

# Population health: Implications for health policy

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# What affects health outcomes?

80% of what affects health outcomes is associated with factors outside the traditional boundaries of healthcare delivery:

- Health behaviors-what are the most important harmful behaviors in Hong Kong that influence health?
- Social and economic factors-what is at the top of the list of these factors for the people for whom you care or know?
- Physical environment-what are the issues here?

# Examples of adverse behaviors

- Health behaviors—use of tobacco, drugs, sexual activity, failure to use seat belts, helmets.....
- Social and economic factors-employment, education, income, family size.....
- Physical environment-quality of water, air, pollution, unclean areas, no green space for adults and children to enjoy

# Social Determinants of Health

Population health is affected by social determinants of health which are economic and social conditions that influence the health of people and communities (CDC, 2014).

1. How a person develops during the first few years of life.
2. How much education a person obtains.
3. Being able to get and keep a job.
4. What kind of work a person does.
5. Having food or being able to get food (Food security).

6. Having access to health services and the quality of those services.

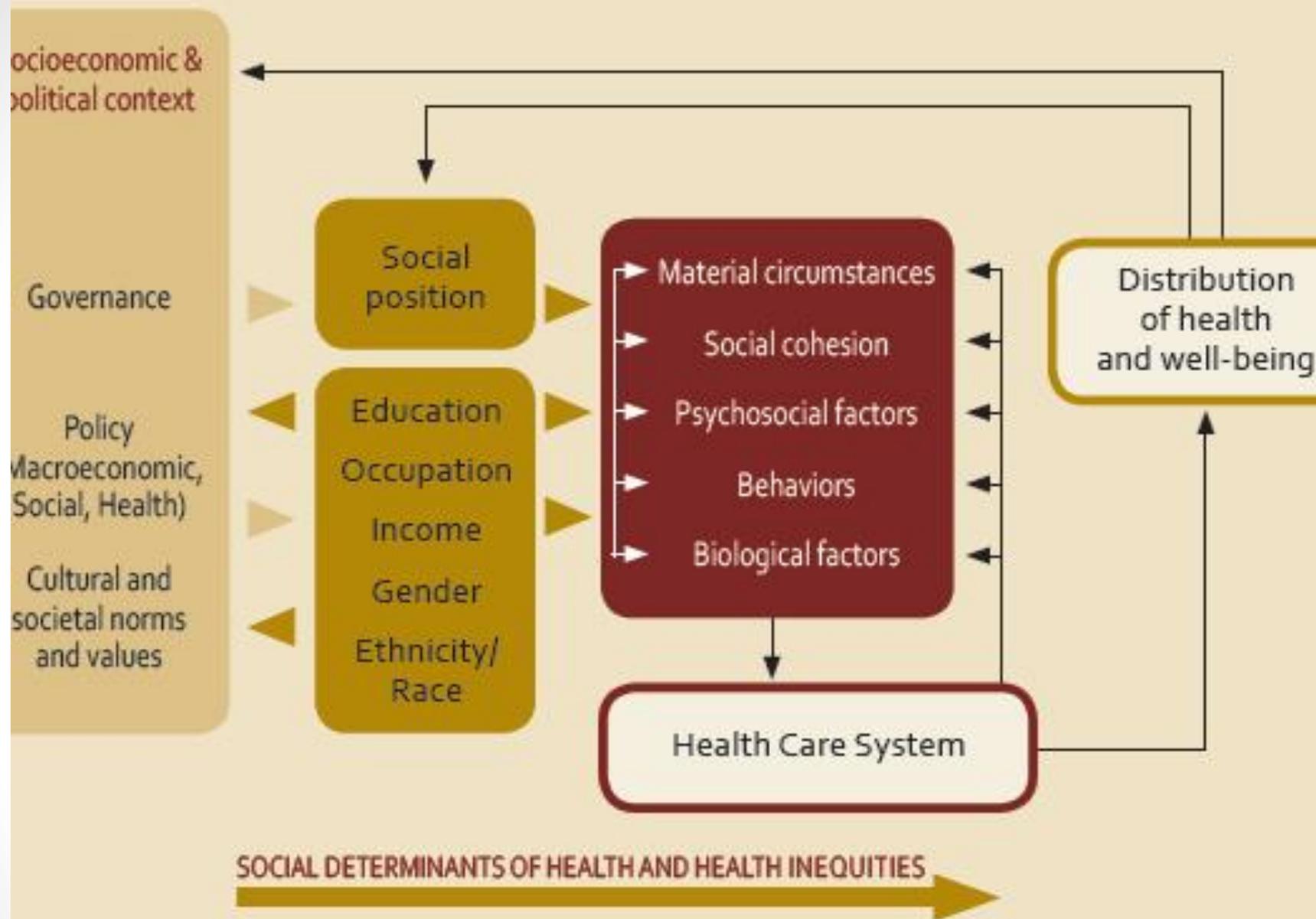
7. Housing status

8. How much money a person earns.

9. Discrimination and social support.

- World Health Organization (WHO) created the Commission on Social Determinants of Health to address social determinants of health [1]. The Commission uses the following three principles to guide its work in eliminating health inequities for local communities and nations and throughout the world:

- Figure 2. World Health Organization's Social Determinants of Health Conceptual Framework [1]
- Improve the conditions of daily life—the circumstances in which people are born, grow, live, work, and age.
- Tackle the inequitable distribution of power, money, and resources—the structural drivers of those conditions of daily life—globally, nationally, and locally.
- Measure the problem, evaluate action, expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness about the social determinants of health [1].



Source: Amended from Solar & Irwin, 2007

- WHO reference:

Equity, social determinants and public health programmes.  
Editors Erik Blas and Anand S Kurup, 2010. World Health  
Organization.

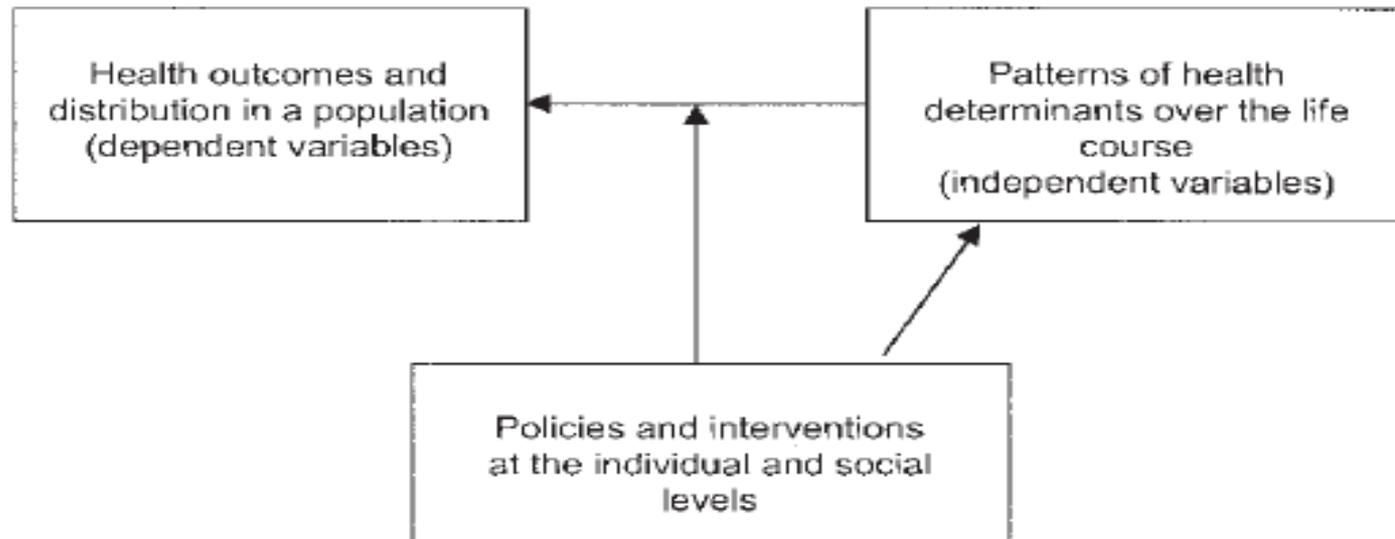
# What is Population Health?

