

Principles of Population Health Management

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Pre-Conference Boot Camp**

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Outline

- **Definition of Population Health**
- Population Health Models
- Measuring Population Health
- Strategies for Population Health Management

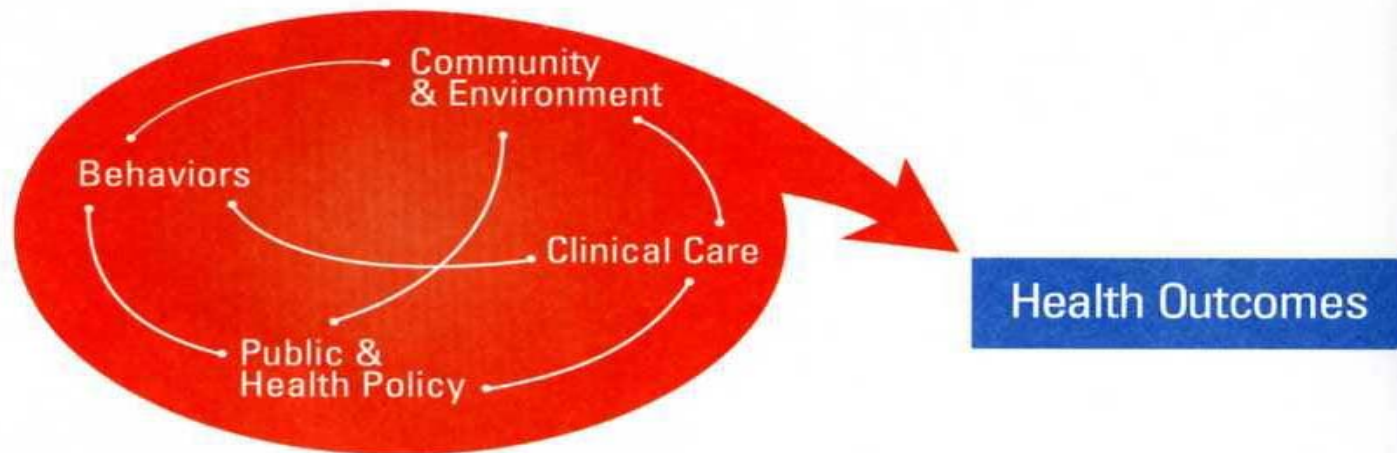
Components of Health

The World Health Organization defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

In addition to the contributions of our individual genetic predispositions to disease, health is the result of:

- Our behaviors,
- The environment and the community in which we live,
- The public and health policies and practices of our government, and
- The clinical care we receive.

These four aspects interact with each other in a complex web of cause and effect, and much of this interaction is just beginning to be fully understood. Understanding these interactions is vital if we are to create the healthy outcomes we desire, including a long, disease-free, robust life for all individuals regardless of race, gender or socio-economic status. This report focuses on these determinants and on the overall health outcomes we desire.



Population Health Defined

The distribution of health outcomes within a population,
the determinants that influence this distribution,
and the policies and interventions
that impact these determinants.

Characteristics of the Population Health Perspective

- More than the sum of individual parts
- More than a cross-sectional perspective
- Broader array of the determinants of health than in traditional public health
- Recognition that responsibility for health is diffuse

Management of Population Health

- Epidemiological approach
- Emphasis on disease prevention/health promotion
- Systems focus (includes accountability)
- Establish/nurture partnerships

Population Health is Really In!

“We believe that our future ACO, anchored in our maturing patient-centered medical home strategy, will help us move successfully from a volume-based, fee for service model to a proactive, population health model”

-Joel Allison, CEO Baylor Healthcare

(Journal of Medical Management ACPE, Sept/Oct 2010)

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Determinants

- Factors or events that are capable of bringing about a change in health
 - Causal relationship
- Examples
 - Biologic agents
 - Chemical agents
 - Behavioral factors
 - Social environment

