

*HSS1101D: Determinants of Health*

# Introduction to Determinants of Health

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**\*NOTE:** Original lecture developed by Prof Thy Dinh.  
Current lecture modified++ by Prof Sonia Gulati.  
Information is taken from sources as indicated at  
the bottom of or within the slides.

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# Topics to be Covered

- *YOUR HEALTH*: The health of university students
- Defining Determinants of Health
- Key Determinants of Health
- Population Health Approach
- Distal and Proximal Health Determinants
- Applying Knowledge of the Determinants of Health



# \*Recall: Determinants of Health

- **Determinant (of health)**

- A definable entity that causes, is associated with, or induces a health outcome. It may be a factor or combination of factors that can be classified as inherited or acquired. They include biological, behavioural, social, economic, cultural, and other factors. Any combination of these may be determinants of health. (Last, 2007)

Examples:

Biological – predisposition to a disease due to family history or genetics

Behavioural – healthy or unhealthy habits, lifestyle

Social and cultural – education, race/ethnicity, religion, gender/sex

Economic – income

Physical environment – safe places, climate change, access to clean water and air

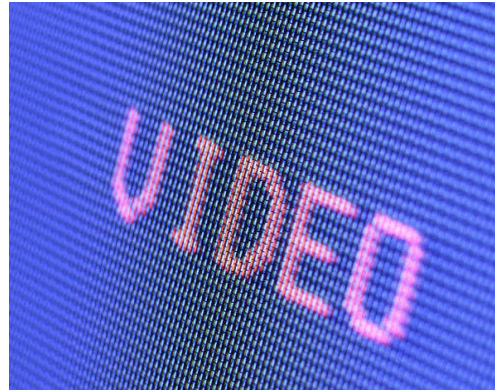
Political environment – political stability, war/peace

Health care system – access to health care services, healthcare coverage

# ***What factors influence the health of university students?***



# Video: College Students and Health



- **RT Coverage on College Sugar Babies (3:30)**  
<http://www.youtube.com/watch?v=ESXoFpQE2w8>

# Determinants of Health

- Determinants of health are factors that influence the health of individuals and populations
- They include the biological and genetic factors, social factors, the physical environment, health care system factors, and political factors, and so on...
- The study of population health involves studying the multiple determinants of health and the manner in which they can be affected to improve population health outcomes

# Consider these questions...

- What is the impact of poverty on health?
- Which drug would better treat a patient?
- What is the impact of contaminants on cancer?
- What is the best length of hospital stay for certain surgeries?
- What is the usefulness of some medical screening practices?
- Why are teenagers so attracted to smoking?
- What intervention strategies are best to address particular health issues?

# Consider this story...

"Why is Jason in the hospital?

Because he has a bad infection in his leg.

But why does he have an infection?

Because he has a cut on his leg and it got infected.

But why does he have a cut on his leg?

Because he was playing in the junk yard next to his apartment building and there was some sharp, jagged steel there that he fell on.

But why was he playing in a junk yard?

Because his neighbourhood is kind of run down. A lot of kids play there and there is no one to supervise them.

But why does he live in that neighbourhood?

Because his parents can't afford a nicer place to live.

But why can't his parents afford a nicer place to live?

Because his Dad is unemployed and his Mom is sick.

But why is his Dad unemployed?

Because he doesn't have much education and he can't find a job.

But why ...?"

# What are the key health determinants?

1. Income and Social Status
2. Social Support Networks
3. Education and Literacy
4. Employment / Working Conditions
5. Social Environments
6. Physical Environments
7. Personal Health Practices and Coping Skills
8. Healthy Child Development
9. Biology and Genetic Endowment
10. Health Services
11. Gender
12. Culture

# Population Health Approach

- Focus on the root causes of a problem
- Evidence to support the strategy to address the problem(s)
- Finding flexible and multidimensional solutions for complex problems
- Efforts to prevent the problem
- Efforts to improve the health status of the whole society, while considering the special needs and vulnerabilities of sub-populations
- Focus on partnerships and intersectoral cooperation
- Public involvement and community participation

# Determinants of health and risk factors

- The term “determinants” and “risk factors” are often used interchangeably
- *Risk factors* is more of an \*epidemiological term and are often scientifically proven factors that influence a particular health outcome (i.e., there is a more established causal role)
- *Determinants* is a broader term, which includes established or hypothesized causal relationships
- Determinants can be considered as either “distal” or “proximal” – sometimes not clear-cut

