

Understanding Environmental Health: A Social-Ecological Model

Presented by

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**Social Determinants of Environmental Health Webinar Series
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**The Chesapeake C.O.H.D.R.T
Community/Comprehensive
Outreach and Health
Disparities Research Teams**

Take Home Message!



Libraries' are well positioned to play a **KEY** role in the reducing neighborhood level health disparities.

Today's Objectives

By the end of this webinar, attendees will be able to:

- Discuss how the social-ecological model is used to understand the complex interplay between individual, social and environmental factors that impact health.
- Examine why integrating interventions to reduce environmental health disparities into a multilevel social-ecological model is most effective.

For starters...

Let's define a few terms

So.....What is environmental health?

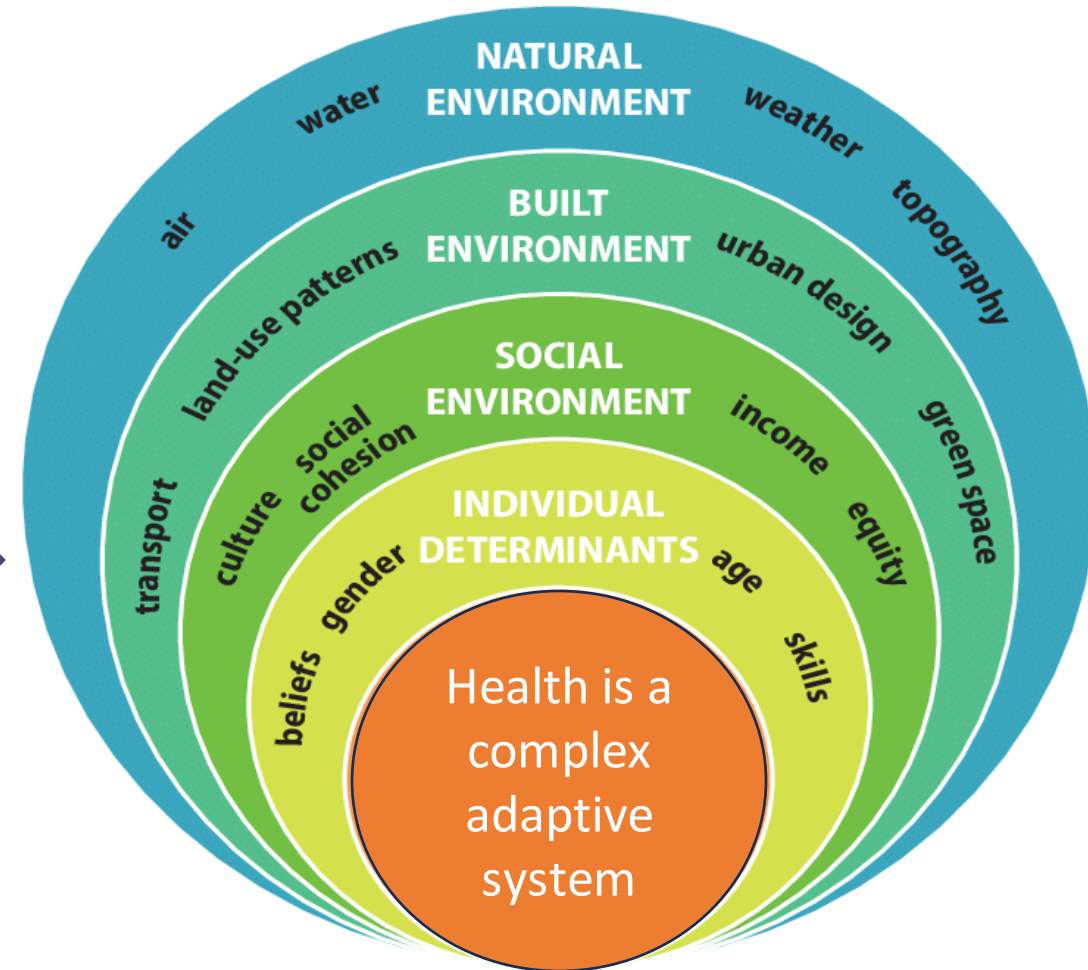
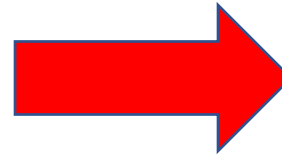
.....It depends on who you ask??