Health Determinants: 4 Major Groups

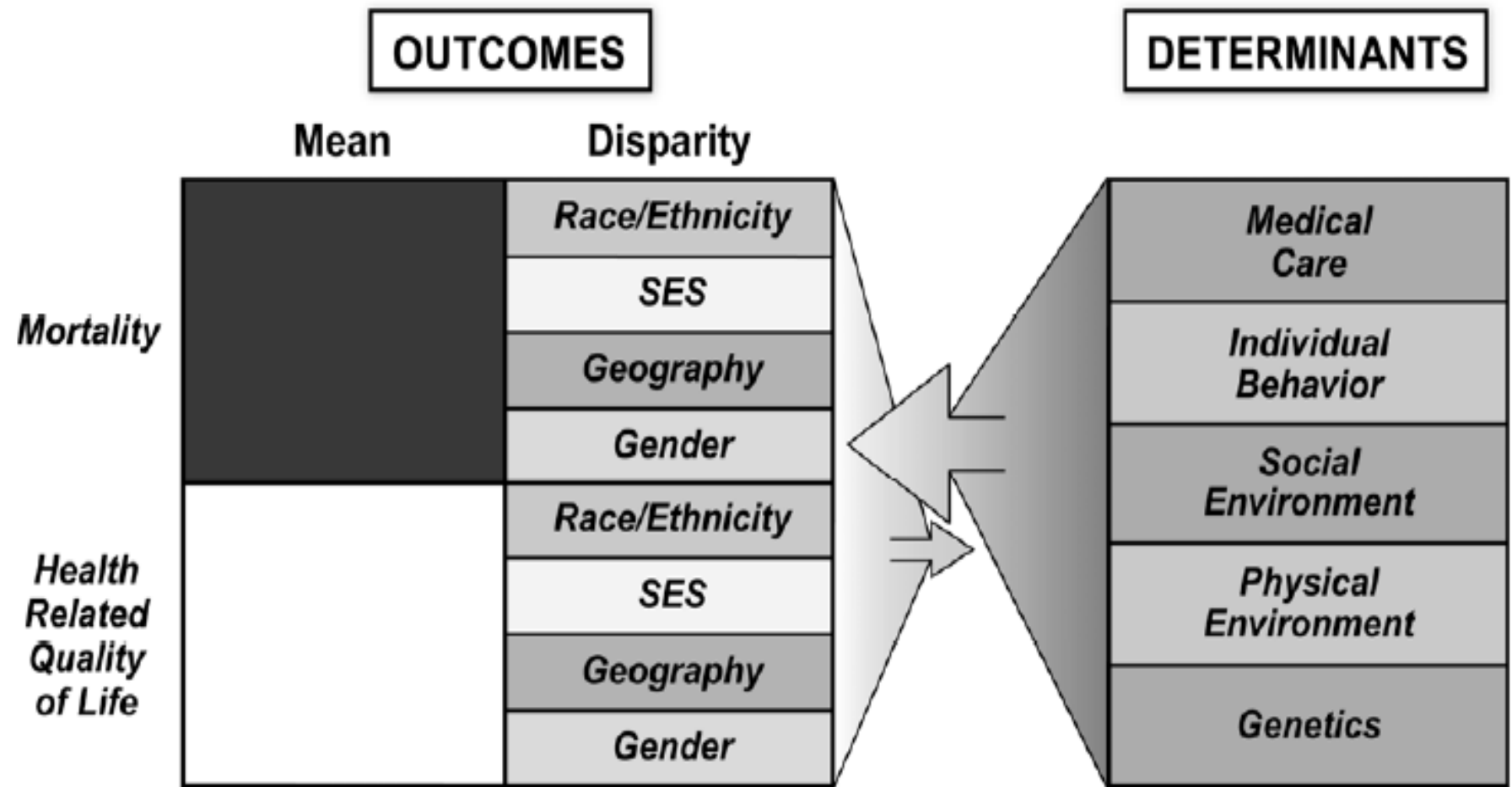
- 1) Behaviors
- 2) Community and environment
- 3) Public and health policies
- 4) Clinical care

