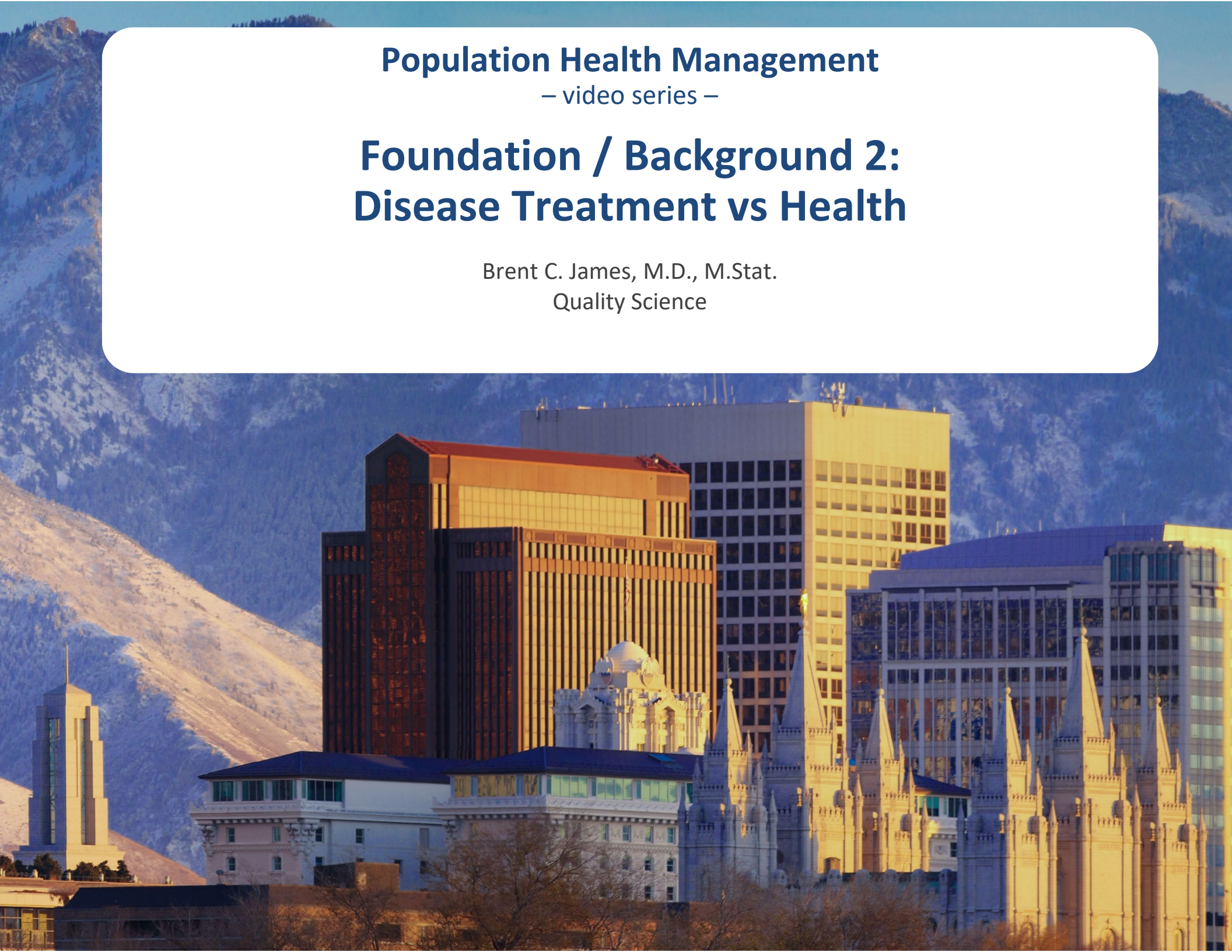


Population Health Management

– video series –

Foundation / Background 2: Disease Treatment vs Health

Brent C. James, M.D., M.Stat.
Quality Science

Video and slides

I. Background framing

A. Two polarities / tensions

2. Polarity #2

Disease treatment vs Health

If "aim defines the system,"

what is the aim of health care delivery?

