

# Population Health

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**MHA611**  
Healthcare Systems

## Lecture 02



## Outlines:

- An introduction to population health.
- Importance of population health.
- Population health vs Public health.
- Why focus on population health.
- Structural determinants of health.
- Social determinants of health.
- Summary

## Learning Objectives

- Understanding the population health related concepts.
- Understanding why do governments focus on population health?.
- Understanding the difference between the two terms: "Population Health" and "Public Health".
- Understanding the Structural and Social determinant of health.

# **Part One:**

# **Introduction to Population Health**

## Population Health: Introduction

**What do we mean by Population Health?**



## Population Health: Introduction

- **Population health** is a comprehensive approach that focuses on the **health outcomes** of a defined group of individuals, considering the distribution of these outcomes within the group.
- It encompasses a **broad range** of factors that influence health, including social, economic, environmental, and behavioral determinants.
- This concept aims not only to eliminate diseases and injuries but also to **address the underlying factors** that contribute to health disparities and overall well-being.
- **Population health** and **public health** are closely related fields in healthcare, but they differ in focus, scope, and objectives.

## Population Health: Introduction

- The **changing landscape** of health and health care has fueled a shift in **focus from individual care alone** toward individual and population health management.
- This shift is driven by many factors, including **greater attention to quality of patient care, patient safety, and the rapidly increasing cost of health care.**
- Finally, there is growing recognition of the acute need to **address the determinants of population health**, particularly the social determinants of health, which fall outside the usual purview of the healthcare arena.

## Population Health: Importance

**Why is Population Health important?**



## Population Health: Importance

### 1. Improving Health Outcomes

- Population health focuses on understanding and improving the health outcomes of specific groups by analyzing the distribution of these outcomes and the factors influencing them.
- By addressing social determinants such as education, income, and access to healthcare, population health initiatives aim to enhance overall community health and reduce inequalities in health status.

## Population Health: Importance

### 2. Economic Benefits

- Good population health is essential for sustainable economic growth. Healthy populations contribute to increased productivity, reduced healthcare costs, and a lower burden on healthcare systems.
- Conversely, poor population health can lead to significant economic drawbacks, including increased healthcare expenditures and decreased workforce participation due to illness.

## Population Health: Importance

### 3. Data-Driven Decision Making

- Population health relies heavily on data analytics to identify health trends, disparities, and the effectiveness of interventions.
- This data-driven approach allows for targeted strategies that address specific needs within populations, ultimately leading to better resource allocation and improved health services.

## Population Health: Importance

### 4. Resilience in Healthcare Systems

- The COVID-19 pandemic highlighted the importance of population health in creating resilient healthcare systems.
- By integrating telemedicine and other innovative care models, population health strategies can enhance healthcare delivery during crises and ensure that communities receive timely care.

## Population Health: Importance

### 5. Policy Development

- Population health informs policymakers about the structural inequities affecting different groups, guiding them in creating policies that promote health equity.
- By emphasizing the interconnectedness of various determinants of health, population health encourages comprehensive approaches that integrate multiple sectors—such as education, housing, and transportation—into health policy

## Population Health: Importance

### 6. Focus on Preventative Care

- By prioritizing preventative measures over reactive treatments, population health aims to reduce the incidence of chronic diseases and improve quality of life.
- This proactive focus can lead to better patient satisfaction and lower overall healthcare costs as populations adopt healthier lifestyles.

## Population Health: Definitions

- Population health has been described as having **FOUR major pillars**:
  1. **Chronic care management,**
  2. **Quality and safety,**
  3. **Public health, and**
  4. **Health policy**
- Population health encompasses the influence of multiple stakeholders, including those in health care delivery, the public health system, community organizations, health policy, employers, insurers, and those generating evidence through research and other initiatives.