Determinants of Health

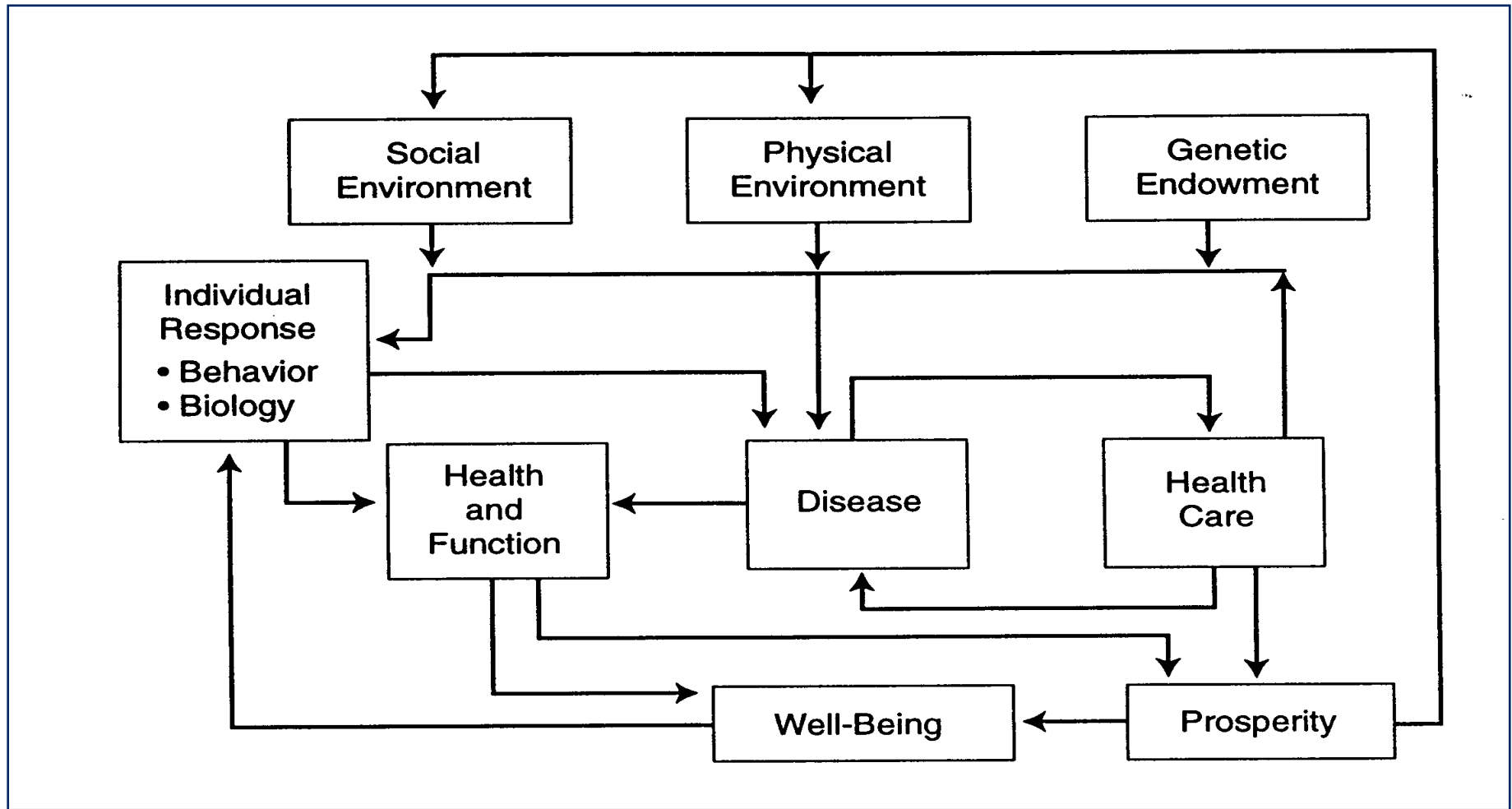
McGinnis, *Health Affairs*, 2002

- Behavior patterns: 40 percent
- Physical environment: 5 percent
- Social circumstances (neighborhoods, social class, social change): 15 percent
- Deficiencies in medical care access and delivery: 10 percent
- Genetics (the residual): 30 percent