- First and foremost it is a concept of health in which the group or cohort is more important than the individual.
- According to Kindig & Stoddard, 2003, p. 381 it is “ the health of outcomes of a group of individuals, including the distribution of such outcomes within the group”. It includes

- Geographic regions
- Groups
- Medical care systems
- Social environment
- Physical environment

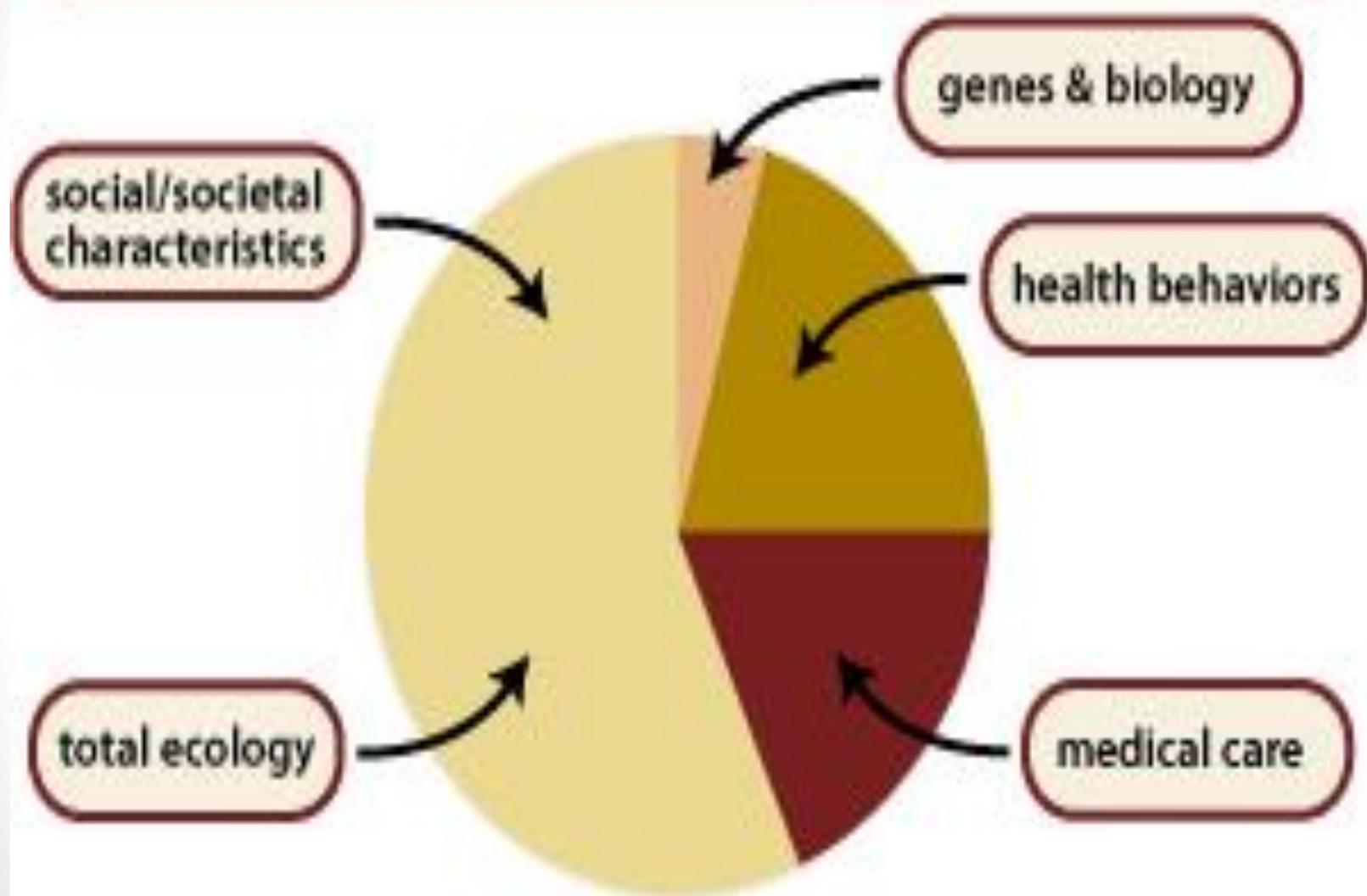
Kindig DA, *Stoddart* G: what is population health?  
American Journal of Public Health, 93:366-369, 2003.

Kindig, D., & Stoddart, G. (2003). What is population health? *American Journal of Public Health*, 93 (3), 380-383.