What is the "product or service" that patients seek when they come into a health care delivery setting?

The job to be done *in health care delivery*

1. ***Caring*** *always* *(heal the spirit; reduce suffering)*
2. ***Curing*** *when possible* *(heal the body / mind)*
3. ***Rescue*** *– we did everything possible*

#1: Caring

A man stricken with disease today is assaulted by the same fears and finds himself searching for the same helping hand as his ancestors did five or ten thousand years ago. He has been told about the clever tools of modern medicine and somewhat vaguely, he expects that by-and-by he will profit by them, but in his hour of trial his desperate want is for someone who is personally committed to him, who has taken up his cause, and who is willing to go to trouble for him.

D. Emerick Szilagyi, MD: *In Defense of the Art of Medicine*, 1965

(with thanks to Dr. Steven Kappes, Milwaukee, WI)

The caring professions

The clinician as

- a trusted advisor

- a wise counsellor;

Based on the clinician-patient relationship;

Help relieve mental ***suffering*** *–*

mental discomfort: pain, anxiety;
knowledge about what happens next

#2: Curing

Help with and treatment for

specific clinical problems or conditions,

expressed as

mental and physical ***function*** *(up to and including death)*

A continuum:

- *from acute self-limited (minor) problems (e.g., a cold)*
- *to outpatient / same day procedures (including imaging)*
- *to chronic diseases*
- *to acute life-threatening problems (e.g., major trauma)*

#3: Rule of Rescue *(rapid response to critical need)*

Jonsen AR, 1986: ***The imperative people feel to rescue identifiable individuals facing*** *(avoidable?)* ***suffering or death.****

- ***subconscious personal identification at an emotional level;***
- ***a <u>person</u> instead of 'just a number'; a name and a face***
  - *The child down the well*
  - *Whales trapped in the Arctic ice*
  - *The dog on the abandoned boat*
  - *"60 Minutes" program on pertussis vaccination*

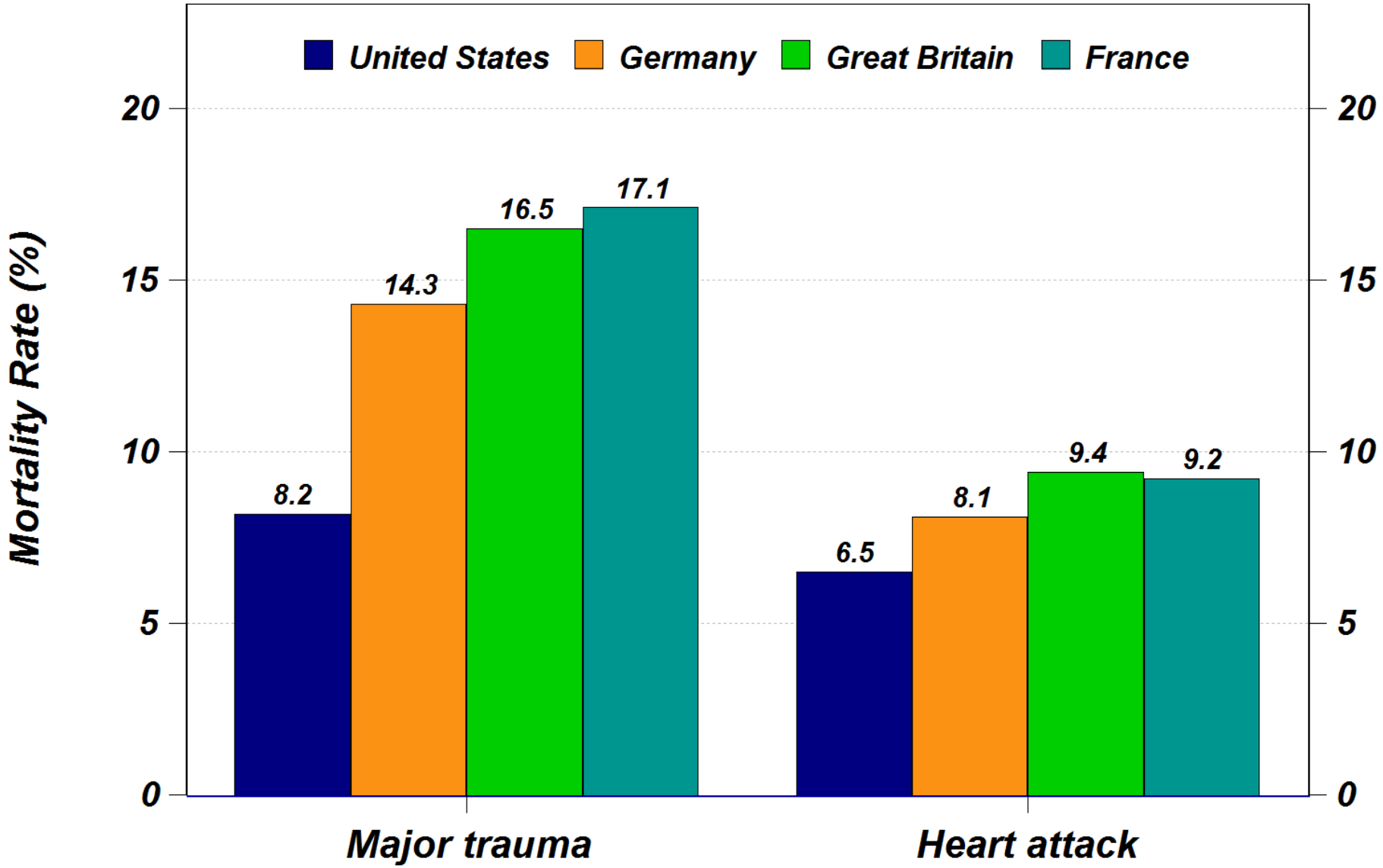
- *People respond to stories, not tables of numbers:*