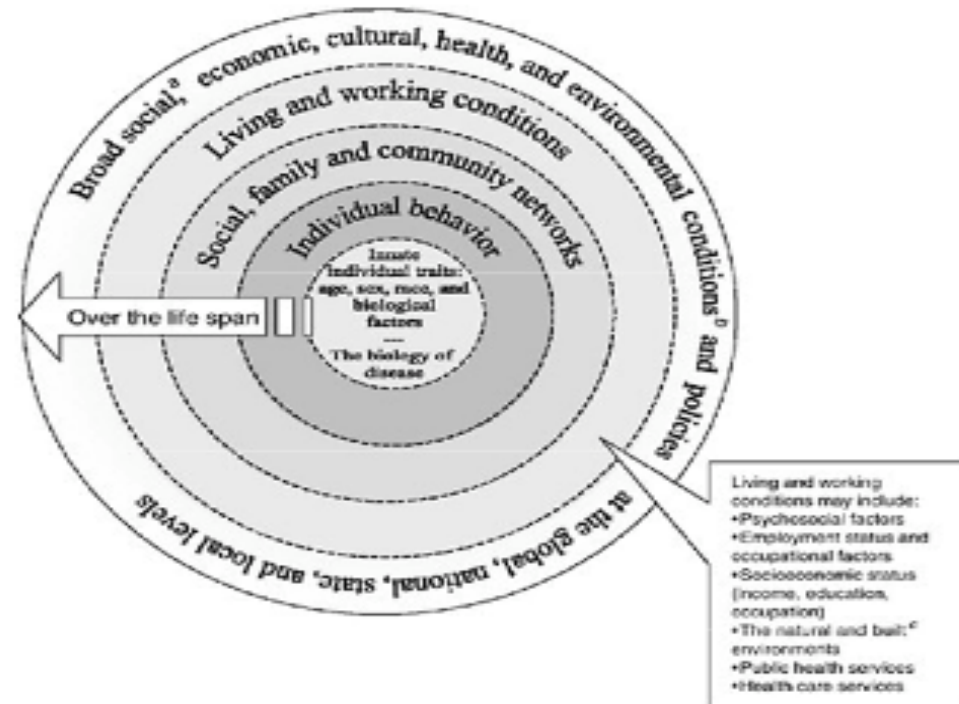
Kindig's Expanded Population Health Model