\***Epidemiology**: *The study of factors that influence the health and disease of a population and the use of this information to study diseases and improve the health of the population.*

# Distal and Proximal Determinants of health

- **Distal Determinants**

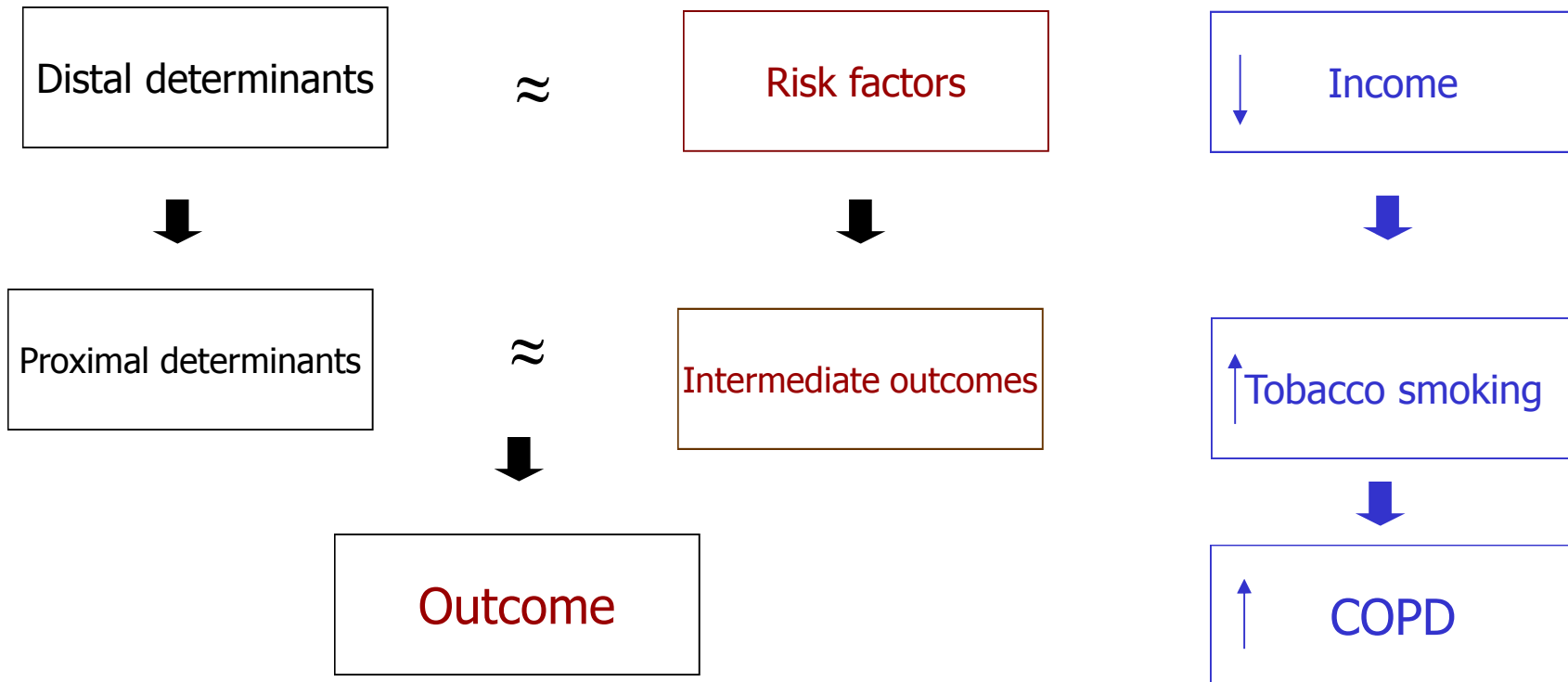
- Determinants that are far enough from the outcome of interest that it is difficult to determine or trace the causal pathway (Last, 2001)
- Can be considered “indirect” factors or hypothesized causal relationships

- **Proximal Determinants**

- Determinants that are close enough in time or distance in order to allow a confident claim about the link between the determinant and the outcome (Last, 2001)
- Can be considered more “direct” factors

## Example - Determinants of health

Population health approach    Epidemiological approach    Example:



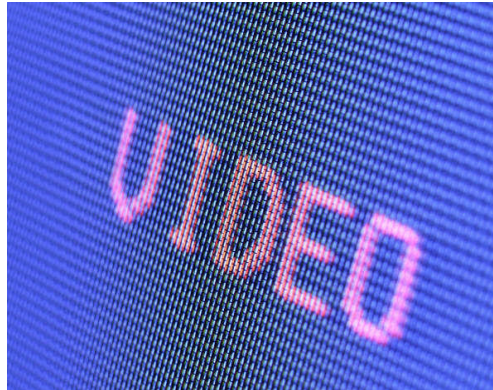
**Example – explanation:** One of the theories relating income to the risk of chronic obstructive pulmonary disease (COPD) is that people with lower incomes tend to have higher rates of cigarette smoking, who in turn have a higher risk of developing COPD.