For our purposes today - Environmental Health is.....

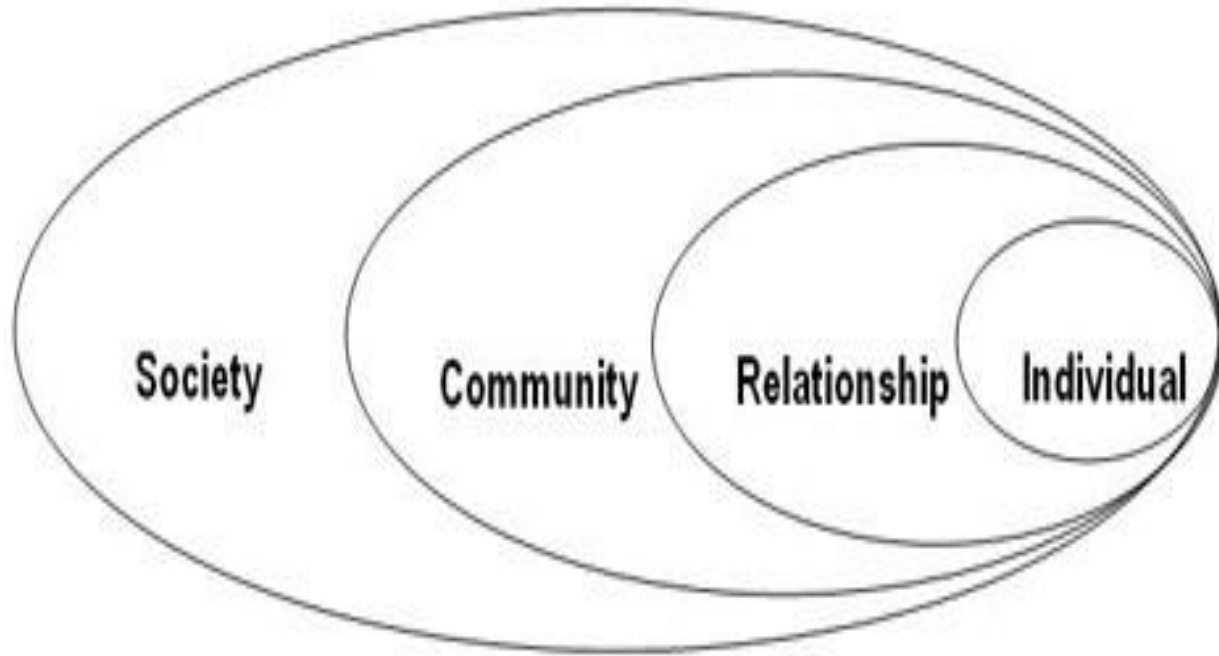
.....a branch of public health that monitors the relationship between human health and the environment, examining aspects of both our natural and human-made environment and their effect on human wellbeing

What is a social-ecological model of Health?



Yes, it's truly complex!!
More on this later.....

Conceptual Model/Framework: Social Ecological Model (SEM)



*Nested Social Ecological Model based on
Dahlberg and Krug (2002)*

Rationale

- Often used for understanding complex systems (interplay between individual, relationship, community, and societal factors).
- The overlapping rings in the model illustrate how factors at one level influence factors at another level.
- The model also suggests that to achieve optimum health, it is necessary to act across multiple levels of the model at the same time.