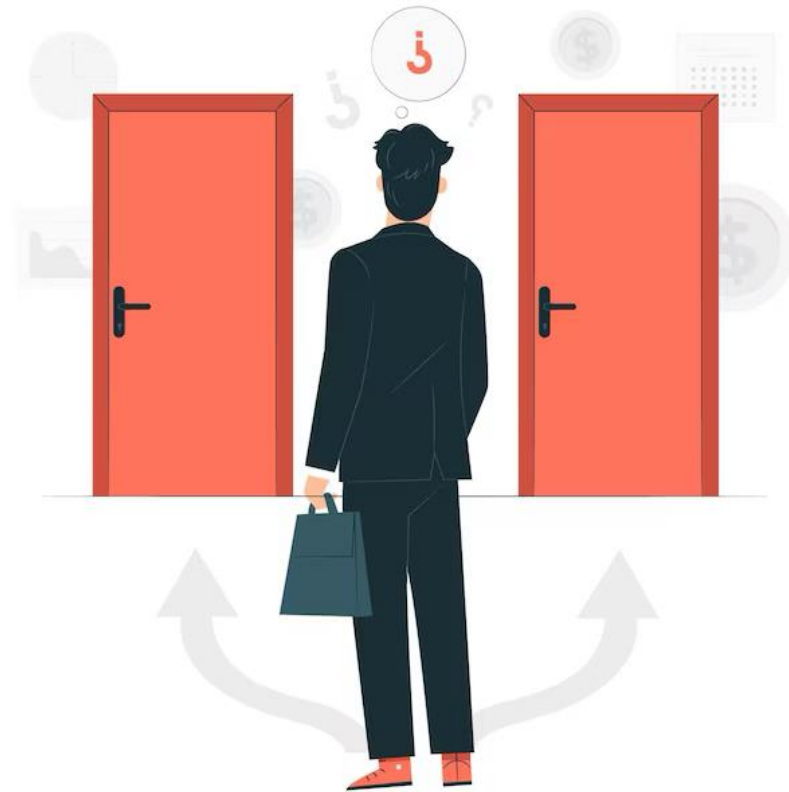
## Key influencers of population health

- Population health (“the health outcomes of a group of individuals”) is **impacted** by more than one sector or discipline:
  - Health care delivery.
  - Public health system.
  - Organizations in the broader community.
  - Health policy.
  - Evidence generated through initiatives and research.



## Population Health OR Public Health?

**What is the difference between  
Population Health & Public Health?**



## Population Health OR Public Health?

- **Population health** focuses on the health outcomes of specific groups of individuals and the distribution of those outcomes within the group.
- It addresses many factors influencing health over a lifetime, including social, economic and environmental determinants.
- The primary goal of population health is to improve the overall health status of a defined population through systematic interventions and health services.

## Population Health OR Public Health?

- **Public health**, in contrast, is concerned with protecting and improving the health of entire communities.
- It involves implementing policies, health education, outreach programs, disease prevention strategies and the promotion of healthy lifestyles.
- Governmental health departments typically coordinate public health efforts to prevent disease outbreaks, prolong life and promote physical and mental well-being.

## Population Health OR Public Health?

- In healthcare, the terms 'population health' and 'public health' are often used **interchangeably**; however, they encompass different approaches and objectives.
- Understanding these differences is vital for healthcare professionals, policymakers and organizations aiming to improve health outcomes on a community and population level.
- A question commonly asked is “**Why is population health, not public health?**”

## Population Health OR Public Health?

- The public health system is **not focused on individual medical care and private sector health care delivery**.
- Instead, the public health system has traditionally focused on the **health of entire communities**, populations, states, countries, and regions.
- In addition, public health interventions tend to be **at a higher organizational level** than the individual or practice, such as clean air and healthy food initiatives.
- Although the **public health system is a key pillar for population health** and its improvement, population health is significantly influenced by more than one sector.