"A single death is a tragedy, a million deaths is a statistic."

Joseph Stalin *(who killed more than 17 million of his own Russian people)*

* McKie J & Richardson J. The rule of rescue. *Soc Sci Med* 2003; 56(12):2407-19 (June).
Richardson J & McKie J. *Working Paper 112: The Rule of Rescue*. West Heidelberg, Victoria, Australia: The Centre for Health Program Evaluation; 2000.

System performance, by nation



Source: OECD, 2003

Patients primarily seek

Peace of mind

that they are doing the best they can with the hand that they've been dealt …

Likelihood to recommend *("top box" response) depends upon:*

1. *Confidence in clinicians (good people, top of field)*
2. *How well the clinical team works together (consistent messages, mutual respect)*
3. *Clinicians (in order)*
   - *(a) show concern for worries*
   - *(b) listen carefully*
   - *(c) demonstrate high courtesy and respect to patient and family*

Dr. Thomas Lee, Press Ganey Associates, 2018

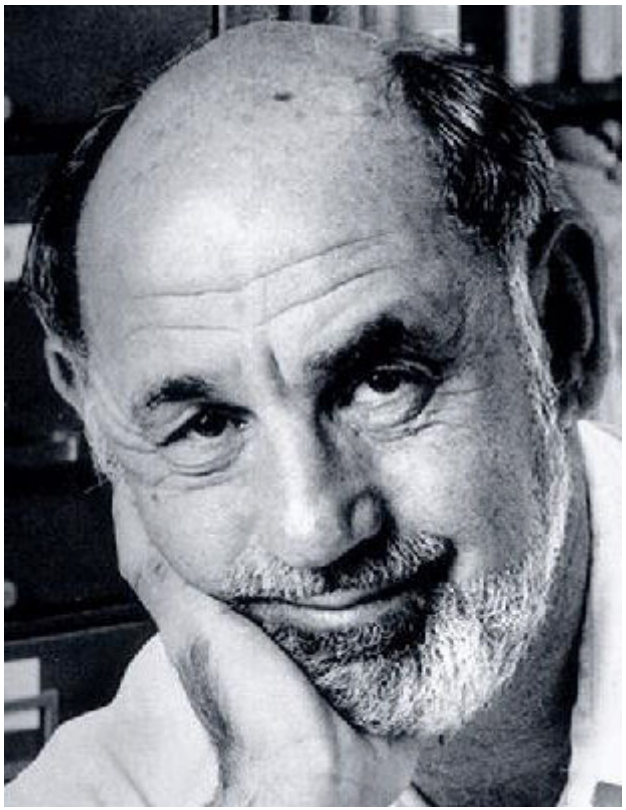
The job to be done *in health care delivery*

– Disease treatment –

reduce pain & discomfort; restore function

for specific conditions that a patient directly experiences.

