago, when she was able to compete for grants and gain institutional support.

“I’m someone who can make stuff happen,” Bentley said. “I’m very entrepreneurial. I have to be.”

Part II: You have to build the ground floor

Like any state school, the conversation about global health comes down to money, but in the case of UNC, it also comes down to prestige. UNC has an elite public health program, but its main peers are private schools -- Johns Hopkins University, Yale University, and, of course, Duke University. Those schools may not have better programs, but they do have better funding for researchers, students’ travel abroad experiences and retention packages for faculty who are offered positions at peer institutions. Duke doesn’t have a school of public health, but it created the Duke Global Health Institute (DGHI) in 2006, which offers a master's in global health and an undergraduate cluster of classes. It also has director Dr. Mike Merson, a professor of medicine and community and family medicine, who, said Bentley, walked into the program bringing “\$35 million” in outside grants to help build the institute.

To compete with peer universities, UNC created the Institute for Global Health and Infectious Diseases in 2007, a pan-university effort supposed to be a catchall for the global health work being done across UNC. Dr. Myron Cohen, professor of medicine, heads the effort. He's the most visible practitioner of global health at UNC in the last 30 years.

Last year Science magazine called Cohen's so-called HPTN 052 trial, in which researchers used antiretroviral therapies to prevent HIV spread from one infected individual to that person's uninfected partner, the scientific “breakthrough of

the year.” The British magazine *The Economist* featured Cohen and HPTN 052 in a cover story called “The End of AIDS.” Behind his back, professors in the school call Cohen the man “who might get the prize.” They mean the Nobel. If anyone understands how UNC does global health, it’s Cohen. He was also the person who chided Bentley when she considered approaching Duke to collaborate on the Fogarty grant.

Cohen’s office on the medical campus, unlike Bentley’s, is rarely quiet. Regardless of whether he’s there or not, administrators walk in and out of the room, taking phone calls, leaving notes. One wall is decorated with Chinese art half-attached to the wall, and tables are scattered with brass and teak knickknacks. Before Cohen became an HIV researcher, he studied syphilis in China. On a recent morning, Cohen came into his office 45 minutes late – no apologies. If he was jet-lagged, he didn’t show it. Fresh off a flight from Malawi and soon on another to Geneva, Cohen sat with his legs propped up on a chair and talked at what he calls “Chicago speed;” fast with utterances starting in mid-sentence.

For Cohen, global health at UNC is a necessity when research demands it. “With HIV, we had to work in places where HIV was incredibly more common than in the U.S.,” said Cohen. “We needed a clinic in Africa. That place became Malawi. We’ve been working on one problem, in one place, for 20 years.”

Cohen said UNC can remain a leader in global health by encouraging and supporting these “beachheads” of health research, education and service opportunities around the globe. He cites Malawi as one example of UNC’s success: The HIV clinic

spawned a women's clinic, a curative cancer surgery ward and a burn center, all led by UNC researchers.

Global health at a university has three missions: research, education and service. Cohen said a strong global health program has to flow from research dollars, and from scientists who embed themselves where global health problems exist. Blindly investing in educational programs is the cart leading the horse, he said.

“If you start out that way, if you try to have money for teaching, resources are slender,” said Cohen. “It’s the same with service, you become a charity instead of a business. Research is the ground floor in a building.”

By building research hubs, Cohen said UNC practices the opposite of parachute medicine, when researchers and students do short-term international medicine for a few weeks or months out of the year. By grounding public health research in one place and building from there, Cohen said UNC attracts the best researchers, and they in turn will train the best students. UNC can remain on top, as long as the best researchers are drawn to work here.

As if on cue a man walked by Cohen's office and yelled out the name, “Jeff Stringer!” UNC just wooed Stringer, and his wife Elizabeth, from the University of Alabama, where they've been doing on-site HIV research on mother-to-child transmission in Zambia since 2001. Cohen was thrilled with the hire, especially because the Stringers will be bringing their beachhead with them.

“I respect what Alabama has done, but in academics people move,” Cohen said. “We've got human capital.”

Part III: The UNC Seal of Approval

While Cohen's and UNC's global health reputation is thriving, the UNC office of global health has to hustle for students in an increasingly competitive field. According to a report by the Center for Strategic and International Studies, there was one graduate school in America (University of California, San Francisco) with a global health component in 1999. In 2009, there were 52. The same report (co-authored by Duke's Merson) said graduate students are increasingly applying to schools with previous global experiences, and with high standards for their graduate programs.

According to Rohit Ramaswamy, an assistant professor of public health leadership in the school of public health, UNC's true value as a global health institution -- and a way for the school to distinguish itself from competitors -- rests in its ability to educate global health practitioners in the developing world through distance or online learning. It's an idea Peggy Bentley supports; she called Ramaswamy one of the school's "thought leaders" and said the online certificate program in global health attracts health professionals around the world who have worked in the field for eight to 10 years (the program was one of Bentley's first global health creations). In his online course "Critical Issues in Global Health," Ramaswamy asks students across the globe basic questions: "Does the area you're working in have roads? Why do poor people and places get HIV? Who says clean water is a right? Who pays for it?" To Ramaswamy, a former engineer who's worked extensively in his native India and in Africa, one cannot implement global health unless one can answer these questions.