- **The distal determinant / risk factor here is income.**
- **The proximal determinant / intermediate outcome may be cigarette smoking.**
- **The ultimate outcome here is COPD.**

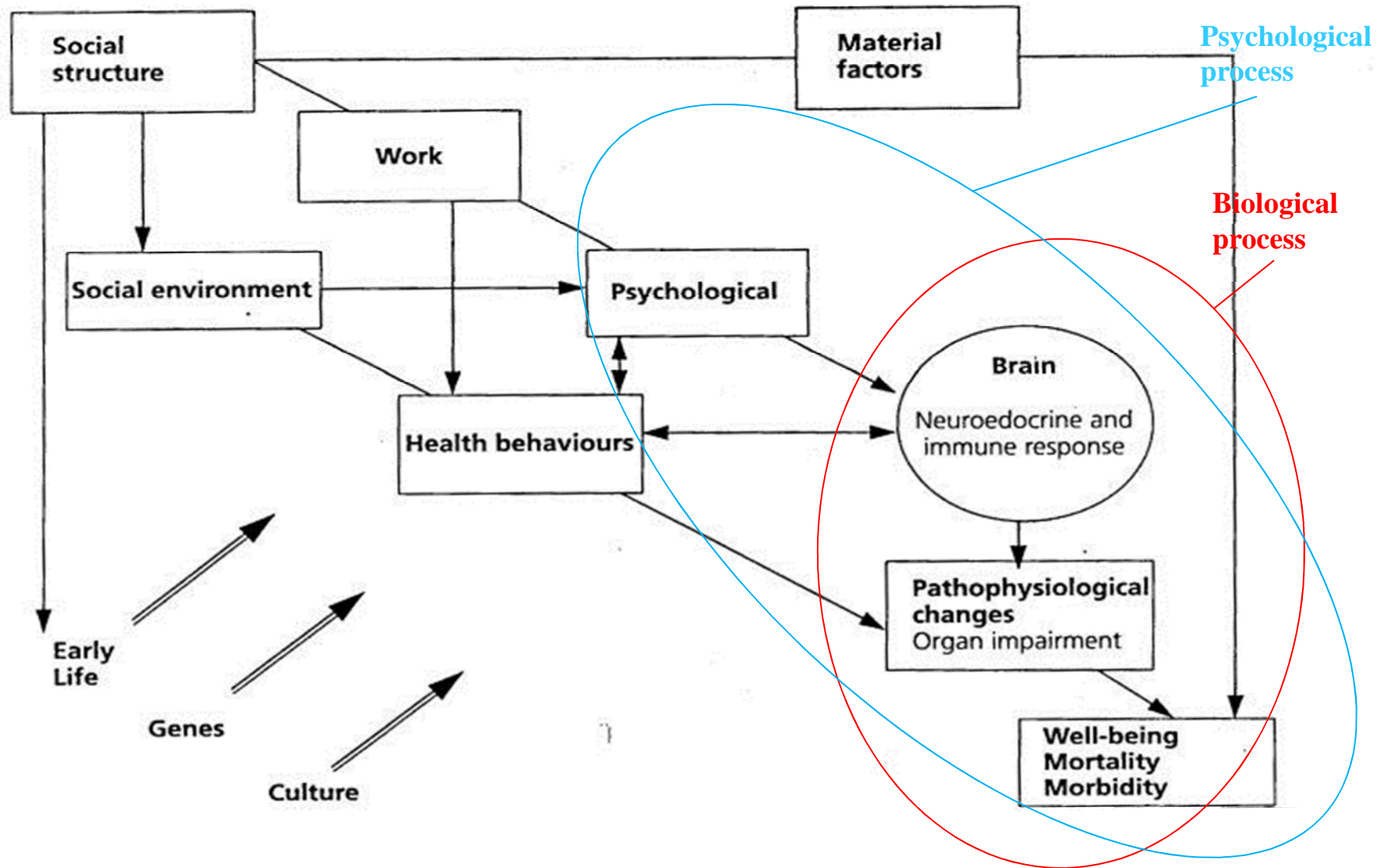
# Biological & Genetic Determinants of Health

