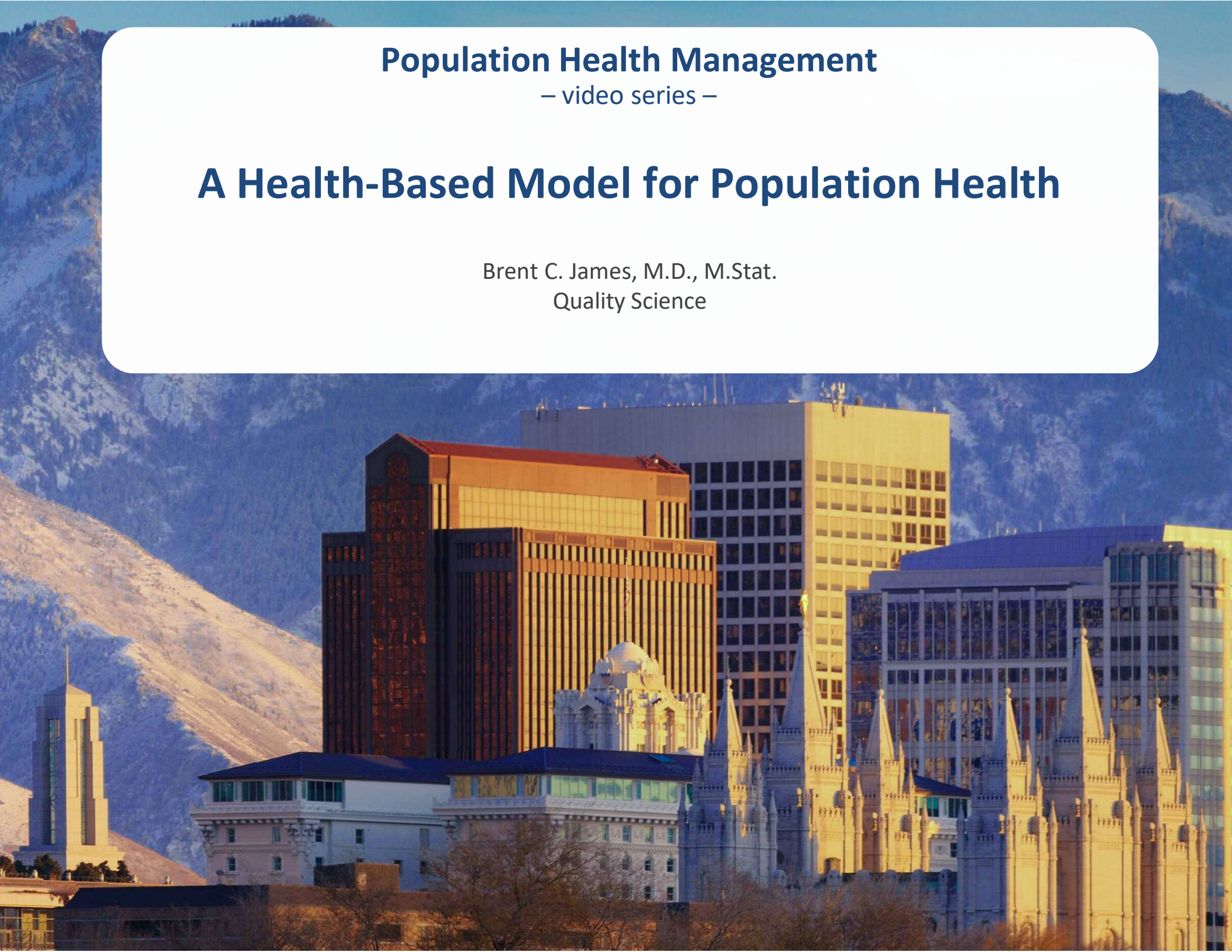# Population Health Management
– video series –

A Health-Based Model for Population Health

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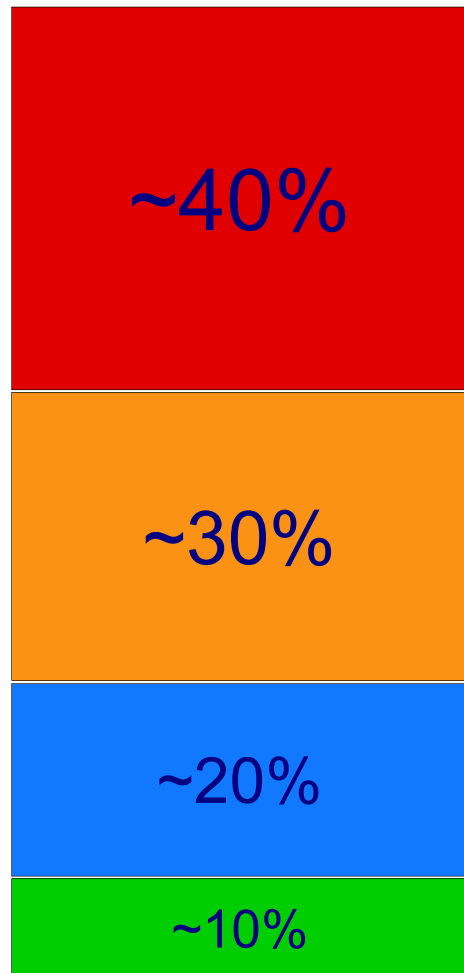Quality Science