Aaron Wildavsky



AARON WILDAVSKY

Doing Better and Feeling Worse: The Political Pathology of Health Policy

ACCORDING TO THE GREAT EQUATION, Medical Care equals Health. But the Great Equation is wrong. More available medical care does not equal better health. The best estimates are that the medical system (doctors, drugs, hospitals) affects about 10 per cent of the usual indices for measuring health: whether you live at all (infant mortality), how well you live (days lost due to sickness), how long you live (adult mortality). The remaining 90 per cent are determined by factors over which doctors have little or no control, from individual life style (smoking, exercise, worry), to social conditions (income, eating habits, physiological inheritance), to the physical environment (air and water quality). Most of the bad things that happen to people are at present beyond the reach of medicine.

Everyone knows that doctors do help. They can mend broken bones, stop infections with drugs, operate successfully on swollen appendices. Innoculations, internal infections, and external repairs are other good reasons for keeping doctors, drugs, and hospitals around. More of the same, however, is counterproductive. Nobody needs unnecessary operations; and excessive use of drugs can create dependence or allergic reactions or merely enrich the nation's urine.

More money alone, then, cannot cure old complaints. In the absence of medical knowledge gained through new research, or of administrative knowledge to convert common practice into best practice, current medicine has gone as far as it can. It will not burn brighter if more money is poured on it. No one is saying that medicine is good for nothing, only that it is not good for everything. Thus the marginal value of one—or one billion—dollars spent on medical care will be close to zero in improving health. And, for purposes of public policy, it is not the bulk of present medical expenditures, which do have value, but the proposed future spending, which is of dubious value, that should be our main concern.

When people are polled, they are liable, depending on what they are asked, to say that they are getting good care but that there is a crisis in the medical-care system. Three-quarters to four-fifths of the population, depending on the survey, are satisfied with their doctors and the care they give; but one-third to two-thirds think the system that produces these results is in bad shape. Opinions about the family doctor, of course, are formed from personal experience. "The system," on the other hand, is an abstract entity—and here people may well imitate the attitudes of those interested and vocal elites who insist the system is in crisis. People do, however, have specific complaints related to their class position. The rich don't like waiting, the poor don't like high prices, and those in the middle don't like both. Everyone would like easier

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Aaron Wildavsky. Doing better and feeling worse: the political pathology of health policy. *Doing Better and Feeling Worse: Health in the United States*, John H. Knowles, ed. New York: W.W. Norton & Co., 1977.

The Great Equation:

Health* = *medical care
= "access to care" = health insurance

"But the Great Equation is wrong ..."

Aaron Wildavsky. Doing better and feeling worse: the political pathology of health policy. *Doing Better and Feeling Worse: Health in the United States*, John H. Knowles, ed. New York: W.W. Norton & Co., 1977.

Disease treatment

shows a relatively weak association with

health ...

how long and how well someone lives

(usually measured as life expectancy)

Quality Science

Review

Actual Causes of Death in the United States

J. Michael McGinnis, MD, MPP, William H. Foege, MD, MPH

Objective.—To identify and quantify the major external (nongenetic) factors th... contribute to death in the United States.

Data Sources.—Articles published between 1977 and 1993 were identi... through MEDLINE searches, reference citations, and expert consultation. Gov... ment reports and compilations of vital statistics and surveillance data were als... tained.

Study Selection.—Sources selected were those that were often cited an... that indicated a quantitative assessment of the relative contributions of vari... tors to mortality and morbidity.