Evans and Stoddart “Field Model” of Population Health



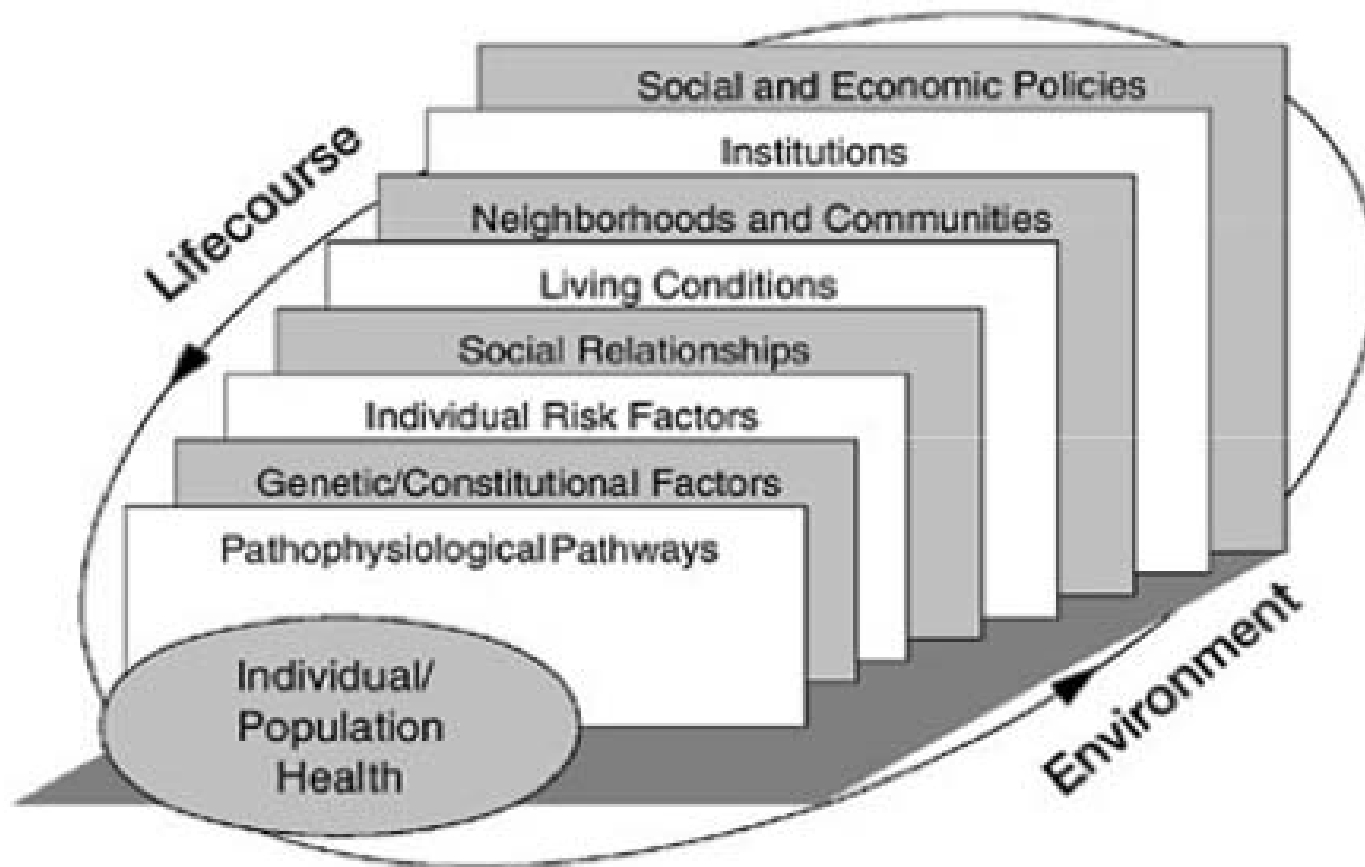
Determinants of Health



Reference: Institute of Medicine. (2003). *The Future of the Public's Health in the 21st Century*. Washington, D.C.: National Academies Press.

Original Source: Dahlgren G, Whitehead M. 1991. *Policies and Strategies to Promote Social Equity in Health*. Stockholm, Sweden: Institute for Futures Studies.

Notes: Model above adapted from Dahlgren and Whitehead, 1991. The dotted lines between levels of the model denote interaction effects between and among the various levels of health determinants.



Reference: IOM (Institute of Medicine). 2000. Promoting Health: Intervention Strategies from Social and Behavioral Research, p. 43. Washington, DC: National Academy Press.