- Often, there is a biological mediator variable between a determinant and an outcome
  - e.g., Endocrine and immunologic processes in stress (psychological determinant)
- All determinants have biological mediator variables in order to affect the organism to produce the health outcomes
- A genetic determinant is a proposed or established causal factor from the genetic composition of individuals or populations that affects health outcomes
  - E.g., genetic mutations BRCA1/2 and breast cancer
  - Genetic mechanisms alone cannot explain how some cellular traits are propagated

# Video: Cancer Prevention



- **Grey's Anatomy Episode: "Let it Be" (Schmir, 2005)  
(5:21)**



Brunner and Marmot Chapter 2 in Social determinants of health, M. Marmot & R.G. Wilkinson, 1999

# Behavioural Determinants of Health

- A proposed or established causal factor based on individual personal choices of lifestyle or habits (either spontaneously or in response to incentives), such as diet, exercise, and substance use/abuse.

## **Social Determinants of Health**

- A proposed or established causal factor in the social environment that affects health outcomes (e.g., income, education, occupation, class, social support)

## **Environmental (Physical and Ecological) Determinants of Health**

- A proposed or established causal factor in the natural and built environment that affects health outcomes (e.g., air and water quality, lead exposure, the design of neighbourhoods).
- Natural environment refers to ecology
- Built environment refers to the physical structure of the surroundings

# Health Care as a Determinant of Health

- A proposed or established causal factor in health care that affects health outcomes (i.e., access, quantity, and quality of health care services)

# Political Determinants of Health

- A proposed or established causal factor in the political environment that affects health outcomes (i.e., type of governance structure, political stability, war, civil unrest, etc)

# Applying Knowledge of the Determinants of Health

## Determinants of Health: A Framework for Reaching Healthy People 2020 Goals

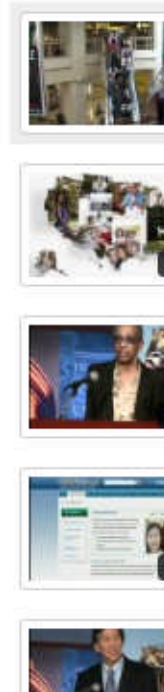
USGOVHHS

560 videos

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Suggestions



[http://www.youtube.com/watch?v=5Lul6KNlw\\_8](http://www.youtube.com/watch?v=5Lul6KNlw_8)

(5:12)

Determinants	Case 1: Karla	Case 2: James
Biological & Genetic	<ul style="list-style-type: none"> <li>• 6 year old</li> <li>• African American</li> <li>• Girl</li> </ul>	<ul style="list-style-type: none"> <li>• 76 year old</li> <li>• Caucasian</li> <li>• Male</li> <li>• Family history of diabetes</li> <li>• Diagnosed with type 2 diabetes</li> </ul>
Social	<ul style="list-style-type: none"> <li>• Spends time with grandmother after school</li> </ul>	<ul style="list-style-type: none"> <li>• Low income neighbourhood</li> <li>• High density</li> </ul>
Physical environment	<ul style="list-style-type: none"> <li>• Urban setting, no parks</li> <li>• Apartment building</li> <li>• Have to take the bus to school</li> </ul>	<ul style="list-style-type: none"> <li>• Fast food and convenience stores</li> <li>• Have to take bus to grocery</li> </ul>
Behavioural	<ul style="list-style-type: none"> <li>• Low physical of activity</li> <li>• 4 hours of TV per day</li> </ul>	<ul style="list-style-type: none"> <li>• Takes the bus</li> <li>• Canned foods high in sodium</li> </ul>
Interventions → Outcomes	Gym open after hours → increases physical activity, social interaction with other children and with grandmother, watching less tv	Subsidized farmer's market within walking distance, low cost healthy foods → Increase physical activity, better nutrition, controlled blood sugar

# Applying Knowledge of the Determinants of Health

- Determinants of health can impact lives
- We can work together to improve health (individuals and communities)
- Public health interventions typically target one or more determinants
- Interventions include information, policies, and programs
- Interventions designed to produce health outcome(s)
- Can have multiple outcomes: positive behaviour change, reduction in diseases/conditions and risk factors, fewer injuries, improve well-being and health-related quality of life, and reduce health disparities and inequities