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A Public Health Approach to the Digital Determinants of Health

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University of Toronto

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DISCLOSURES

- Research funding from Canadian Medical Association, Canadian Institutes of Health Research, Social Sciences & Humanities Research Council
- I have nothing else to disclose.

THE DIGITAL DETERMINANTS OF HEALTH

LEARNING OBJECTIVES

1. Define the digital determinants of health.
2. Describe the relevance of the digital determinants of health to the Canadian public health landscape.
3. Describe an intervention framework for the digital determinants of health.
4. Identify examples of the digital determinants of health.

OUTLINE

1. Context: **Public health and the digital realm**
2. What are the DDOH
3. Building a **public health framework** for the DDOH
4. **Future Directions**

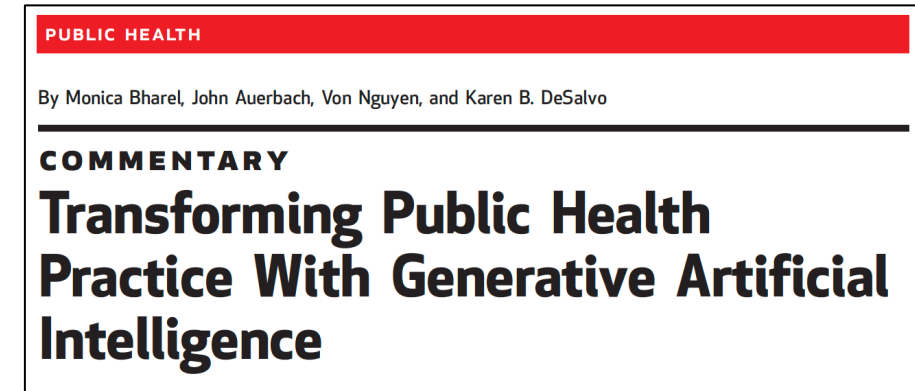
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CONTEXT

DIGITAL IS EVERYWHERE

- Acknowledge the potential **immediate value** of digital + AI

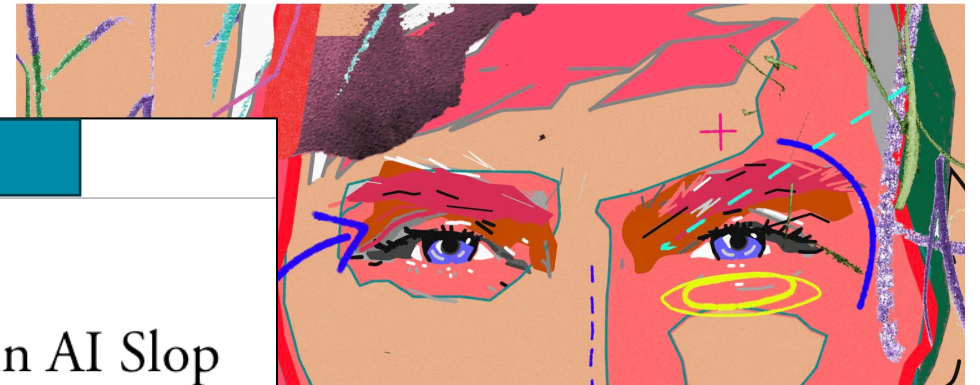


CONTEXT

DIGITAL IS EVERYWHERE

- Acknowledge the potential **immediate value** of digital + AI
- Acknowledge that **social realities are evolving**

From bone smashing to chin extensions: how 'looksmaxxing' is reshaping young men's faces



IDEAS +

AI +

**Young People Are
Sounding the Alarm on AI.
We Should Listen to Them**

Air Travel Feels Political Now

Why some travelers are quietly opting out of a system they no longer trust



Mallick Speaks

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Newsletters

SCIENCE

Science Is Drowning in AI Slop

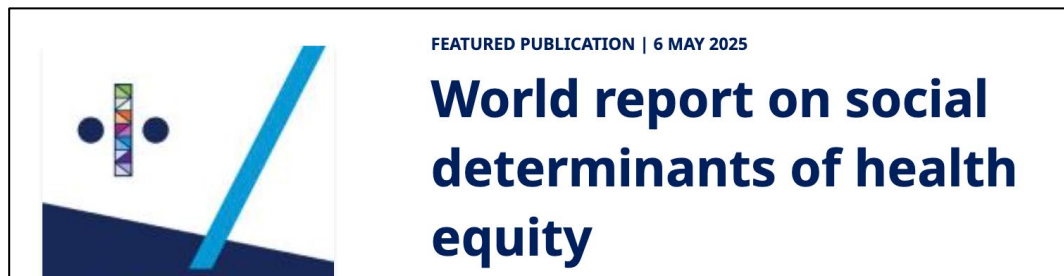
Peer review has met its match.