In his online course Ramaswamy teaches 50 to 60 students a year. Most of his students live in Asia or Africa, and he often reminds himself they may have taken a dusty bus to an Internet cafe to complete their homework assignment, or read a lecture that he posted on their mobile device. For many of his students, getting a degree in public health from UNC is a boost to their career.

“They send me the newspaper clippings when they get their certificate, the whole town takes note,” said Ramaswamy. “UNC is a seal of approval.”

Ramaswamy says he believes distance learning can create true global health, and in so doing, further define UNC’s global mission. “We have such reach, at a relatively low cost to the student,” said Ramaswamy. As an example, he contrasted modern distance learning with the old World Health Organization model of distance learning. Twenty years ago, foreign field workers would gather for two weeks at a conference and get briefed on the latest research on global diseases.

“They’d come home with a binder that collected dust on the shelf,” said Ramaswamy. With online learning, students can reference resources online, access video clips, chat with Ramaswamy, and hear from other students in real time about what health implementation strategies are working in the field. In that sense, he said, online learning is the epitome of UNC’s “local is global” message. By educating them globally, Ramaswamy’s students are able to locally improve the health in their communities.

CHAPTER 5

WHAT CAN YOU DO WITH A DEGREE IN GLOBAL HEALTH?

Undergraduate students at both Duke University and the University of North Carolina at Chapel Hill study global health to understand health disparities, disease and economics in a globalized world. This story explains different approaches that each school has taken towards implementing undergraduate global health education. This piece also explores the job prospects awaiting seniors who graduate with a degree in global health.

The basketball rivalry between Duke and UNC is legendary, but in the last five years, the schools have also engaged in a quieter, academic rivalry. The schools have taken different approaches on how best to educate undergraduate students in the emerging field of global health, an academic discipline that draws from the life sciences, public health and the liberal arts to address health inequalities at home and abroad.

Students are flocking to this field, in part because the Internet and social media have allowed them to engage with the world at a young age, and in part because global health has become academic buzzwords linked to high-profile research initiatives, philanthropic funding and American foreign policy.

In 2009, the Consortium of Universities for Global Health found that undergraduate enrollment in global health courses jumped from 1,286 to 2,687 in the preceding three years. Both Duke and UNC have seen similar doubling, or tripling, of interest in global health. At Duke, global health has become something that looks like a traditional major, while at UNC students must craft their global health education

from interdisciplinary course offerings. Five years is too short a time to judge the success of a program, but as seniors from both schools prepare to graduate, they're facing unique challenges.

Part I: Ditching class for the cause

When Braveen Ragunathan, a senior from Canton, Ohio, first came to Duke, he saw emails and fliers advertising global health speakers lecturing on campus.

“In high school I didn’t really know what global health was,” said Ragunathan. “But I knew I liked political issues and medicine. I found that the global health speakers were talking about both of these fields.”

Soon Braveen started skipping class when it interfered with the talks.

“My mother was not very pleased with this,” said Ragunathan, who is a public policy major and chemistry minor. He often approached speakers after their presentations and exchanged email addresses. The then-18-year-old student began corresponding with global health leaders at Stanford and Yale. By the end of the academic year, he decided that global health would be his best way into medicine without abandoning his love of policy.

Ragunathan enrolled in the Duke Global Health Institute’s certificate in Global Health (DGHI). Certificates at Duke are in between a major and a minor. Since its inception in 2006, the DGHI certificate has become the second-most popular program for undergrads, behind markets and management (Duke does not have a business major.) In its first year, 2007, five students signed up for the certificate; now 50 will graduate with the certificate in May. The program requires five core classes,

fieldwork and a capstone project. Along with the certificate, Duke students interested in public health can participate in more than 20 campus groups.

Brian Seavey, professional development coordinator at DGHI, said interest in the certificate program is growing at an astonishing rate, partly because of Duke's student research program, which pairs students with faculty, and Duke Engage, the \$50 million service program funded by the Gates Foundation that allows students to spend their summers abroad doing service (and pays the way).

"The certificate was a natural fit at Duke," said Seavey. "We have significant research initiatives that can utilize students, and today's students are much more aware of global and international perspectives."

Seavey said two-thirds of Duke students study abroad, and the certificate program is widely supported by Duke faculty. "We have every school on campus represented in our faculty because we support joint appointments."

Because travel is required for Duke undergrads doing the certificate, Duke also has a commitment to help fund abroad experiences. Ragunathan has traveled to the Mississippi Delta, Ethiopia, and last summer interned with the President's Emergency Plan for AIDS Relief in Washington D.C., all through Duke programs and scholarships.

"I still keep in contact with the researchers I met in Ethiopia," said Ragunathan. "With Skype and Facebook, it's totally feasible to maintain these relationships."

Ragunathan said his education has "made him think differently." Like all certificate students, he had to take an ethics in global health course.

“I learned global health was not something done ‘over there,’” said Ragunathan. “That’s what I probably thought in high school. I learned it’s really about health disparity, which happens everywhere.”