Context specific examples of the Social Determinants of Health



What we know

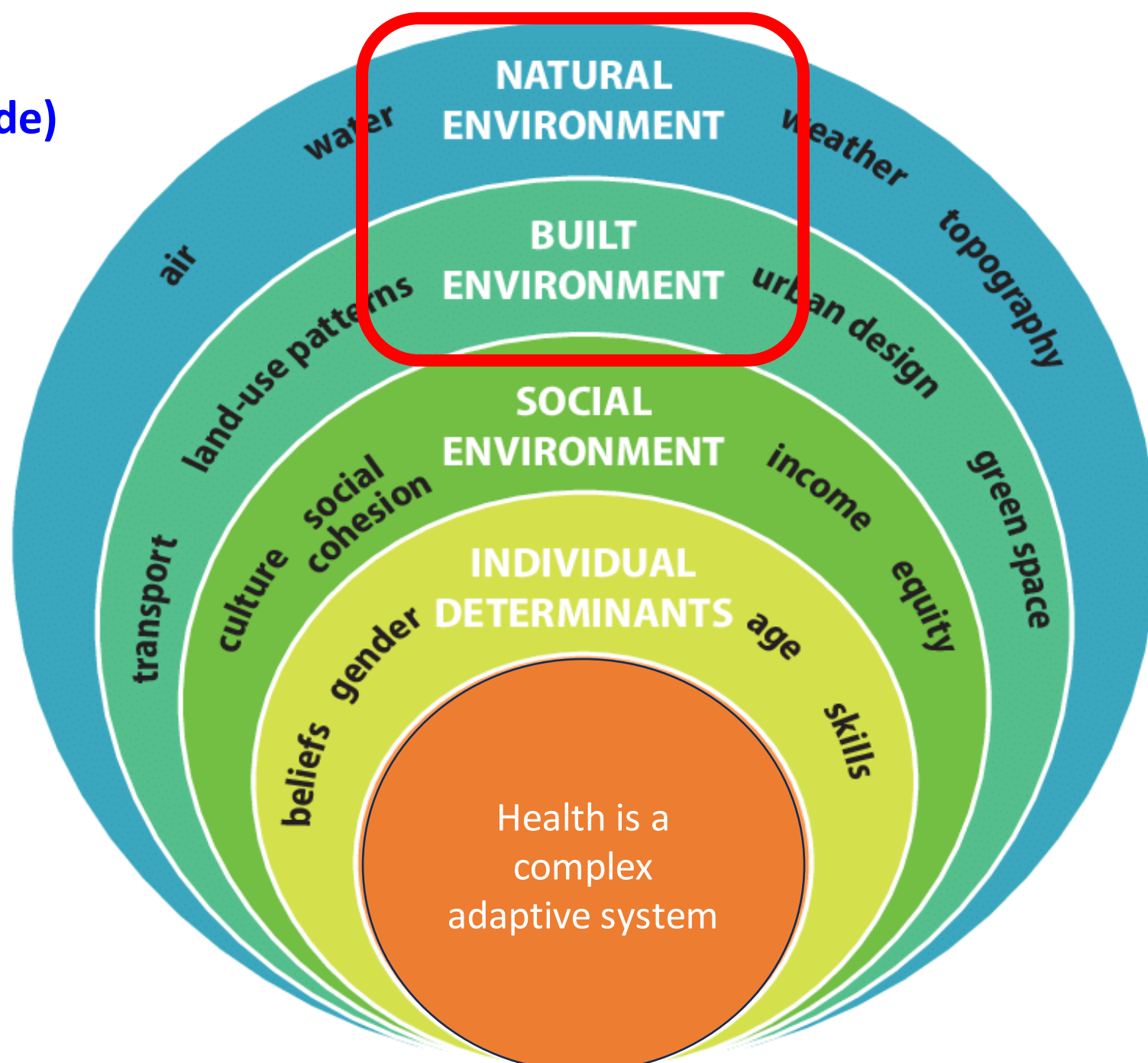
Our environments cultivate our communities and our communities nurture our health



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**Built (Human-made)
Vs.
Natural**



Environmental Health Disparities: A Framework Integrating Psychosocial and Environmental Concepts

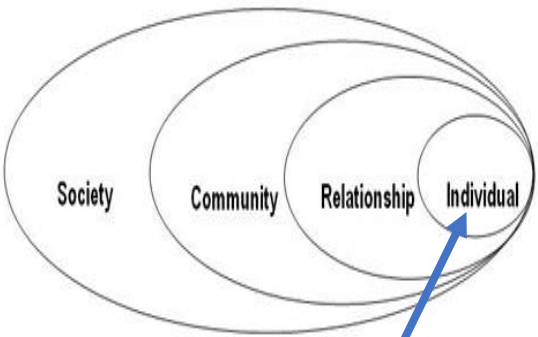
Gilbert C. Gee¹ and Devon C. Payne-Sturges²

¹University of Michigan School of Public Health, Department of Health Behavior and Health Education, Ann Arbor, Michigan, USA;

