

Training in Population Health Science: Undergraduates

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IOM Roundtable on Population Health
Washington, D.C.

June 1, 2015



Sources of Undergraduate Interest in Health

Humanitarian concerns: poor countries, inequality in US

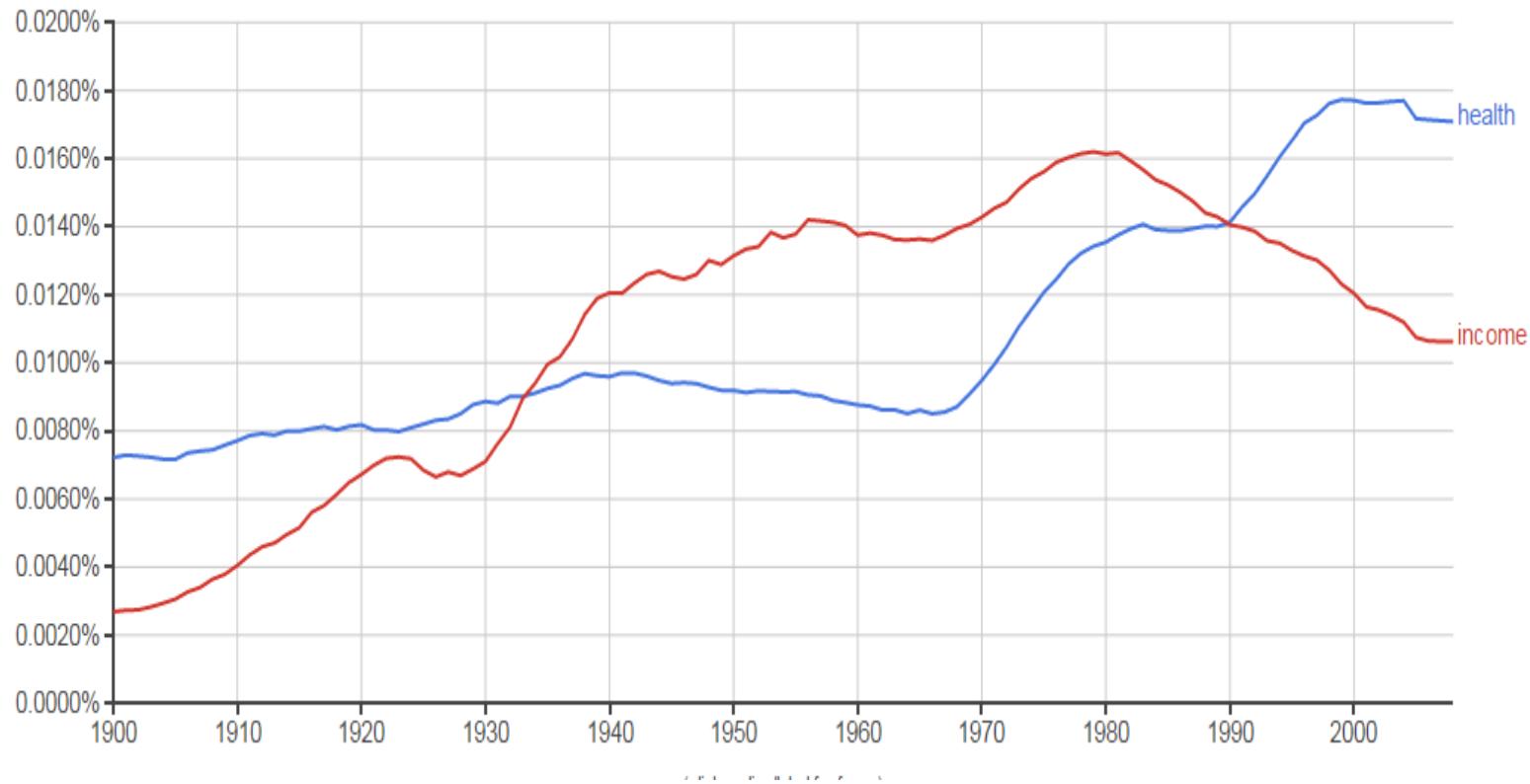
Impact of huge health care industry

High proportion of pre-meds

Increased popularity of interdisciplinary programs

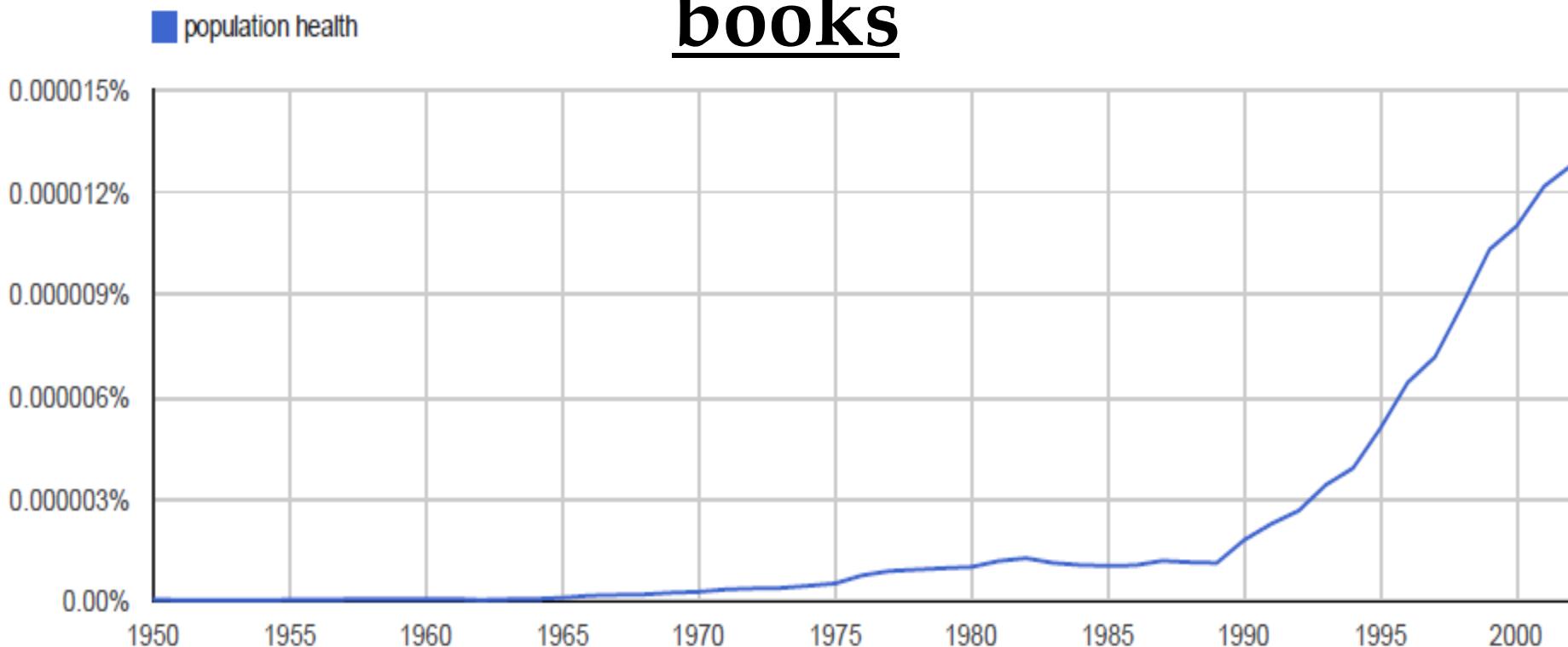
Concern with self as affected by mental and physical health

Frequency of Appearance of “Health” and “Income” in Books since 1900



Source: Google Culturomics

Frequency of appearance of the term “population health” in books



Source: Google Culturomics

Goals of the Health and Societies Major

- read scientific and medical texts critically, and assess their social, cultural, and political origins and ramifications;
- identify and define key social determinants of health in a variety of historical and contemporary contexts;
- analyze the interplay of factors that have resulted in particular health outcomes and policies;
- integrate methods from history, sociology, anthropology, and other disciplines in empirical assessments of communities, populations, and policy interventions on multiple levels;
- pursue in-depth research projects using published sources, archival material, and ethnographic and experimental data;
- analyze data using both quantitative and qualitative methods; and
- participate in the design of effective multipronged strategies to address health challenges in local, national, and international contexts.

The Health of Populations

Basic premise: health outcomes are measurable

Develop some of the basic measures

From Vital Signs: Core Metrics for Health and Health Care Progress (IOM 2015):

“Life expectancy- measure for a validated health concept that reflects overall system performance with respect to a wide range of factors influencing health.”

