Medical History and Bioethics 559

Global Environmental Health: An Interdisciplinary Introduction

Chem 1361  
Tuesday, Thursday 1:00-2:15

Richard Keller, Department of Medical History and Bioethics  
rckeller@wisc.edu
Office hours (1423 MSC): Tuesday, Thursday, 2:30-3:30 aba

Teaching assistants:

Cari Cuffney, cuffney@wisc.edu  Office hours: T, Th 2:15-3:15 aba  
Valerie Stull, vstull@wisc.edu  Office hours: W 2:00-3:00, F 11:00-12:00

TA Office: MSC 1135

Introduction

The global expansion of infectious diseases and increasing health disparities between industrialized and developing countries have been among the major concerns in international health circles for at least two decades. Yet only in the past few years has an awareness of the links between these problems and the global environment increasingly emerged among public health professionals and caregivers. This course aims to expand our understanding of the intersections between major international health problems and a crisis of the global environment by outlining both contemporary and historical dimensions of this juncture to undergraduates through an interdisciplinary exposition.

The course will be divided into lecture and discussion. The course’s principal instructor will deliver many of the lectures, supplemented by faculty experts from a range of departments, to present a survey of the historical, biological, social, geographical, and cultural aspects of health and the global environment. The discussion sections, led by your TA, will be dedicated to in-depth exploration of the issues that arise in the lectures and readings.

Students will be responsible for completing four assignments. These include a map assignment, worth 10% of the final grade, and three take-home exams, each worth 25% of the final grade. Regular attendance and informed participation in discussion will count for the remaining 15% of the final grade.

Readings will be available for electronic download via Learn@UW.
Course Structure and Meeting Schedule

I. Global Health, Disease Ecology, and Society

What, broadly construed, is the relationship between health and place? Such a question seems obvious when thinking about diseases such as malaria, which rely on a specific ecology that is favorable to the breeding of *Anopheles* mosquitoes and human habitation, with little access to both medicines that can control the disease and engineering techniques to minimize mosquito habitats. But the “natural” habitat of disease is far more complicated than the coexistence of vectors, disease reservoirs, and susceptible populations. A disease that we normally understand in virological terms—HIV—is every bit as specific to place and context as malaria. This section of the course will outline the ways in which a range of factors—the natural landscape, land use, economic policy, politics, and culture—all shape environments that are either vulnerable or resilient when faced with certain disease threats.

Jan. 24—Introduction

Jan. 26 — Health in an ecological frame


Jan. 31 — Health and political economy


Feb. 2 — Political ecology and vulnerability (Matt Turner)


Feb. 7 — Discussion: Health and human rights
Film clip: Paul Farmer, “Rethinking Health and Human Rights”

Feb. 9 — The globalization of disease, part 1: Two views


MAP ASSIGNMENT DUE IN CLASS THURSDAY, FEB. 9
Feb. 14 — The globalization of disease, part 2: Plagues, peoples, and places


Feb. 16 — The globalization of disease, part 3: Ecologies of AIDS


Feb. 21 — Film: Darwin’s Nightmare

Feb. 23 — Discussion of Darwin’s Nightmare and ecologies of AIDS

FIRST TAKE-HOME EXAM DUE IN CLASS THURSDAY, FEBRUARY 23

II. Climate

At least since Hippocrates, medical thinkers have pondered the relationship between climate and constitution. How do meteorological conditions—over both the short and long terms—shape health? What is the relationship between geography and health? For explorers in a period of expanding empire, the tropics represented a “white man’s grave,” a landscape suitable only for exploitation by local or expendable labor forces. At present, we recognize a range of emerging health threats linked to anthropogenic climate change. What, if any, continuity links these two perspectives on climate and health? The course will survey the historical development of this relationship before drawing on campus expertise to explore the contemporary dimensions of this problem.

Feb. 28 — Bodies and climates in history


March 1 — Health effects of global climate and ecological change: Jonathan Patz

March 6—Climate change, ethics, and intergenerational justice: Paul Kelleher


Paul Kelleher, “Energy Policy and the Social Discount Rate,” forthcoming in *Ethics, Policy & Environment*

**III. Population, Urbanization, and Sustainability**

Many have linked the contemporary crisis in global health to unsustainable population growth. Indeed, anxiety over population growth has fueled both the promotion of women’s access to safe, reliable contraception, but also some notably more disturbing efforts at global population control, including India’s Emergency in the mid-1970s and the development of the one-child policy in China in the 1980s. Yet such concerns are not new. Economist and demographer Thomas Malthus brought these issues to the fore in the context of English industrialization in the late eighteenth century, and well into the twentieth century Europeans and Americans fretted about how to increase the size of “desirable” populations while minimizing the expansion of the poor. How can we feed a growing population? Will the next war be fought over water, rather than oil, as a precious resource? How and in what ways are these conflicts already happening—in Ethiopia in the 1980s, in Zimbabwe at present, in the West Bank and Gaza? This segment of the course will explore the historical relationship between food, population, and health on a global scale. We will also investigate urbanization and land use in this segment of the course. For the first time, the world’s urban population now exceeds the rural population. More troubling, most urban population growth is taking place in unplanned slums in developing countries with few social services. These emerging communities are breeding grounds for a range of infectious diseases. The course will explore these new problems in the context of urbanization and the anxieties it has historically produced, as well as the problems of a depopulated rural environment with decreasing opportunities.

March 8—Population growth: from Malthus to Ehrlich

Reading: Thomas Malthus, *The Principles of Population* (selections)
Paul Ehrlich, *The Population Bomb* (selections)
March 13—Feeding the world


March 15—The Green Revolution


March 20—Intersections of human and animal health


March 22—Industrialization and urbanization, then and now


March 27—Vulnerability in the developing world: Claire Wendland

March 29—Thinking through the issues: Population, hunger, and the global commons


SECOND TAKE-HOME EXAM DUE IN CLASS THURSDAY, MARCH 29

April 3-5: No class—Spring Break

*IV. Energy, Consumption, and Exposure*

Concerns about population growth and resource consumption involve energy as much as they involve food and water. Moreover, our insatiable demand for energy has led directly to the greatest technogenic catastrophes of the contemporary era: the explosion at Chernobyl, innumerable deaths and immeasurable destruction of landscapes linked to coal and natural gas production, and countless oil spills. The course will explore this relationship among energy production, consumption, and emerging health threats. What is the relationship between economic growth, the rise of mass consumption, and toxicity? Are we
buying ourselves to death? This unit aims toward a conclusion in the course by linking historical and contemporary patterns of consumption to concerns about sustainability and contamination.

April 10 — Cities and the built environment: Annemarie Schneider


April 12 — Environmental refugees


April 17 — Energy in an industrial economy


April 19 — Energy and resources in the developing world


April 24 — Disaster and vulnerability in the contemporary world


April 26—The nuclear age (Cathy Middlecamp)


May 1—Globalizing consumption

“Rising India,” *NOW* (PBS, 2008).

Reading TBA

May 3—Film: *The Waste Land*

May 8—Toxic exposure


Nancy Langston, preface and conclusion, *Toxic Bodies* (Yale University Press, 2010).

May 10—Conclusions

FINAL EXAM DUE MAY 13