Data Extraction.—Data used were those for which specific methodol... sumptions were stated. A table quantifying the contributions of leading f... constructed using actual counts, generally accepted estimates, and ca... timates that were developed by summing various individual estimates... ing to avoid double counting. For the factors of greatest complexity an... (diet and activity patterns and toxic agents), a conservative approach... choosing the lower boundaries of the various estimates.

Data Synthesis.—The most prominent contributors to mortalit... States in 1990 were tobacco (an estimated 400 000 deaths), diet... terns (300 000), alcohol (100 000), microbial agents (90 000), toxic... firearms (35 000), sexual behavior (30 000), motor vehicles (25 0... of drugs (20 000). Socioeconomic status and access to medica... portant contributors, but difficult to quantify independent of the... Because the studies reviewed used different approaches to d... stated numbers should be viewed as first approximations.

Conclusions.—Approximately half of all deaths that occu... attributed to the factors identified. Although no attempt was... the impact of these factors on morbidity and quality of life,... they impose is considerable and offers guidance for shapin...

IN 1990, approximately 2 148 000 US residents died. Certificates filed at the time of death indicate that their deaths were most commonly due to heart disease (720 000), cancer (505 000), cerebrovascular disease (144 000), accidents (92 000), chronic obstructive pulmonary disease (87 000), pneumonia and influenza (80 000), diabetes mellitus (48 000), suicide (31 000), chronic liver disease and cirrhosis (26 000), and human immunodeficiency virus (HIV) infection (25 000)[1] Often referenced as the 10 leading causes of death in the United States, they generally indicate the primary pathophysi-

ological cond... of death, as... These cond... combinatio... and extern... Becaus... multifac... is sorti... of the... ease,... tors... rum... ob... ity... t...

From the US Department of Health and Human Services, Washington, DC (Dr McGinnis), and the Carter Presidential Center, Atlanta, Ga (Dr Foege).
Reprint requests to the Deputy Assistant Secretary for Health, Disease Prevention and Health Promotion, US Department of Health and Human Services, 330 C St SW, Room 2132, Washington, DC 20201 (Dr McGinnis).

Contributions of Health Care to Longevity: A Review of 4 Estimation Methods

Robert M. Kaplan, PhD
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ABSTRACT

PURPOSE Health care expenditures and biomedical research funding are often justified by the belief that modern health care powerfully improves life expectancy in wealthy countries. We examined 4 different methods of estimating the effect of health care on health outcomes.

METHODS We reviewed the contributions of medical care to health outcomes using 4 methods: (1) analyses by McGinnis and Schroeder, (2) Wennberg and colleagues' studies of small area variation, (3) Park and colleagues' analysis of County Health Rankings and Roadmaps, and (4) the RAND Health Insurance Experiment.

RESULTS The 4 methods, using different data sets, produced estimates ranging from 0% to 17% of premature mortality attributable to deficiencies in health care access or delivery. Estimates of the effect of behavioral factors ranged from 16% to 65%.

CONCLUSIONS The results converge to suggest that restricted access to medical care accounts for about 10% of premature death or other undesirable health outcomes. Health care has modest effects on the extension of US life expectancy, while behavioral and social determinants may have larger effects.

Ann Fam Med 2019;17:267-272. https://doi.org/10.1370/afm.2362.

INTRODUCTION

It is often argued that improvements in population health,[1,2] and life expectancy in particular,[3] are best pursued via investments in medical services. Over the last few decades evidence has accumulated, showing that more powerful determinants of health and life expectancy lie elsewhere.[4] Making high-yield investments to extend life expectancy requires an understanding of the relative contributions of health care and other determinants of health[5] to health outcomes.

It is estimated that a lack of access to medical care accounts for only about 10% of premature deaths.[6] The methodology underlying these estimates, however, remains obscure. In this article we review 4 different estimates of the contributions of health care to premature mortality and other health outcomes.