The Health of Populations

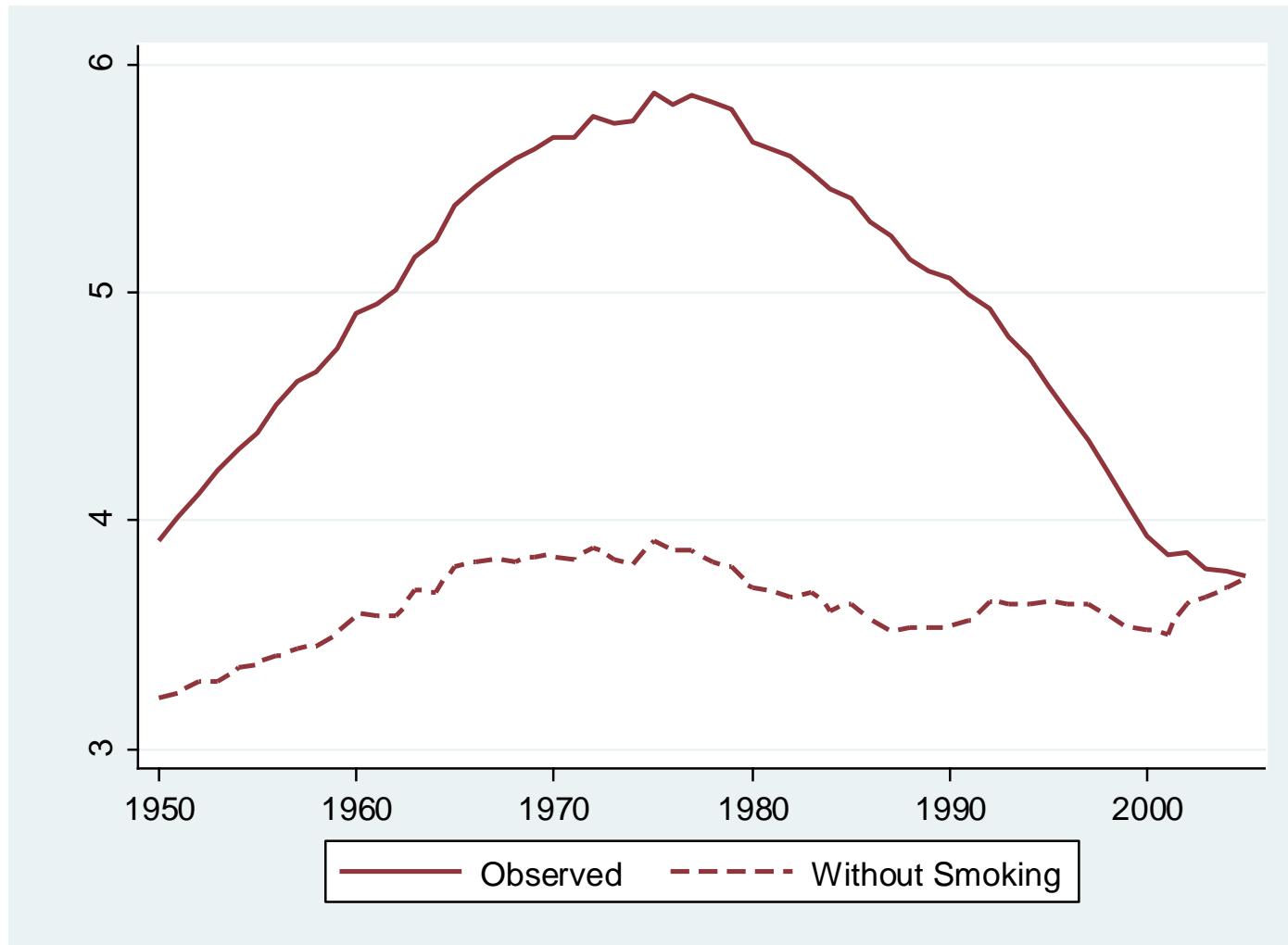
The fundamental question: What causes health measures to vary

- Over time
- Over space (nations, states)
- Across social groups
- Across sex

Linked to the major determinants

- Economic performance
- Medical and public health technology
- Public policy and administration
- Health behaviors

FIGURE 2 U.S. trends in the observed sex difference in e_{50} and the estimated sex difference without smoking.



Source: Preston, Glei, and Wilmoth (2009)

Goals of the Course

Develop analytic frame

Make clear the value and importance of health

Develop specific skills

- standardization
- life table
- population attributable fraction
- cost-effectiveness calculations
- measures of inequality
- DALY's

Identify and foster budding researchers

“I remember reading the 1993 World Development Report [on health]. Every page screamed out that human life was not being as valued in the world at large as it should be. My wife Melinda and I were stunned to learn that 11 million children die every year from preventable causes. This is when we decided to make improving health the focus of our philanthropy.”