He said he’s confident that Duke was the best place to get an undergraduate training in global health, as his experience has been better than those of high school friends who went to Harvard or other Ivy League schools, where the focus on global health rests in graduate, and not undergraduate programs. More importantly, Ragunathan said Duke helped him find a vocation, not just a career path.

“I know I want to practice medicine in a rural or impoverished part of America and continue traveling abroad for a month or two every year doing work,” said Ragunathan. Ten or 20 years down the line, he said he’d like to transition into policy and work for the Centers for Disease Control and Prevention or USAID.

Ragunathan, who is also a Robertson scholar and spent a semester studying at UNC, is articulate, often forming his hands into fists when talking about the potential lack of support for the Global Fund, or the invisibility of neglected tropical diseases (NGDs) in research funding opportunities. He said thinking about health inequality “keeps him up at night,” and though he doesn’t have much free time, the time he does have is spent organizing global health events on campus.

“When you’re passionate about something,” said Ragunathan. “That feels like fun, like free time.”

Seavey, the professional development coordinator at DGHI, said passionate students are the norm at Duke. But Seavey acknowledged that it’s difficult to gauge how effective the certificate is at landing jobs for students. That’s because most

students who enter the program have plans to go to law school, graduate school or medical school in the three years following their graduation.

Part II: Counting Goats and Job Applications

In many ways, Anna Gage, a UNC-Chapel Hill senior studying public policy and global studies, is similar to Ragunathan. Both participated in the model United Nations in high school, and both decided college was a time to prepare for their futures. They're both serious, self-deprecating and challenged by the inequalities that they see in the world. But unlike Ragunathan, Gage's passion – and degree – doesn't translate easily to a job after graduation.

Unlike many global health students, Gage was never pre-med.

"I have a fear of hospitals," said Gage. "So I never considered medicine." Gage's sister is in law school and has turned her off that path. Gage said she fears counting widgets, being unemployed or being told that every global health job that she wants requires a degree beyond her B.A. She's finding most job postings demand someone with an M.A., Ph.D., or a M.D.

"I have an Excel spreadsheet with 42 organizations on it," said Gage. "I check their websites for job offerings." Some of the organizations are in the Triangle, others in Boston or Washington, D.C. Gage said she'll go anywhere she's hired; she just wants a job.

"I know I can do research and analysis for an organization that does global health," Gage said, citing her senior thesis which looked at goat micro-lending programs in Uganda. "I just have to be given the chance."

Gage didn't know what global health was when she came to UNC. In high school she read Nicholas Kristof's *Half the Sky*, the journalist's take on oppression and women's rights, and knew that she wanted to address inequality in some way. During her freshman year, she went to a GlobeMed meeting, a national college organization (with a UNC branch) that pairs schools with global health projects. UNC's GlobeMed chapter works with Health Alert, an NGO in Uganda that participates in micro-lending programs, giving small loans to local or community based businesses promoting better health outcomes. Gage worked in Chapel Hill as a Health Alert intern last summer with three other UNC students and gathered material for her honors thesis on micro-lending and HIV rates in Uganda.

One of the reasons Gage went to UNC, even though she grew up a townie, was because paying in-state tuition meant that she could travel abroad. She spent a semester in Freiburg, as part of her German minor, and last summer in Uganda. While Gage didn't have difficulty securing funding for her travels, she acknowledged that many of her peers didn't or couldn't study abroad, including the president of GlobeMed, Kelli Paice.

"It's ironic; I've done this for four years and I've never been to Uganda," said Paice, a senior from Boston who's choosing between the University of Iowa and Washington University in St. Louis for medical school next fall. Though she said she wished she had studied global health abroad, she appreciated her leadership role as someone who did global health but couldn't travel abroad.

“It’s good for the other students to see that they don’t have to necessarily go abroad to help,” said Paice. “It’s enough that we meet and discuss issues and keep the connection strong on campus too.”

GlobeMed got Gage interested in global health. The student group was small enough that Gage said she felt like she could make a difference, and focused enough to combat the feeling of insurmountable work that can haunt global health students. Lara Markstein, the administrative manager for the global studies curriculum, said the health theme is becoming the most popular concentration within the global studies major.

“Other majors don’t offer the flexibility in creating your own themes,” said Markstein. “And students responded to the health theme. We haven’t had to do any outreach. We have high school students calling and asking about the global health.”

The global studies major at UNC began in the 1960s as international studies. The name changed in 2010, to fit with UNC’s global vision of education. The health theme, one of five foci students can choose in the major, began in 2009 with 48 students; in 2011, 100 students graduated with the theme. This year, that number jumped to 200. Unlike Duke, UNC doesn’t require that students study abroad, or require an ethics course, capstone or research. Students are self-directed, and Gage has taken classes in anthropology, public health and political science to fulfill her theme.

Markstein said the flexibility draws students to the discipline, but some professors criticize the looseness of UNC’s global health curriculum. Peter Redfield, a medical anthropologist who teaches undergrads at UNC, said global studies and

global health have become a new “buzz” major, pleasing parents because it sounds closer to pre-med than a traditional liberal arts major. Dr. Myron Cohen, an infectious disease specialist and professor of medicine, applauds the broad approach to studying health disparities.