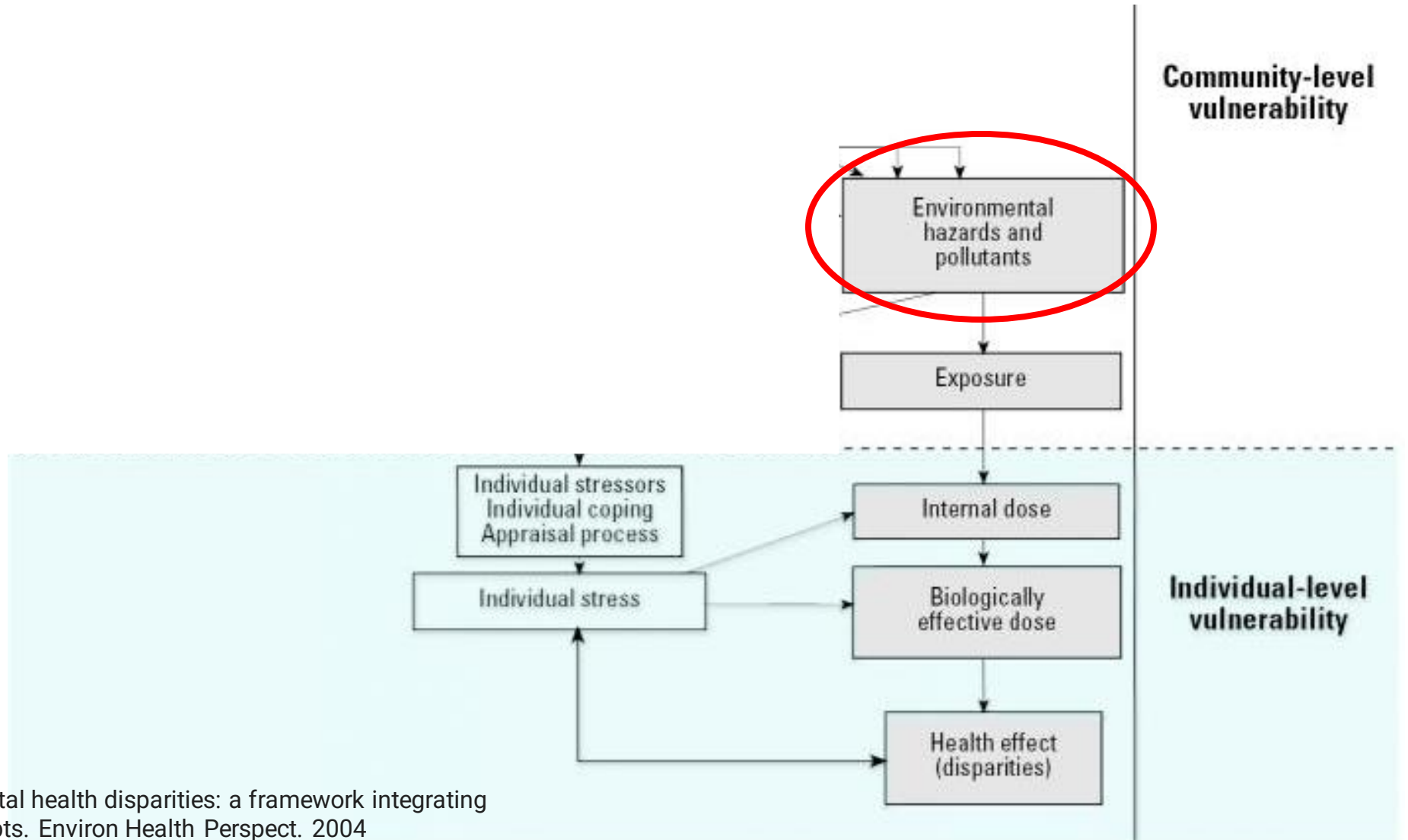
²Office of Policy, Economics and Innovation, and Office of Children's Health Protection, U.S. Environmental Protection Agency, Washington, DC, USA

- The elimination of disparities in environmental health requires attention to both environmental hazards and social conditions [[U.S. Environmental Protection Agency \(EPA\) 2003a](#); [Institute of Medicine 1999](#)].
- Two major challenges:
 - To understand how social processes may interrelate with environmental toxicants,
 - To understand why some groups experience greater illness compared with other groups.