- Bill Gates, 2003

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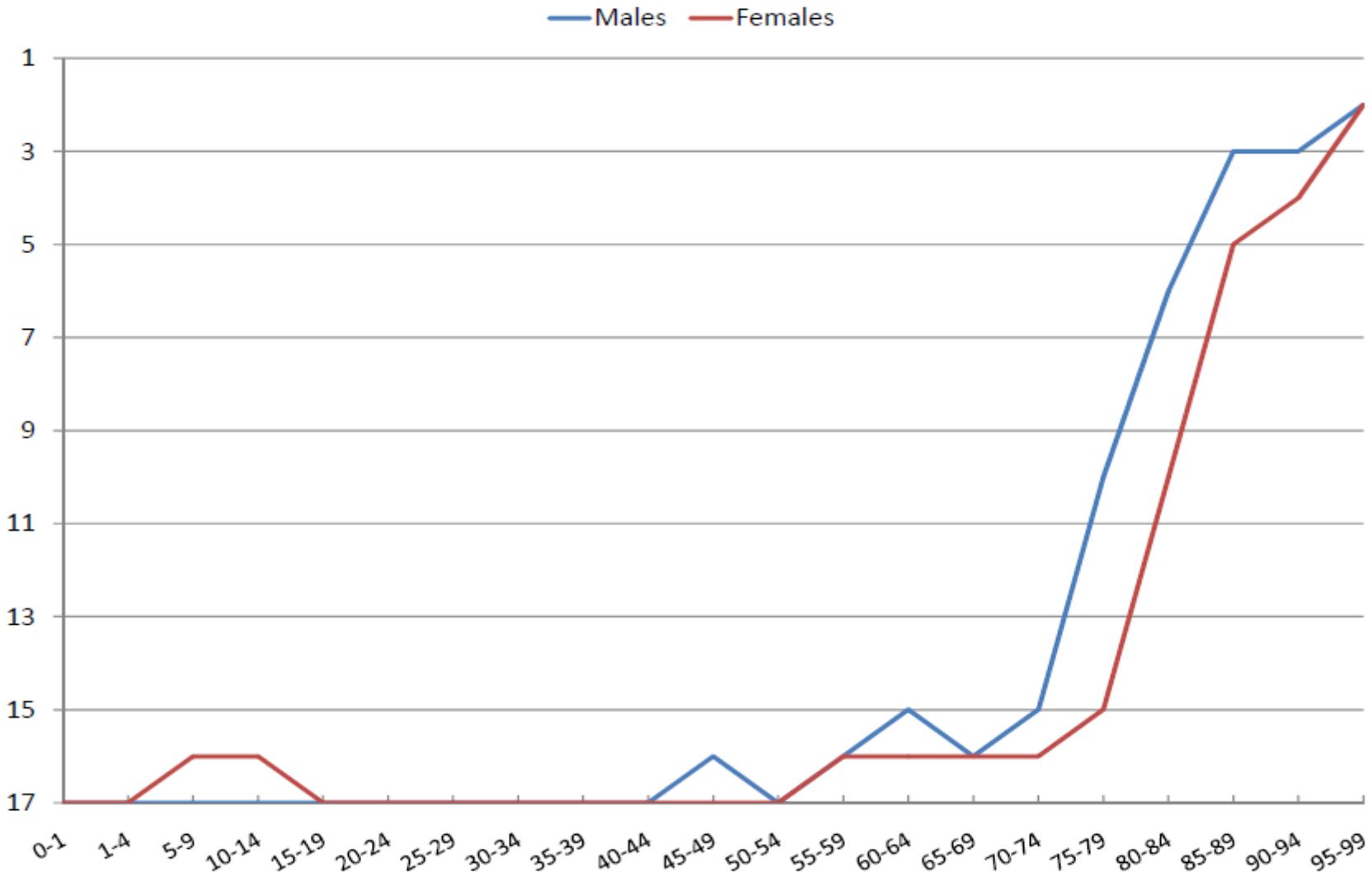
Undergraduates Into Researchers:

“Mortality of American Troops in the Iraq War”

Emily Buzzell and S.H.Preston. Population and Development Review. Vol. 33(3). September, 2007: 555-566.

Jessica Ho, “Mortality Under Age 50 Accounts for Much of the Fact that US Life Expectancy Lags That of Other Countries” Health Affairs. Vol. 32(3). 2013: 59-67.

Ranking of US Death Rates Among 17 Countries, 2006-2008



Source: Ho 2011

Addition to List of “Competencies” in Population Health?

“Familiarity with basic measures that characterize population health”

- acknowledges that health is quantifiable
- creates a useful lexicon
- provides valuable lens
- provides focus for the field