“We’re a state institution with 82 percent of our students from North Carolina,” said Cohen. “We can expose students to these ideas, but they have to go on [in school] to get a skill set.”

Most experts in the field of global health education interviewed for this story agree with Cohen. Dr. David Hill worked as a consultant in infectious diseases at the University of Connecticut and in travel medicine at the London School of Hygiene. He recently returned to Connecticut at Quinnipiac University's School of Medicine as director of global public health, where he’s developing curriculum for medical and undergraduate students.

“We know there’s great enthusiasm in undergraduate global health,” Hill said. “But what is the product of this enthusiasm, and does the product have a place to practice its passion?” Hill said he and others in the field believe the key to undergraduate education is to have benchmarks and clear curriculum for students, but it’s unrealistic to expect undergrads to obtain global health skills without getting an advanced degree.

“The best thing for an undergrad is to understand all the opportunities that are available,” Hill said. “But passion can only get you so far before you need professional skills.”

Part III: Working yourself out of a job

On Wednesday evenings, the GlobeMed group meets in the UNC student union to discuss that week's agenda, which is set by the national organization each week. In early February, the group held a faux debate between global health economists (some students represented Jeffery Sachs, while others stood in for William Easterly) about the benefits of "shock therapy," Sachs' idea of removing both NGO and governmental support from a developing nation after a crisis in one fell swoop, like ripping off a Band-Aid. Various students spoke about the pros and cons of this method, and Gage took the opportunity to share the real-life lessons that she learned in Uganda.

"Lots of NGOs left as soon as the civil war was over in Uganda," Gage said, referring to what's called the "dry ditch" pattern of NGOs in Africa, where they often leave projects unfinished and half-done. "The [economic] market in Uganda didn't stabilize then."

Gage has seen first hand that global health can lead to unaccountable NGOs that don't realize the first principle of their field: Jobs in global health should be self-limiting.

"The ultimate goal is for there not to be people like me," said Gage. "I should work myself out of a job, because there won't be global health inequalities."

Gage said she doesn't regret studying global health. As if reading from a careers services website, she listed all the potential fields that could use her skills: agriculture, engineering, consulting, pharmaceuticals. She said she keeps telling herself not to worry.

CHAPTER 6

THE CINDERELLA OF GLOBAL HEALTH

For the last 30 years, academics and public health researchers have flocked to North Carolina's Research Triangle where they've started dozens of non-governmental organizations (NGOs) and for-profit companies that address global health issues. From clinical trials to vaccines, international clinical staffing to family planning organizations, the Triangle is home to a \$2.5 billion global health industry. But some say the Triangle suffers from a Cinderella complex: all work, but no matching reputation.

Part I: Trying to get everyone in the same room

It was seven in the morning a week before Christmas, but that didn't stop 40 people from gathering at the North Carolina Biotechnology Center in the Research Triangle Park to listen to the year's last presenter in the Triangle Global Health Consortium speaker series. It was a breakfast networking mixer, and a dozen UNC students and professors, as well as global health employees from around the Research Triangle, donned name tags and filed in line to get bagels, coffee, and a briefing from Dr. Mike Cohen, director of the Center of Infectious Diseases at UNC, on his latest research on HIV prevention. At the center table sat Matt Epstein, the newly appointed director of the Consortium. Cohen's talk was the biggest event that he'd organized since getting the director's job last August.

Epstein is not a scientist, nor a doctor. He's a retired lawyer, businessman and high-school math teacher who landed in Chapel Hill 15 years ago because of the weather and the good public schools. Before running the three-year old Consortium,

Epstein said his global health experience amounted to catching a cold in Croatia. But he does have 30 years experience as a mediator, and he said that skill helps him bring together the more than 40 for-profits, non-governmental organizations, pharmaceutical companies, research institutions and clinical trial consultants who work in global health in the Research Triangle, the slice of land between Duke University, the University of North Carolina at Chapel Hill, and North Carolina State University. For 35 years, biomedical companies have taken root in the Piedmont soil like a cash crop, making RTP, said Epstein, the Silicon Valley of the global health world.

The only problem, according to Epstein and others who've watched this area of North Carolina grow, is that the Triangle doesn't know how to brand itself as the best place in the nation – and even the world – to do global health. One reason branding and reputation may be spotty is because the companies and organizations that lay claim to global health in the Triangle rarely talk to each other. That's where Epstein said he and the consortium could make a difference.

“The trick is just getting all of these people in the room together once a month,” said Epstein. “If they could pool their resources, there's no doubt they could be competing for the biggest and most prestigious grants in the country.”

He currently has 20 members signed up for the consortium, including original members Duke University, Family Health International, IntraHealth International, North Carolina Biotechnology Center, North Carolina State University, RTI International, and the University of North Carolina at Chapel Hill. The consortium has a website with a jobs-posting portal and hosts a monthly breakfast lecture and

meet and greet that feature presentations from researchers. The goal is to get people to share information about job openings, new projects or opportunities.