## Why a focus on population health?

### A. Limitations in health and health care:

#### 1. A focus on sick care over prevention and wellness:

- Clinical training has traditionally emphasized acute illness and chronic disease care over prevention and wellness.
- The fee-for-service reimbursement system has been more heavily based on acute care and procedures.
- Prevention, chronic disease management, nutrition, and behavioral health have been traditionally undervalued and reimbursed at a rate less than acute care.

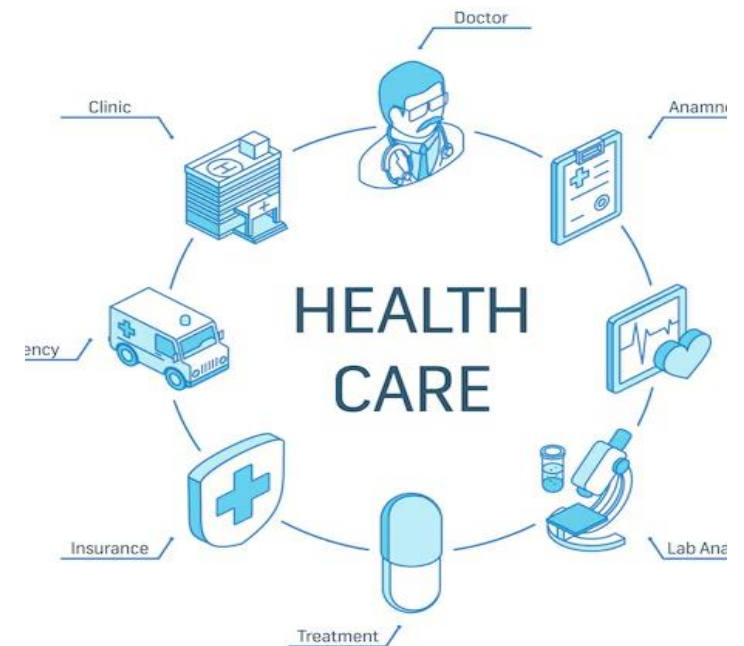


## Why a focus on population health?

### A. Limitations in health and health care:

#### 2. Siloed and fragmented efforts for health and health care:

- Health care is often organized and prioritized around the health care delivery system rather than the patient.
- Patients typically must initiate contact and access many different points in order to receive their health care.
- Lack of coordination, integration, and communication between different points of a patient's care all contribute to the fragmentation of the health care system.



## Why a focus on population health?

### A. Limitations in health and health care:

#### 3. Inadequate assimilation and use of data:

- Communication and sharing of information between the various parties involved in the care of a patient is often limited.
- Barriers to greater communication and coordination of care include interoperability of electronic health records (EHRs) and limitation in capability for health information exchange.
- Medical care and public health data sources are not well connected.



## Why a focus on population health?

### A. Limitations in health and health care:

#### 4. Suboptimal patient engagement:

- Lack of defined teams for patient care, lack of tools, and time constraints on an individual physician impact the ability for greater engagement of patients in their health care.
- Patient-centeredness and shared decision making, as well as the methods to operationalize these concepts in a busy clinical practice, have typically not been robust areas of emphasis in clinical training.



## Why a focus on population health?

### A. Limitations in health and health care:

#### 5. Inequality and inequity in health and health outcomes:

- Where people live; their socioeconomic status; and their race, ethnicity, gender, age, sexual orientation, and disability status have historically impacted health and health outcomes.
- Disparities in the quality of care received by different populations can exacerbate health inequities.
- Implicit biases among healthcare providers can lead to unequal treatment based on race or socioeconomic status.



## Why a focus on population health?

### A. Limitations in health and health care:

#### 6. Reimbursement systems, incentives, education, and culture that support the status quo:



- A fee-for-service reimbursement system often reinforces fragmented efforts as individual physicians are paid separately for their part of a patient's care.
- Physicians are not held accountable, and not reimbursed, for the quality of care provided.
- Incentives are often misaligned in health care as acute care and procedures are reimbursed at a greater rate than preventive care.