Exposure–disease–stress model for environmental health disparities



(e.g. Cancer Survivor)



Moving on to Interventions.....

What is an intervention?

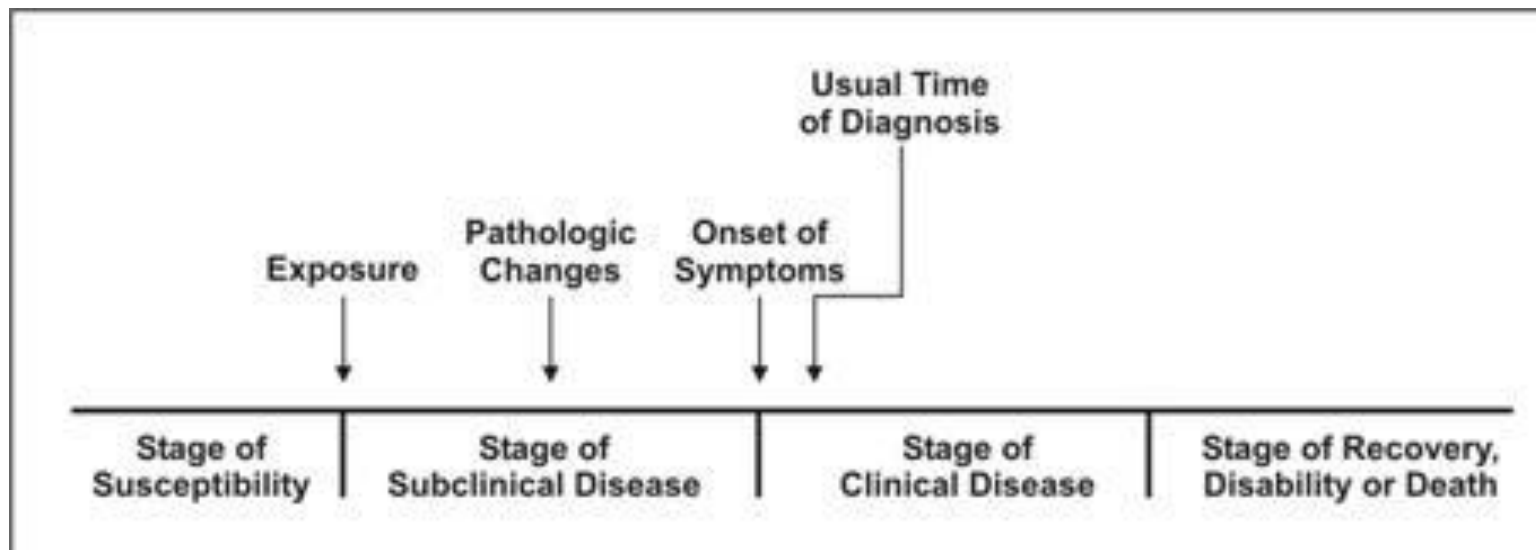


**Action taken to
improve a
situation**

Intervention – *as defined in the medical world*

- An attempt to *intervene* or *interrupt* the usual sequence of disease

Figure Natural History of Disease Timeline



Two categories of interventions

Disease Prevention

- Health-absence of disease & medical model
- Aimed at high-risk groups
- One-shot strategy
- Strategies focus on individuals and groups
- Responsibility of health professionals

Health Promotion



- Health – positive and multidimensional concept & participatory model of health
- Aimed at total population and it's environment
- Many strategies and sectors

Health Promotion

- **Health promotion** is the process of enabling people to increase control over, and to improve, their health.
- It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions.



So, Let's take a Pause,
Breathe, and
Recap



RECAP

So, back to our model....if we know that....

Our environments cultivate our communities and our communities nurture our health



When inequities are high and community assets are low, health outcomes are worst.

When inequities are low and community assets are high, health outcomes are best.