In last December's talk Cohen spoke for 45 minutes before apologizing that he had to cut the Q&A short, as he had a plane to catch to Washington, D.C. After Cohen left, most of the attendees followed suit without much chatter. They had jobs to go to, after all, and as one woman who worked at RTI commented, it's not like she knew any of the people there.

Later that afternoon, drinking an espresso at Foster's in Durham, Epstein said he doesn't know yet if the consortium is doing its job. He said work like Cohen's HPTN 052 trial, which successfully used antiretroviral medications to prevent HIV transmission in healthy people exposed to the disease, brings attention to the Triangle, but the work of research organizations that helped the HPTN 052 trial, like FHI 360, don't get the same prestige as university researchers. FHI 360, the nongovernmental organization in the Triangle, helped coordinate HPTN clinical trials in different countries and helped prepare manuscript drafts. Then, there's the issue of Big Scientists who have Big Personalities. Epstein said getting these scientists, who can be proprietary and guarded with their work, to share and network can be a challenge.

"There's a lot of ego with these people," said Epstein. "But, hey, they also have a combination of altruism and self-interest. That's good."

Part II: Academic Egos and bad business models

Peggy Bentley, chair of the consortium's board of directors, knows something about the academic history – and professional egos – that color the global health

scene in the Triangle. Bentley, who is also the associate dean of global health at UNC, modeled the consortium in 2009 after the 15-501 Supper Club, a monthly meeting of Duke and UNC global health researchers fell apart. Although she blamed people's schedules for the collapse of that club, she hinted at tension caused by the egos between Cohen, the UNC HIV researcher, and Dr. Mike Merson, director of Duke's Global Health Institute and a professor of medicine and community and family medicine.

“At our first dinner I gave both Mikes ties with images of testosterone on them,” Bentley said. “I'm friends with both of them, but there's a tension between the researchers here. It always comes down between a Duke-UNC thing.”

Many of the non-profits and for-profits doing notable work in the Triangle grew out of efforts spearheaded by UNC or Duke faculty in the 1970s and '80s. These scientists broke out of academia and into a new world of global health; a world facing the HIV crisis, a faltering public health system at home, and the realization that the age of infectious disease was far from-over. Out of that turmoil emerged a new business model: globalized health consulting, drug trials, research initiatives and humanitarian outreach efforts funded by both private philanthropic organizations and new federal programs like United States Agency for International Development (USAID) and the President's Emergency Plan for AIDS Relief (PEPFAR).

The most successful of local university-grown businesses has been Quintiles, a private company that runs clinical trials for pharmaceutical companies. Dennis Gillings, a former biostatistics professor at UNC, began Quintiles in 1982 with five employees. Today, Quintiles employs more than 20,000 people with European, Asian

and African offices, in addition to the red and white headquarters that sits just south of I-40 like a business luxury suite near the airport. Forbes magazine estimated that Quintiles brings in \$3 billion in sales per year (the company does not share its profits, nor its client list).

Richard Kouri, a business professor and director of the BioSciences Management Initiative at North Carolina State University, has been watching the development of biomedical companies in the area for the last 20 years. He said one reason global health companies in the Research Triangle don't self-promote the way that they should is that they're too intrinsically linked to academia. Quintiles is the exception, not the rule. Kouri said the problem is that most Triangle leaders, including those at Duke and UNC, only know one way to make money. "They know the academic route to make money, which is to compete for a limited number of grants," Kouri said. "But they don't know how to compete for money the way venture capitalists do."

In other words, Kouri said global health in the Triangle takes a "discover it, and they will come" attitude to success. He said academics are obsessed with invention and use the university as a platform to study health outcomes. Once they've established a medical treatment, or a new technique, they take it to the market place. They're not motivated by market demands and needs.

"That's ass-backwards for a good business," said Kouri. "Academic businesses all R&D with little innovation management."

Still, Kouri acknowledged that global health in the Triangle works in spite of itself.

“We’ve reached critical mass here, you can’t stop it now,” Kouri said. “But it could be better.”

Part III: Where the jobs are (for some)

Surprisingly, for all the growth, there are hundreds of vacant global health jobs in the Triangle. Epstein said biomedical organizations report an unemployment rate of nine percent. Both Kouri and Epstein agree that vacant global health jobs in the Triangle add up to big losses for the members of the consortium. By Epstein’s estimates, \$25 million is lost to companies outside this area each year. Those are significant numbers for what Epstein estimates is a \$2.5 billion economy in North Carolina, or the state’s fifth largest moneymaker (tobacco, textiles and chemicals still lead the state). The unfilled positions are ironic, since the Triangle is also home to hundreds of college graduates, many of whom would like a career in global health, and have studied the field, yet find it difficult to find an entry level position.

“These are highly technical jobs,” said Epstein. “Or jobs that require a Ph.D. The problem is that large companies hire someone, have to train them in a specific skill, and then they get cannibalized by another company. People don’t stay in one place very long.”