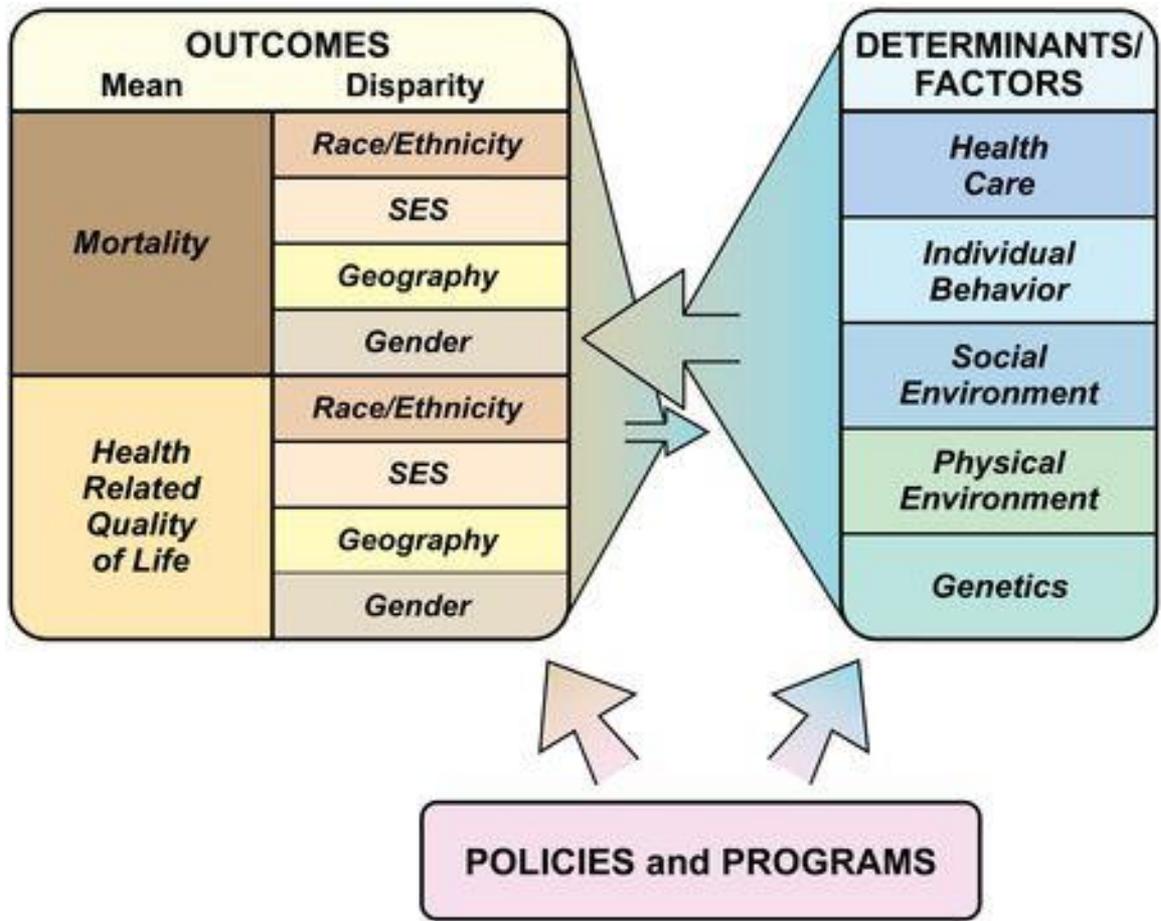
**FIGURE 1—A schematic definition of the field of population health.**

# DETERMINANTS OF POPULATION HEALTH



# Determinants of Population Health: Examples

- Genes and biology: sex, age
- Health behaviors: alcohol or injection drug use: unprotected sex, smoking
- Social environment or characteristics: discrimination, income, gender
- Physical environment or total ecology: where a person lives, living conditions, recreation areas
- Health services/medical care: access, ability to pay



- The right hand side of the diagram shows the many factors that affect health.
- While population health is broad its value is that it helps to integrate knowledge across many factors that influence health and health outcomes.
- Kindig D: What is population health?  
<http://www.improvingpopulationhealth.org/blog/what-is-population-health.html>. 2017

# Population Health is...

- Kindig (2015) has further refined his description of population health by saying that multiple definitions are needed. The traditional definition was used for geographic populations. That has been broadened to include:
  1. Employees
  2. Ethnic groups
  3. Disabled persons
  4. Prisoners or
  5. Any other defined group
- 6. Kindig D: What are we talking about when we talk about population health? *Health Affairs Blog* April 6, 2015.