## Why a focus on population health?

### B. Health disparities and inequity:

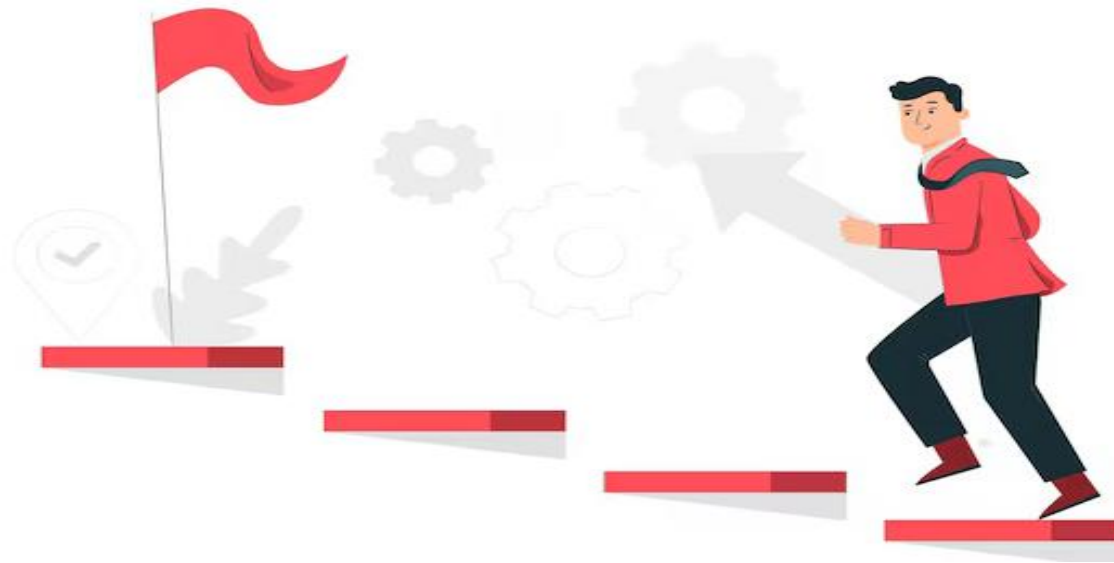
- Differences in health and health outcomes between groups of people are considered health disparities.
- Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.”
- These differences are often considered avoidable, unjust, or unfair and sometimes referred to as health inequity.

## Why a focus on population health?

### C. Constraints in health care delivery:

- Health care delivery focused primarily on the care of individual patients.
- Despite the potential to provide excellence in individual care, both patient and physician face limitations.
- These included siloed and fragmented efforts impacting coordination, integration, and communication between different points of a patient's care.
- Time constraints on an individual physician or other healthcare professional impact the ability for greater patient engagement in a patient's health care.
- Less use of technology and data analysis to inform clinical decision-making and better track patient adherence with recommendations.

## Structural and Social Determinants of Health



## Structural and Social Determinants of Health

- Population Health Management is a care model that addresses the population and individual's health needs at all points along the continuum of care through the development of data-driven, cost-effective and evidence-based interventions.
- The World Health Organization (WHO) published a framework in 2010 to conceptualize the impact of social structures on the health of populations and individuals.
- This model describes structural drivers of health inequities that predetermine the distribution among individuals of more immediately visible social determinants of health, such as housing and access to nutritious foods.

## Structural and Social Determinants of Health

- Such framing helps physicians and other healthcare professionals understand that individuals do not freely choose to pursue unhealthy behaviors; many people are placed in situations beyond their control.
- The ultimate impact of social pressures is a strong correlation between socioeconomic position, educational attainment, and health outcomes.
- The effect of poverty is visible in undesirable living conditions, poor nutrition, and inadequate access to health care.
- For almost every condition, there are differences in mortality and morbidity related to socioeconomic position.