Kouri said the Research Triangle boasts the highest concentration of Ph.D.s in the world, and brings in \$1.3 billion in federal research grants each year. This is great news for an academic, or a job seeker with a decade of experience and advanced degrees, less so for a 22-year-old graduate with a B.A. The only other cities with a similar concentration of talent are Washington, D.C., which is closest to the federal funding programs that support many global health initiatives, and Seattle, home base

to the Bill & Melinda Gates Foundation, the largest private philanthropic organization in the world. Those cities may have more resources, but the Triangle has what Dr. Ward Cates, president of research at FHI 360, a public health development organization, called the equivalent of two back-to-back national basketball titles: In 2010 and 2011, Science magazine named work that originated, or was supported, by the global health industry of North Carolina as the scientific breakthrough of the year. In 2010, it was the CAPRISA study, the successful trial of a vaginal gel that destroyed the HIV virus if women applied it before sex. (FHI 360 helped organize the trials). In 2011, it was Cohen, UNC, and, again, FHI 360, which won the award for their HPTN 052 study showed that antiretroviral HIV drugs given to an infected partner can help prevent spread of the virus to the uninfected partner. Ninety-six percent of the time, the drugs prevented that spread.

While Cates said universities (the South African University of KwaZulu-Natal for CAPRISA, and UNC for HPTN 052) that sponsored those studies were quick to share their triumphs with the world, FHI 360 lagged behind.

“I guess FHI is a bit like the Cinderella of the global health community,” said Cates. “And the FHI story is the Triangle story. There are different groups, and different cities, getting their stories out there better than us.”

Cates, who’s been at FHI for 17 years, said he supports the work of the consortium, but pointed out that the organization’s success is to be determined.

“There’s been growing pains,” said Cates. “But that’s only because anytime you bring together the two shades of blue at one table, they’ll be problems. Still, we

want to lasso all these special people in the Triangle and get them all rowing in the right direction.”

Epstein said he'd be successful as director if he can get all the entities, from GSK, to Duke, to FHI, to realize that they need to row together. That's a heretical concept for trained academic scientists, who know that resources are limited, and competition means less funding for their projects. It's that mindset Epstein is trying to change.

“If we could make them see that if they work together, they'll continually bring bigger slices of the pie to the Triangle,” Epstein said. “Right now, if you wanted to bring together five or six people to address a mutual problem, you would spend three months putting a network together. If you had the right communication network, that would take an hour.”

To create that communication network, Epstein said the consortium has to find a way to make itself a “must” among the big egos and fractured landscape of the global health network of North Carolina. The consortium has to become an integral tool for universities, NGOs, and for-profits. Epstein said he could accomplish that if his meetings, websites and networking opportunities become routine in the Triangle. Once something becomes part of a routine, even the routine of doing global health in North Carolina, no one wants to be without it.

CHAPTER 7

Conclusions and Reflections on Global Health in North Carolina

After completing the reporting for this thesis, I've merely scratched the surface to this story. This is both a good and bad feeling for a reporter: On one hand, I've addressed something important by naming the interesting phenomenon happening under our noses: We're training a new generation of students to think about health in a global way, and this is a major shift in the academic culture. On the other hand, I have produced a very limited and geographically narrow series. While I think I did a good job of capturing the student voice, the institutional voice and the local business community voice, there are several voices I've left out, including the philanthropic voice, the international business voice and most obviously, the voices of those on the receiving end of the global health efforts illustrated here. Ultimately, one theme kept coming up again and again in interviews: North Carolina decided to take on global health because it made sense to the academics and business people in the area. I hope my project begins the work of documenting how the decisions of a handful of people influence the lives of students, patients and scientists in the future.

For me, this thesis really began in 2009. Three years ago, I thought global health was only for two types of people. There were the influential activists: Bono, Bill Clinton, Paul Farmer, and there were the billionaires: Bill Gates, the Rockefellers, anonymous-looking Silicon Valley barons who sometime blogged

about HIV on the Huffington Post. Thus I placed “global health” in the same category as “credit default swaps;” if someone talked about either of those things with authority, I assumed they could access a private jet.

I moved to Chapel Hill in late August 2009, and within a week of unpacking boxes, tried to find a job. As a writer and reporter, I followed leads and old contacts to WUNC and the Durham Herald-Sun, but was told that they were in the midst of the worst hiring freezes in recent memory. Discouraged, I broadened my search, and found a position at UNC’s Gillings School of Global Public Health; the department of environmental science and engineering was looking for an academic assistant with editorial skills. I applied, and without any prior knowledge of public health or environmental engineering, the school hired me.

Soon (in addition to faxing and mailing lab samples), I was researching American environmental disasters such as Love Canal and Valley of the Drums, the worst-case scenarios of post-war America: scarred children, women unable to maintain pregnancies, strange cancers. I compiled these narratives into a study the United Arab Emirates commissioned UNC to produce. The U.A.E. had become industrial, rich and urban too quickly, and the country did not know the environmental risks and hazards that accompanied cities of skyscrapers. Apartment complexes were built next to unlined landfills, waste was in the water supply, and the government wanted to use American scientists and history to quickly evaluate the U.A.E.’s risks and recommend a system to protect the health of its citizens. Suddenly, I got it: Global health made sense in today’s digital, mobile, post-industrial

world. Scientists could learn, share and yes, profit, off of the connections between the developed and developing worlds.