Health outcomes

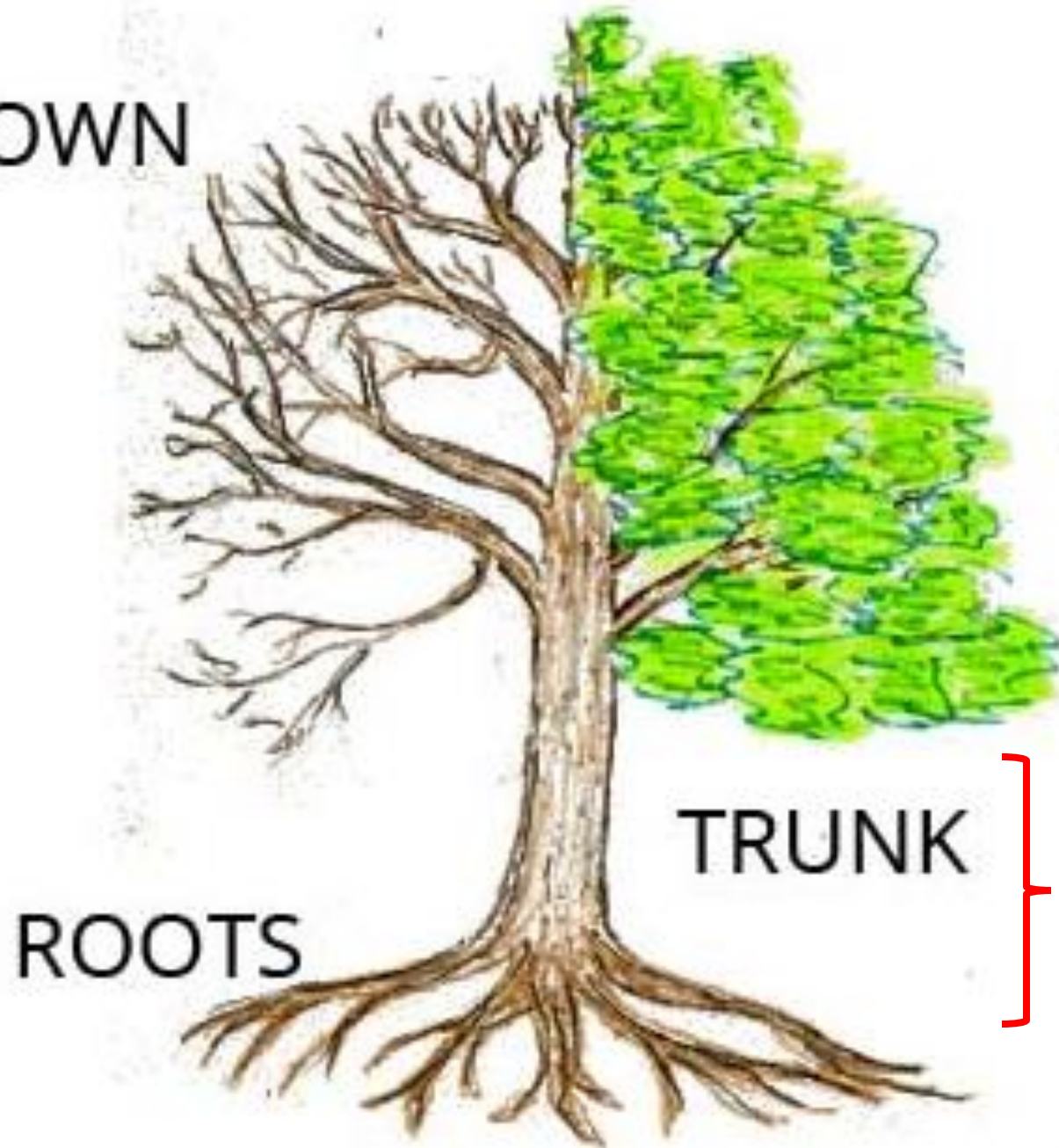
Built and Natural Environmental Factors



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CROWN



TRUNK

ROOTS

Considering our social-ecological model, what interventions might work in partnership with those that seek to reduce environmental health disparities?

Let's take a look at the trunk....

The main purpose of the trunk is to raise and **support** the leaves/limbs above the ground, enabling the tree to reach the light and **survive**.