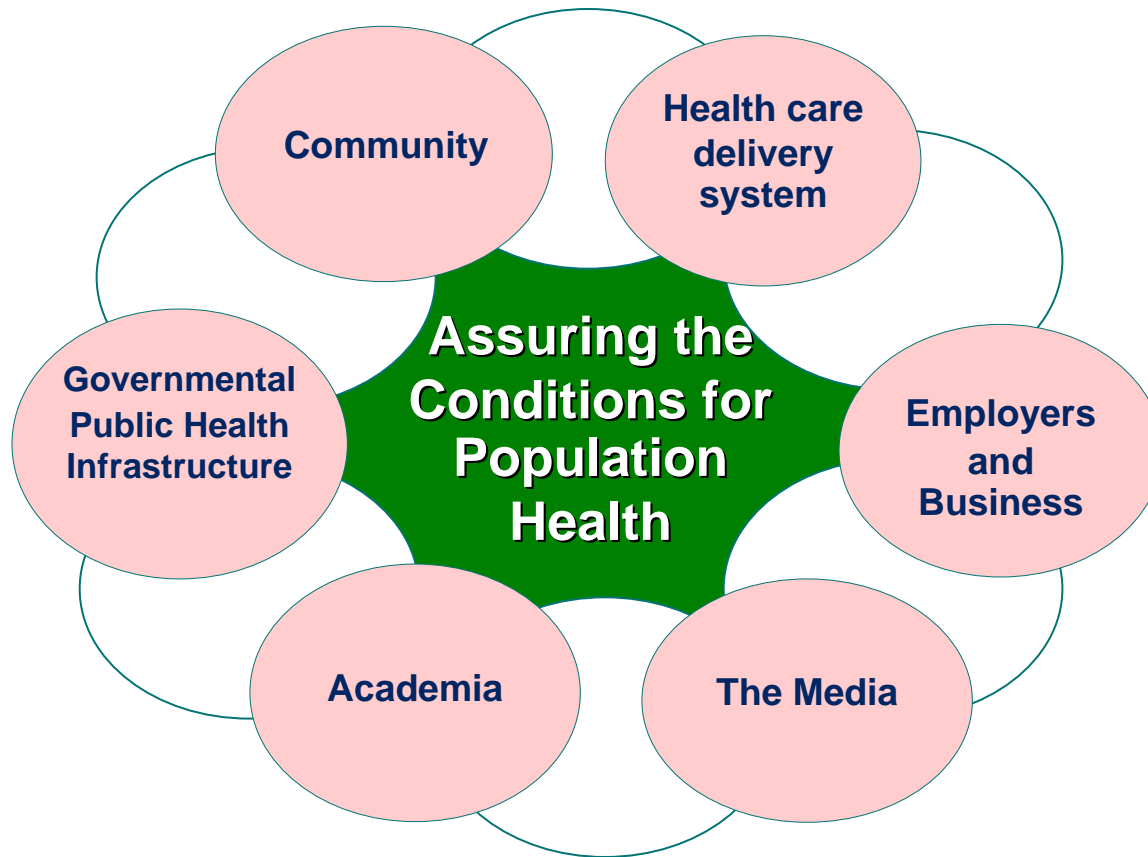
Model for Health Equity



Reference: Institute of Medicine. (2003). *The Future of the Public's Health in the 21st Century*. Washington, D.C.: National Academies Press.

Original source: Dahlgren G, Whitehead M. 1991. *Policies and Strategies to Promote Social Equity in Health*. Stockholm, Sweden: Institute for Futures Studies.

The Public Health Model



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Historical antecedents

- Hippocrates (and others)
 - Environment influences occurrence of disease
- John Snow and the cholera outbreak
 - Occurred in the mid-19th century in Broad Street, Golden Square, London
 - Linked the cholera epidemic to contaminated water supplies
 - Used a spot map of cases and tabulation of fatal attacks and deaths
 - *Removed the pump handle?*

Definition of Epidemiology

- Field of study concerned with the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations
- Originates from the Greek words
 - *epi* (upon)
 - *demos* (people)
 - *logy* (study of)
- Key Aspects
 - Determinants
 - Distribution
 - Population
 - Health phenomena
 - Morbidity and mortality

Distribution

- Frequency of disease occurrence may vary from one population group to another
- Examples
 - Hypertension more common among young black men than among young white men
 - Coronary heart disease occurrence differs between Hispanics and non-Hispanics

Population

- Epidemiology examines disease occurrence among population groups, not individuals
 - Epidemiology is often referred to as population medicine
- The epidemiologic description indicates variation by age groups, time, geographic location, and other variables
 - PPT: Person, place, and time

Health Phenomena

- Epidemiology investigates many different kinds of health outcomes
 - Infectious diseases
 - Chronic diseases
 - Disability, injury, limitation of activity
 - Mortality
 - Active life expectancy
 - Mental illness, suicide, drug addiction

Applications of epidemiology

- Infectious diseases
- Environmental health
- Chronic diseases
- Lifestyle and health promotion

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Lifestyle Management

- Health promotion to improve health through behavior change
 - Education
 - Motivation
 - Training
 - Marketing

Demand Management

- Self-care and triage support to help individuals manage their care and symptoms
- Goal: reduce perceived need and use of unnecessary services while improving health status
- Influences on demand:
 - Morbidity
 - Perceived need
 - Patient preferences
 - Non-health Motives
- Predicting Demand
 - Questionnaire-based health assessments
 - Claims-based data assessment

Strategies for Demand Management

- Health risk management
- Health plan and provider selection
- Symptomatic and urgent care controls
- Elective treatment choices
- Acute condition management
- End-of-life planning

(MacStravic, 1996)

Disease Management

- System of **coordinated** healthcare interventions and communications for populations with conditions in which self-care efforts are significant
- Supports practitioner-patient relationship and plan of care
- Emphasizes prevention of complications through EBM and patient empowerment
- Evaluates clinical, humanistic, and economic outcomes

(DMAA, 2002)

Continuous Improvement

- Standards of care set
- Protocols are developed and implemented to meet standards
- Outcomes measured
- Systems of care are improved

Catastrophic Care Management

- Infrequent and unpredictable, but account for a large percentage of health care costs
- Consistent with QI approaches to reduce variability in processes and outcomes
- Emerged from
 - Disease management companies
 - Insurance and reinsurance companies for better risk management

Characteristics of Catastrophic Care Management

- Immediate referral
- Development of a care plan
- Patient management expertise
- Individualized management
- Patient and program satisfaction

(DM Carve-outs, 1998)

Disability Management

- Work-related Disability
 - Injuries
 - Chronic Conditions
 - Mental and Behavioral Problems
 - Medical and Non-medical Factors
- Disability Management Programs
 - Prevention
 - Early Intervention
 - Case Management
 - Transitional Work Programs
 - Ergonomics
 - Employee Assistance Programs
 - On-site Rehabilitation Programs
 - Absence Management

Questions?