Now with a basic understanding and primed ears, I heard more talk about global health than I ever had before. It seemed to me that North Carolina, and its flagship university, embraced global health as a necessary good, an academic virtue. While I agreed with this basic assessment, I had questions: Why were such young students drawn to this field, and what did they expect to do with their lives? Why were there so many biomedical companies in the Research Triangle, and how were they connected to the academic institutions that surrounded them? What was lost, and gained, by global health? I believe this thesis answered these questions, and, moreover, offered a snapshot of the biomedical industry and research at the beginning of the 21st century, a time when the impossible (a cure for HIV) seems within reach, and the improbable (a college senior who believes he can eradicate tropical diseases) is commonplace.

CHAPTER 8

Compendium of Interviews

Chelsey Beane, UNC public health graduate student, in-person interview, Jan. 11, 2012

Peggy Bentley, UNC's associate dean for Global Health, in-person interview, Jan. 6, 2012

Phil Bridges, director of corporate communications for Quintiles, email correspondence, Jan. 22-24, 2012

Kristen Brugh, UNC public health graduate student, in-person interview, Jan. 6, 2012

Ward Cates, director of research at FHI 360, in-person interview, Jan. 16, 2012

Lisa Chensvold, communications director for UNC's Center of Infectious Diseases, telephone interview, Jan. 5, 2012

Myron Cohen, director of UNC's Center of Infectious Diseases, in-person interview, Nov. 7, 2011

Matt Epstein, director of the Triangle Global Health Consortium, in-person interview, Dec. 13, 2011

Anna Gage, UNC senior, in-person interview, Feb. 1, email follow-up, Feb. 3, 2012

David Hill, director of Global Public Health at Quinnipiac University, telephone interview and email follow-up, Feb. 15, 2012

Don Holzworth, executive in chief at UNC's SPH, in-person interview, Jan. 26, 2012

Richard Kouri, NC State's Director of BioSciences Management Initiative, telephone interview, Jan. 13, 2012

Lara Markstein, UNC's administrative manager for the Curriculum in Global Studies, in-person interview Jan. 13, 2012

Kelli Paice, UNC senior, in-person interview, Feb. 1, 2012

Claire Panosian, professor of medicine, UCLA Program in Global Health, telephone interview, Jan. 25, 2012

Braveen Ragunathan, Duke senior, in-person interview, Feb. 1, 2012

Rohit Ramaswamy, UNC's Gillings Visiting Clinical Associate Professor, in-person interview, Jan. 17, 2012

Brian Seavey, Duke's Global Health Professional Development Coordinator, in-person interview, Jan. 10, 2012

REFERENCES

Banta, James E. "From International Health to Global Health," *Journal of Community Health* 26, no. 2 (2001), doi: 10.1023/A:1005270111548 (accessed November 14, 2011).

Bashford, Alison. "Global biopolitics and the history of world health." *History Of The Human Sciences*, 19, no. 1 (2006), 67-88. doi:10.1177/0952695106062148 (accessed November 12, 2011).

Birn, Anne-Emanuelle, "The stages of international (global) health: Histories of success or successes of history?," *Global Public Health*, 4, no. 1, (2009), 50-68.
____ "Rx for Survival: A Global Health Challenge," *Bulletin of the History of Medicine*, 81, no. 2 (2007).

Brown, T. M., et. al. "The World Health Organization and the Transition From "International" to "Global" Public Health." *American Journal Of Public Health*, 96, no. 1 (2006), 62-72. doi:102105/AJPH2004.050831

Crump, J. A., et. al. "Guidelines For Global Health Training." *Health Affairs*, 30, no. 6 (2011), 1215-1216. doi:10.1377/hlthaff.2011.0428Letters

Cohen, Jon. "HIV Treatment as Prevention," *Science*, 23 no. 12, 1628. doi:10.1126/science.334.6063.1628 (accessed December 30, 2011).

Cohen, Michael. "The New Colonialists," *Foreign Policy*, 167 (2008), 75.

Dubin, M. "The League of Nations Health Organization," in P. Weindling (ed.) *International Health Organizations and Movements, 1918–1939*. Cambridge: Cambridge University Press, 1995.

Editors, "The End of AIDs?" *The Economist*, 399, no. 8736 (2011), 11.

Farmer, Paul. *Infections and Inequalities: The Modern Plagues*, Berkeley: U of California, 1999.

Garrett, Laurie. *The Coming Plague: Newly emerging diseases in a world out of balance*. New York: Farrar Straus and Giroux, 1994.

____ "The Challenge of Global Health," *Foreign Affairs*, 86, no.1 (2007), 14.

Gerson, Michael. "Putting AIDS on the road to extinction," *Washington Post*, November 10. http://www.washingtonpost.com/opinions/putting-aids-on-the-road-to-extinction/2011/11/10/gIQAoM3t9M_story.html (accessed January 2, 2012).