## Structural determinants of health

### A. Class:

- The term socioeconomic position or socioeconomic status refers to the social standing or class of an individual or group and is often measured as a combination of education, income, and occupation.
- The Whitehall Studies found that employment grade, as a proxy for socioeconomic status, has a strong and graded relationship with health.
- A graded relationship between socioeconomic status and health has been found in nearly every industrialized country in which it has been studied.
- While socioeconomic position can drive health outcomes, the reverse is also true, health status can affect an individual's ability to earn or retain wealth.

## Structural determinants of health

### B. Gender:

- Gender is socially constructed, defining expected roles and relationships.
- In many cultures, women have systematically unequal access to power and resources.
- A physical manifestation of the impact of gender on health is apparent in violence against women battery and rape.
- Gender-based discrimination also impacts educational and employment opportunities.
- Young women are dissuaded from pursuing education in certain fields, such as science, technology, engineering, and math (STEM).

## Structural determinants of health

### C. Race and Ethnicity:

- Health disparities by race are pervasive and persistent.
- In one national study (in the USA), after adjusting for income, education, gender, and age, Blacks had higher measures of blood pressure, inflammatory markers, and total disease risk compared to whites.
- Additionally, disparities are observed based on not only race but also ethnicity, which refers to cultural factors, including nationality, religion, regional cultures, and languages.
- The term “racism” refers to an organized system that categorizes population groups into “races” and uses this ranking to preferentially allocate societal goods and resources to groups regarded as superior.

## Structural determinants of health

### D. Education:

- Access to, and quality of, education are impacted by socioeconomic status. In turn, education leads to health benefits by multiple mechanisms, both direct and indirect.
- Education directly contributes to cognitive skills, problem-solving ability, learning effectiveness, and personal control, all of which contribute to a greater ability to pursue healthy behaviors and can mediate an individual's exposure to and management of stress and allostatic load.
- Higher education indirectly boosts health status by improving access to jobs and social resources.
- Individuals with educational advantage can avoid economic hardship e.g.: unemployment, and secure employment enhances having the resources to minimize the consequences of disease once it occurs.

## Social determinants of health

### A. Material circumstances:

#### 1. Neighborhood and built environment:

- A person's zip code is a better predictor of health outcomes than his or her genetic code. The National Collaborative for Health Equity characterized the impact of the neighborhood and zip code on health under the heading "Place Matters.
- A home that features high levels of mold can be dangerous to its occupants, especially where one or more of the inhabitants experiences a respiratory illness such as asthma or reactive airway disease.
- An estimated two-thirds of the time American families spend indoors is spent at home, with children being home an even larger proportion of that time.

## Social determinants of health

### A. Material circumstances:

#### 1. Neighborhood and built environment:

- Another example of a dangerous condition in the home that can disproportionately impact child health and development is the presence of lead-based paint. According to the US Department of Housing and Urban Development's 2011 American Healthy Homes Survey, almost 35% of American homes (37.1 million homes total) have lead-based paint located somewhere in the relevant structure, with children younger than 6 years of age being exposed to this hazard in 3.6 million homes.
- Living in a neighborhood experiencing higher crime rates and violence impacts exercise, physical health, and mental health.

## Social determinants of health

### A. Material circumstances:

#### 2. Food environment:

- Limited access to healthy foods is a common problem associated with chronic poverty and has significant implications for health.
- Food insecurity is associated with poor health outcomes. Food insecurity has a well-established association with a myriad of health problems among children. Among school-age children, food insecurity negatively affects cognitive, academic, and psychosocial development.
- Among infants and toddlers, food insecurity confers greater risks of illnesses serious enough to require hospitalization.