# Population health also includes

- The health of a population can be measured by health status indicators-influenced by social, economic, and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development and health services.
- Refers to interrelated conditions and factors that influence the health of populations over the life course.

- What are the key influences on population health in Hong Kong?
- Among your friends and family?
- Among the patients whom you and your students see?

# Newer terms

- Population health management
- Population medicine
- The Triple Aim in Population health
  1. Improving the individual experience of care
  2. Reducing per capita cost of care
  3. Improving the health of populations

- Kindig (2015) thinks that two terms are needed:
- Population health management (population medicine)- refers to patient populations
- Population health-reserved for geographic populations (& I would broaden the term geographic to go beyond location). This is a public health focused definition.
- Per Kindig: “Improving total population health requires partners across many sectors-public health, health care organizations, community organizations, businesses to integrate investments and policies across all determinants” (2015).

- “Health is affected by our physical and social environments, our genes, our economic and educational opportunities, and to a much lesser degree, the medical care we receive” Koller, Alexander and Birch, 2017.
- In the United States, we are spending our health care dollars in the wrong ways for the wrong things.
- States or the national government have responsibility for many of the factors that affect population health. What are some of these in Taiwan?
- Where are health care funds being spent in Taiwan?

Koller CF, Alexander T, Birch S: Population health-A bipartisan agenda for the incoming administration from state leaders, N Eng J Med 376(3): 200-202, January 19, 2017

- Population health is different from public health.
- However, the ethics involved in both public health and population health are similar. That is, both emphasize the good of the population versus the good of the person.
- The public health perspective is concerned with collective action that benefits the greatest number of people ( i.e. clean water, public safety, the reporting of some diseases).
- In this perspective the individual may be required to forfeit some of their self-interests for the benefit of a safer and healthier society ( i.e. smoking in public).
- If you were to define public health as “health of the public” then there are few differences between public health and population health. However, some major determinants of health are not part of a public health framework (in the US): health care, education, income

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# Points to Consider

- All members of the team must buy in to the concept of population health.
- Technology makes population health management work such as electronic health records, personal health records, patient portals.
- Analytics and predictive modeling.
- Care management platform that stratifies patient risk, support registries, finds gaps in care and can facilitate care management (more on the medical side of population health).

# How do you measure population health?

Broad outcome measures include:

1. Length of life, health-related quality of life years of healthy life (Healthy People 2010)
2. EuroQuol (Medical expenditure survey).
3. Health Utilities index (Canadian national population health survey)

# How to measure population health?

- Specific measures for determinants of health
- Process measure
  - Resource allocation
  - Cost-effectiveness
  - Manpower training
  - Policy change

# Types of health policy

Hirsch, G., Homer, J., Trogon, J., Wile, K., & Orenstein, D. (2014). Using simulation to compare 4 categories of intervention for reducing cardiovascular disease risks. *APHA*, 104 (7), 1187-1195.



# Types of health policy

- breaking the cycle of health inequalities
- addressing social gradients in modifiable health risk behavior
- improving access to and use of public services and facilities
- strengthening disadvantaged and marginalized communities
- focusing attention on extremely vulnerable groups, such as the homeless, the mentally ill, and their families.
- Lantz, P.M., Richard L. Lichtenstein, R.L., & Harold A. Pollack, H.A. (2007). Health policy approaches to population health: The limits of medicalization. Health Affairs, 26 (5), 1253-1257

# Returning to the 2003 definition

- Kindig and Stoddart (2003) said “We propose that the definition be ‘the health outcomes of a group of individuals, including the distribution of such outcomes within the group’, and we argue that the field of population health includes health outcomes, patterns of health determinants, and policies and interventions that link these two”.
- How does health policy influence population health?
- What is (could be) the nursing role in health policy to improve population health?

# *Healthy People: 2020*

- Many of the HP 2020 objectives discuss population health.
- Example: ECBP-14 Increase the inclusion of core clinical prevention and population health content in undergraduate nursing education.
- At the Centers for Disease Control and Prevention, there is a Division of Population Health. It is charged with managing programs that provide cross-cutting, chronic disease and health promotion expertise.