- Hanson, Lori. "Global Citizenship, Global Health, and the Internationalization of Curriculum: A Study of Transformative Potential." *Journal Of Studies In International Education*, 14, no.1 (2010), 70-88.
- Hanson, Lori, et. al. "Undergraduate International Medical Electives: Some Ethical and Pedagogical Considerations." *Journal Of Studies In International Education*, 15, no. 2, (2011) 171-185. doi:10.1177/1028315310365542.
- Hilts, Philip, *Rx for Survival: Why We Must Rise to the Global Health Challenge*, New York: Penguin Press, 2005.
- Ho, Shirley S. "Public Reactions to Global Health Threats and Infectious Diseases," *Public Opin Q* 71, no.4 (2007), 689, doi: 10.1093/poq/nfm041 (accessed January 2, 2012).
- Institute of Medicine, *America's Vital Interest in Global Health* (Washington, DC: National Academy Press, 1997), 1.
- Janes, Craig and Kitty Corbett, "Anthropology and global health," *Annual Review of Anthropology*, 38 (2009), 167, doi:10.1146/annurev-anthro-091908-164314, (accessed January 2, 2012).
- Jobe, Kathleen, "Disaster relief in post-earthquake Haiti: Unintended consequences of humanitarian volunteerism," *Travel Medicine and Infectious Disease*, 9, no. 15 (2011).
- Johnson, Steven. *The Ghost Map: The story of London's most terrifying epidemic--and how it changes science, cities and the modern world*. New York: Riverhead Books, 2006.
- Katz, Alison. "New Global Health: A reversal of logic, history and principles," *Social Medicine* 3, no.1 (2008), 1
- Kickbusch, Ilona "Influence and Opportunity: Reflection on the US role in global public health," *Health Affairs*, 21, no.6 (2002),132, doi:10.1377/hlthaff.21.6.131 (accessed December 30, 2011).
- Koplan, J. P., et. al. "Towards a common definition of global health." *Lancet*, 373, no.9679, (2009) 1993-1995. doi:10.1016/S01406736(09)60332-9
- Last, John M. *Public Health and Human Ecology*, Stamford, Conn.: Appleton & Lange, 1998, 337.
- Lakoff, Andrew. "Two regimes of global health," *Humanity* 1, no.1 (2010), 59-79.

Oleksiyenko, Anatoly and Sá, Creso M., "Resource asymmetries and cumulative advantages: Canadian and US research universities and the field of global health," *Higher Education* 59, no. 3, (2010) 367-385, doi:10.1007/s10734-009-9254-5 (accessed November 14, 2011).

Parsons, Adam. "The Global Health Debate," Washington, DC: Foreign Policy In Focus, September 18, 2009)

Pinto, A.D. and Upshur, R.G. "Global Health Ethics for Students," *Developing World Bioethics*, 9, no. 1, (2009), 3, doi:10.1111/j.1471-8847.2007.00209.x (accessed November 14, 2011).

Preston, Richard *The Hot Zone*, New York: Random House, 1994.

Redfield, Peter, "Doctors Without Borders and the Moral Economy of Pharmaceuticals," in *Human Rights in Crisis*, ed. Alice Bullard (Aldershot, UK: Ashgate Press, 2008).

Rivkin-Fish, Michele. "Learning the Moral Economy of Commodified Health Care: Community Education, Failed Consumers, and the Making of Ethical Clinician-Citizens" *Culture, Medicine, and Psychiatry*, 35, no. 2 (2011), 183-208.

Roy, Arundhati. "Help that Hinders," *Le Monde Diplomatique* November 1, 2004

Shilts, Randy. *And the Band Played On: Politics, People, and the AIDS Epidemic*. New York: St. Martins Press, 2000.

Specter, Michael, "India's Plague," *The New Yorker*, 77, no 40 (2001).

_____ "Nature's Bioterrorist," *The New Yorker*, 81, no. 2 (2005).

UNC News Service, "Institute for Global Health and Infectious Diseases aims to improve lives" October, 2007,
<http://www.unc.edu/news/FYI/globalinstitute1007.html> (accesses November 16, 2011).

_____ "UNC-led international study shows early treatment with antiretroviral therapy prevents HIV transmission" May 12, 2011, <http://globalhealth.unc.edu/2011/05/unc-led-international-study-shows-early-treatment-with-antiretroviral-therapy-prevents-hiv-transmission/> (accessed December 30, 2011).

Verma, G. "Analysis of the mass media coverage of the Gates Foundation Grand Challenges in Global Health initiative," *J Med Ethics* 2009;35:163-167, doi:10.1136/jme.2008.025353 (accessed December 14, 2011).

Wald, Priscilla. *Contagious: Cultures, Carriers, and the Outbreak Narrative*, Durham: Duke University Press, 2007.

Wilkinson, Richard, *The Impact of Inequality: How to Make Sick Societies Healthier*. New York: The New Press, 2005,

Wong, Yut-Lin. "Taking Stock of Alma-Ata Primary Health Care/Health for All: Moving Toward New Directions in Global Preventive Health," *Asia Pac J Public Health* 23, no.125 (2011), doi: 10.1177/1010539511398470 (accessed December 5, 2011).