STORIES OF HOPE

Health Outcomes

OPPORTUNITIES

**Building Bridges
Between Hope & Opportunities**

Fragmented Systems
Restricted Power
Disinvestment
Disconnected Members



Sense of Community
Social Networks
Social Support
Participation
Leadership
Political Influence
Organizational Networks

Poor Living Conditions
Segregation

Poor Quality S

Access to Healthy Foods

Marketing for Tobacco and Alcohol

Occu

**Built and Natural
Environmental Factors**

ilities

Clean Environment

Unemployment

Community Capitals



Anglin, A. E. (2015). Facilitating community change: The community capitals framework, its relevance to community psychology practice, and its application in a Georgia community. *Global Journal of Community Psychology Practice*, 6(2), 1-15.

Examples of Capital in the Built Environment:

Community Anchor Institutions



Public Libraries As Partners for Health Promotion

- Public libraries are free and accessible to all and are centers of community engagement and education to promote health literacy, and/or understanding of health information.
- The following slides provides some examples of how Public libraries support public health-inspired programming.

How public libraries can mitigate place-based disparities in population health

Philbin et al, 2019

<u>Determinant of health</u>	<u>Description</u>
Healthcare access	Implement and host targeted interventions in partnership with universities, community organizations and government departments
	Provision of health information about specific conditions or how to access care
	Direct provision of health care services
Addiction	Emergency response to opioid overdose
	Harm reduction response to substance use

How public libraries can mitigate place-based disparities in population health, continued

Philbin et al, 2019

<u>Determinant of health</u>	<u>Description</u>
Work and unemployment	Services that provide training for specific occupations
	Services to assist with job seeking
Disaster relief	Provide disaster relief services following tornadoes, floods and hurricanes
	Provide space to meet and recover during periods of civil unrest

How public libraries can mitigate place-based disparities in population health, continued

Philbin et al, 2019

<u>Determinant of health</u>	<u>Description</u>
Food	Educational services to promote healthy eating and food literacy
	Direct provision of food
Early life	Services designed to promote wellbeing and learning among young children
The social gradient	Services that promote the acquisition of human capital, such as literacy, education and specific qualifications and credentials

One Family's story of how a
Library was a Community Anchor

In the beginning there was **HOPE**



Raised in Prince Georges County (PG)



Youngest of 3; Dad- tractor operator/Mom-homemaker
Income: \$10,000 - 25,000

Career Goal: Secretary.....I really liked to type!

Hope Meets Opportunity



Library “Interventions” in the 70’s/80’s

- Book mobile
- Coupon Swap
- Ideal Location – Shopping Center
 - Grocery shop, wash clothes, get books
 - Safe haven



Housing Instability

Housing unstable until High school:
*Lived in tent, motel, basement of church,
relatives.*

Take home messages:

Philbin et al, 2019

- Finding ways to integrate interventions to reduce environmental health disparities into a multilevel social-ecological model is most effective.
- Libraries' extensive population reach, their access to diverse sectors of the U.S. population, the public trust they command, and their diverse geographic coverage favorably position them as part of a multi-sectoral strategy to advance population health.

*Thank You
for your Attention!*

Questions?

Please feel free to email me with additional comments
or questions.

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References

- Philbin MM, Parker CM, Flaherty MG, Hirsch JS. Public Libraries: A Community-Level Resource to Advance Population Health. *J Community Health*. 2019 Feb; 44 (1):192-199.
- Whiteman, E. D., Dupuis, R., Morgan, A. U., D'Alonzo, B., Epstein, C., Klusaritz, H., & Cannuscio, C. C. (2018). Peer reviewed: Public libraries as partners for health. *Preventing chronic disease, 15*.

Environmental Health Equity Resource Websites

- <https://www.nationalacademies.org/our-work/environmental-health-matters-initiative>
- <https://www.niehs.nih.gov/research/supported/translational/justice/index.cfm>

Discussion/Activity

Let's consider how Libraries can be a part of a coordinated effort to mitigate environmental health disparities.



WHO - The **Ottawa Charter** for Health Promotion, 1986

http://www.searo.who.int/entity/health_promotion/health-promotion-sustainable-prevention/en/

Discussion/Activity

1. Had you heard of the social-ecological model before this session?
 - Please share something you learned about how this model is used to understand environmental health.
2. How might incorporating the view this model offers into the work of libraries and community spaces promote
 - environmental health literacy?
 - ideas for health promotion “interventions”?