METHODS

Using Google Scholar, we searched for articles about the relationship between medical care and life expectancy. In addition, we considered reports from the National Academy of Medicine[7] that reviewed estimates of the contributions of health care to health outcomes. Two articles with high citation rates were identified. McGinnis and Foege[8] has been cited nearly 4,000 times, and their estimates were updated in 2004.[9] And a report by Schroeder,[6] that built on their method, has been cited over 800 times. We reviewed articles that cited these 2 milestone works to identify other attempts to produce similar estimates that had achieved high citation rates.

Conflicts of interest: authors report none.

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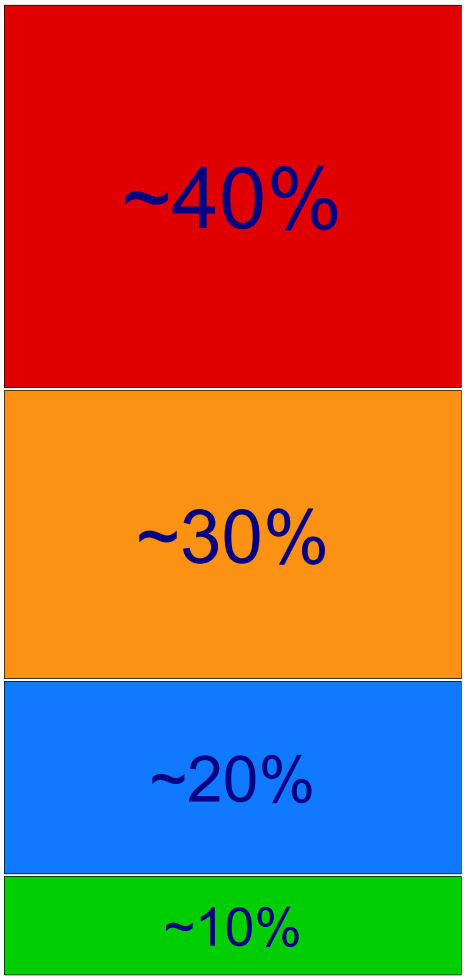
Health: How long, how well we live



Behavior: ***Tobacco***
Obesity *(diet and exercise)*
Ethanol *(and other recreational drugs)*
Sexually-transmitted disease *(AIDS)*
Unwed pregnancy *(weak support network)*
Suicide, violence, & accidents *(young men)*

Genetics

Physical environment, social environment, public health *(control of epidemic infectious disease through immunization & sanitation)*

Health care delivery *(hospitals and clinics)*

McGinnis JM & Foege WH. Actual causes of death in the United States. *JAMA* 1993; 270(18):2207-12 (Nov 10).

McGinnis JM, Williams-Russo P, & Knickman JR. The case for more active policy attention to health promotion. *Health Affairs* 2002; 21(2):78-93 (Mar).

Kaplan RM & Milstein A. Contributions of health care to longevity: A review of 4 estimation methods. Ann Fam Med 2019; 17(3):267-72 (May/June).

NRC evidence review

- ***Compared 22 high-income countries***
- ***Differences in life expectancy*** *dominated by what happens after 50 years of age*
- ***IHD and cancer*** *– U.S. does better than other countries*

Smoking = 78% of survival gap for women, 41% for men
Obesity = 20-33% of survival gap in general
Social networks = questionable relationship, evidence not clear

… these contextual factors are not randomly distributed in the population; rather, they are more likely to affect the health of people of lower social status and those who are less likely to have lifetime access to health care.

It is clear … that failures to prevent unhealthy behaviors are costing Americans years of life compared with their counterparts in other wealthy countries.

National Research Council Panel on Understanding Divergent Trends in Longevity in High-Income Countries. *Explaining Divergent Levels of Longevity in High-Income Countries*, Crimmins EM, Preston EH, and Cohen B, editors. Washington, DC: National Academy Press, 2011.

Disease treatment vs health

- ***Traditional "Population Health" means "total health"*** *(expressed as life expectancy)*.
- ***Disease treatment focuses on*** *(a)* ***caring,*** *(b)* ***curing, and*** *(c)* ***rescue*** *– the things patients actively seek when they approach the health care delivery system (and are willing to pay for).*
- ***Both are legitimate goals.***