## Social determinants of health

### A. Material circumstances:

#### 2. Food environment:

- Food insecurity is associated with obesity, hypertension, and diabetes, which then places people at greater risk for cardiovascular disease.
- The risk of diabetes is about 2.5 times higher in very low-food-secure households compared to food-secure households in the United States. Diabetes is also more likely to be poorly controlled, even after controlling for income level. In one study, only 46% of those living in food-secure households had poorly controlled diabetes, compared to 70% of those living with very low food security. These individuals are more likely to have higher haemoglobin A1c values and more frequent hypoglycemic episodes

## Social determinants of health

### B. Socio-environmental circumstances:

#### 1. Early childhood development and adverse childhood experiences

- The evidence linking early childhood development to health across the life span is so impressive that it has given birth to an entire subfield of epidemiology, typically referred to as life course epidemiology. Early childhood is an epidemiologically critical and sensitive period.
- A critical period is defined as “a limited time window in which exposure can have adverse or protective effects on development and subsequent disease outcome.
- Epidemiologists have found connections between the social conditions of parents in their early childhood and the longitudinal health outcomes of their offspring later in life.

## Social determinants of health

### B. Socio-environmental circumstances:

#### 2. Populations subject to societal discrimination

- According to the WHO, “Different social groups are exposed in different degrees to experiences and life situations that are perceived as threatening, frightening and difficult for coping in the everyday.
- This partly explains the long-term pattern of social inequalities in health.”
- In addition to the profound influence of race and ethnicity discussed earlier in this chapter, other populations are subject to systematic discrimination that impacts their health.

## Social determinants of health

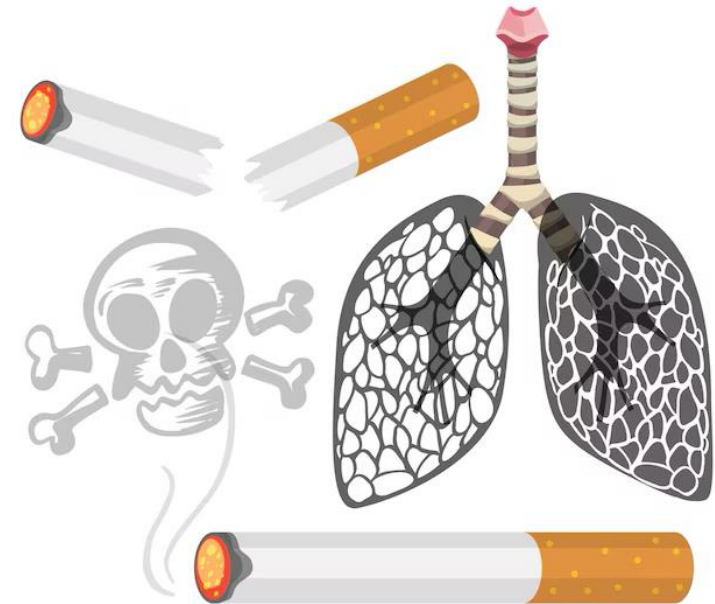
### C. Psychosocial intermediaries :

- Psychosocial consequences arise from structural and social inequities. Almost without exception, studies find that higher levels of discrimination are associated with poorer mental health status.
- Many studies have shown associations between poverty measures and mental health.
- For example, in European countries, higher rates of depression and anxiety are associated with lower education levels, unemployment, and social isolation with ageing.
- Mental health is strongly linked with socioeconomic status.
- It has been shown that mothers experiencing food insecurity have higher rates of depression and anxiety disorders.

## Social determinants of health

### D. Behavioral and biologic factors:

- Factors such as diet, smoking, and drug and alcohol use were historically framed in medical training as individual lifestyle choices.
- The structural drivers of these health risk behaviors are now better understood.
- A societal choice to permit guns to be readily accessible contributes to approximately 30,000 deaths annually by suicide, homicide, and accidents.



## Social determinants of health

### E. Health System:

- The system of delivery of health care is itself a social construct and is thus vulnerable to contributing to disparities in health outcomes.
- Access to care is strongly linked to employment and varies significantly across socioeconomic positions.
- Many groups of patients have suffered frank discrimination in the process of care, which leads to a lack of trust in current systems.
- Other social constructs that limit the effectiveness of care include health literacy and a lack of diversity in the healthcare workforce.



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Thank You