Video and slides

Population Health

and

patient-centered care

Start with "sources of health" *(life expectancy)*

~40%

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)*

~30%

Genetics

~20%

Physical environment, social environment, public health

~10%

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).

and reorder them *into a more natural flow*
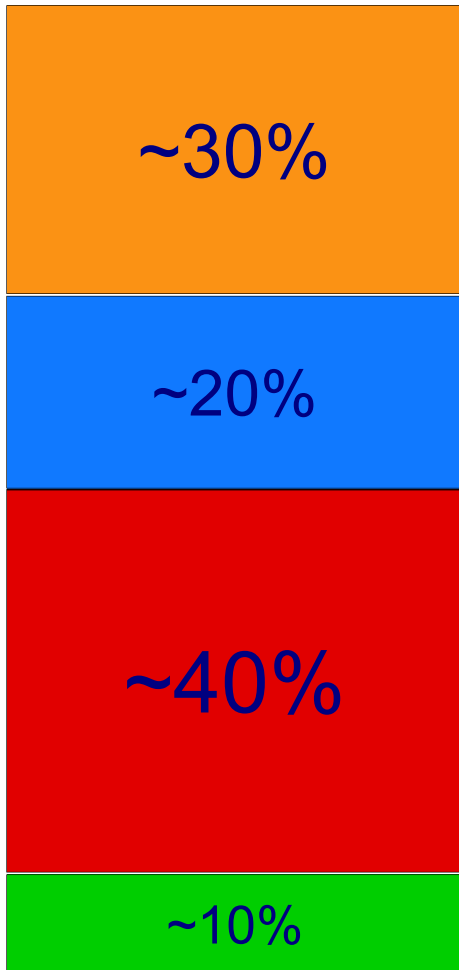
~30%   *Genetics*

~20%   **Physical environment, social environment, public health**

~40%   **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)*

~10%   **Health care delivery** *(hospitals and clinics – disease treatment)*

Grey out Genetics – *we don't have any widely-impactful interventions to offer at that level, yet;*

assign Physical environment / social environment / public health and Personal health behaviors to Population Health;

Break out health care delivery into subcategories, and label it the

Disease Treatment System

30%

Genetics

(loads the gun)

↓

Contribution to Total Health

Population Health *(pulls the trigger - ~85% of opportunity)*

20%
$$

Physical environment; social environment *(SDOH)*; public health

↓

40%
$

Personal health behaviors

(tightly linked to general education level)

↓

Disease Treatment System *(treats the wound - ~15% of opportunity)*

5-10%

$$$$$
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$

1º Care

↓

2º Care

↓

Hospital Care

(including Emergency Room)

↓

End of Life (EOL)

Key things to note

With Genetics removed (30% of "health;" no widespread interventions available), *about 70% of variation in "health"* (life expectancy / clinical outcomes) *is within our reach;*

*about **60%** of all "health" falls under **Population Health**, while only about **10%** falls within **Disease Treatment**.*

Population Health: 60 / 70 = **~85%** *of all "health opportunities;"*

Disease Treatment: 10 / 70 = **~15%** *of all "health opportunities."*
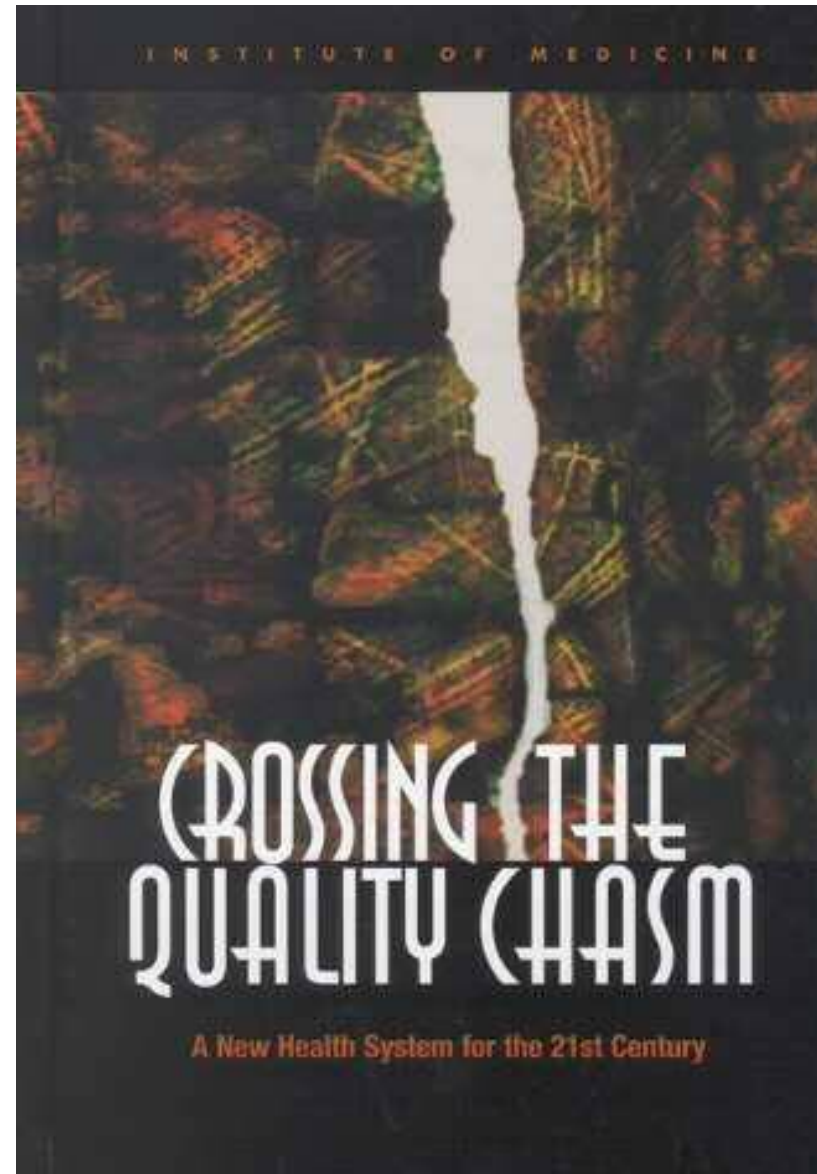
As one wit noted:

Genetics loads the gun;

Behaviors and environment (population health) **pulls the trigger;**

Health care delivery (the disease treatment system) **treats the wound.**

Population Health

and

patient-centered care

Institute of Medicine Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century.* Kohn, Linda T., Corrigan, Janet M., and Donaldson, Molla S., editors. Washington, DC: National Academy Press (www.nap.edu), 2001.

2001: Crossing the Quality Chasm *(IOM)*

Traditionally, care delivery was organized around
(1) physicians; (2) technologies; (3) facilities

But … most patients seek help for specific
clinical problems / conditions

(Harvard Business School's Dr. Clayton Christensen: "The job to be done")

"*Patient-Centered Care*" is
care organized around clinical conditions

Clinical Conditions correspond to "processes"

that extend across a continuum of care

Institute of Medicine Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century.* Kohn, Linda T., Corrigan, Janet M., and Donaldson, Molla S., editors. Washington, DC: National Academy Press (www.nap.edu), 2001.

Contribution to Total Health

30%

Genetics
(loads the gun)

"Move Upstream" strategies
(illustrations)

20%
$$

Population Health (pulls the trigger - ~85% of opportunity)

Physical environment; social networks; public health

40%
$

Personal health behaviors
(tightly linked to general education level)

➤ housing for chronic homeless

5-10%
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$
$$$$$

Disease Treatment System (treats the wound - ~15% of opportunity)

1° Care

2° Care

Hospital Care
(including Emergency Room)

End of Life (EOL)

➤ Medical home
➤ Iora patient activation
➤ Shared decision making
➤ Hot spotting

Quality Science
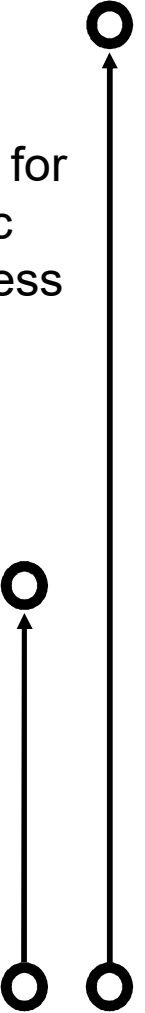
Hot spotting – Dr. Jeffrey Brenner

Gawande, A. The Hot Spotters: Can we lower medical costs by giving the neediest patients better care? *The New Yorker*, January 24, 2011.

"Move Upstream" *hot spotting* strategies

1. Identify current high utilizers, then intervene

- *Find high rates of ED visits, hospitalizations, etc. (<15% yield)*
- *Address homelessness, unmanaged mental illness*
- *Provide health coaches (Hibbard's patient activation scores; Iora Health)*
- *Special clinics / care setting outreach (Primary Children's Hospital "special needs" clinic; LTAC outreach)*

2. Predictively model to identify future acute events, then intervene

- *David Eddy's Archimedes system (Arches, InDigo)*
- *Lincoln Nadauld's cancer genomic predictive models*
- *Shared Decision Making tools*
- *In-home palliative care for elderly, end-of-life support (Dr. Diane Meier, Mt. Sanai Hospital; Dr. Gordon Hunt, Sutter Health; Dr. Gregg Meyer, Partners Boston)*

3. Population-level health behavior interventions

- *Tobacco use, obesity, EtOH & other recreational drugs, etc.; walkable communities*
- *Convene, inform, and lead: partner w schools, churches, local governments*
- *Very long-term strategy – plays out across many years*