By Ross Andersen

CONTEXT

DIGITAL IS EVERYWHERE

- Acknowledge the potential **immediate value** of digital + AI
- Acknowledge that **social realities are evolving**
- And that **harms are emerging...**



THE DIGITAL DETERMINANTS OF HEALTH

DEFINING THE DDOH

npj Digital Medicine

<https://doi.org/10.1038/s41746-026-02765-5>

Article in Press

A global call to action on the digital determinants of health

Received: 3 November 2025

Accepted: 6 May 2026

James Shaw, Caesar Atuire, Leo Anthony Celi, Sara L. M. Davis, Tiyondah Fante-Coleman, Kadija Ferryman, Mataroria Lyndon, Juan Sebastian Osorio, Dharaa Suresha & Beatrice Tiangco



THE DIGITAL DETERMINANTS OF HEALTH

DEFINING THE DDOH

- **An emerging body of literature** in four categories:

THE DIGITAL DETERMINANTS OF HEALTH

DEFINING THE DDOH

- **An emerging body of literature** in four categories:

1. Impact in **health systems**

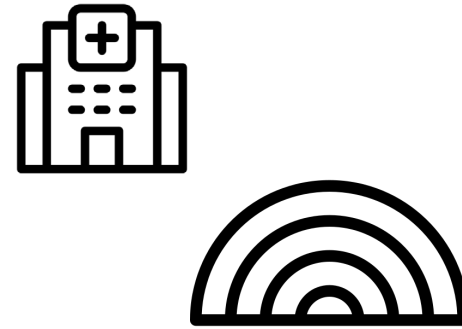


THE DIGITAL DETERMINANTS OF HEALTH

DEFINING THE DDOH

- **An emerging body of literature** in four categories:

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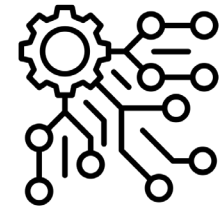


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3. Diffuse **impacts on other determinants** of health

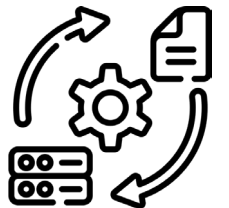
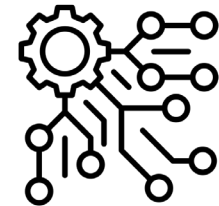


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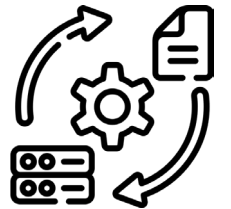
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3. Diffuse **impacts on other determinants** of health
4. Collective impacts of **digital transformations**



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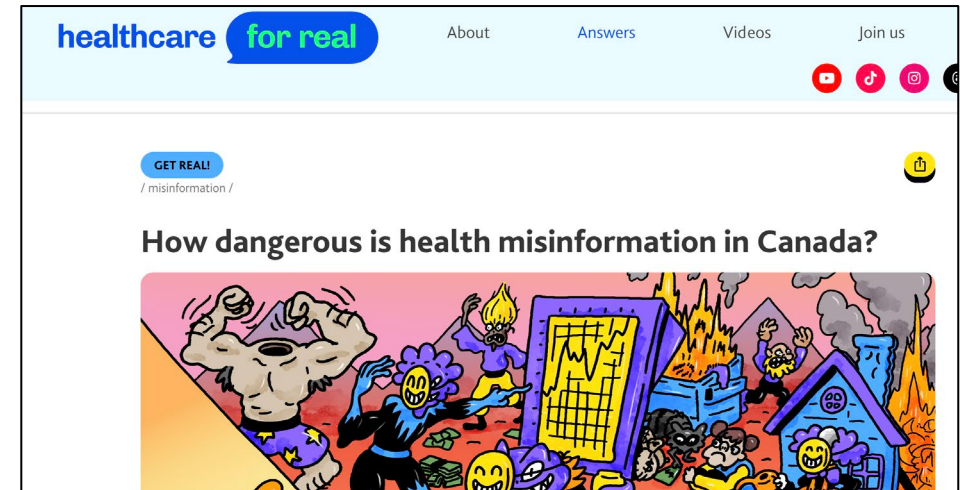
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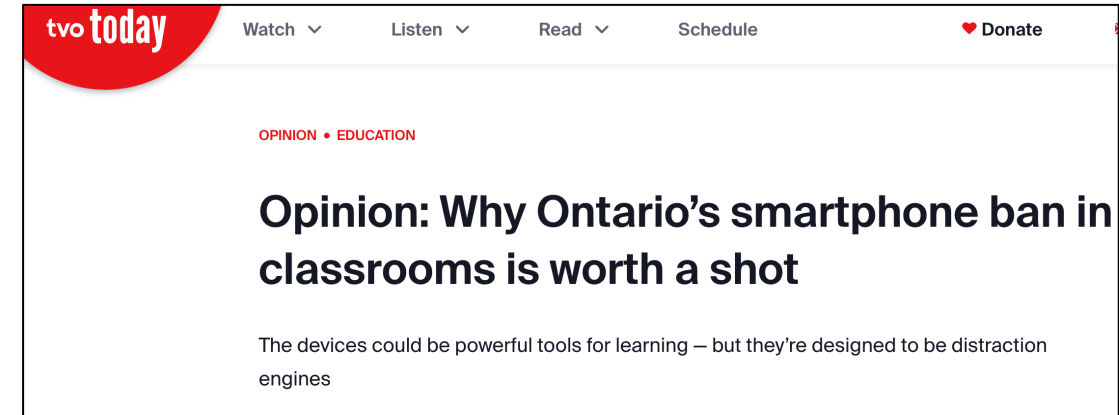
Individual Uses

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Institutional Changes

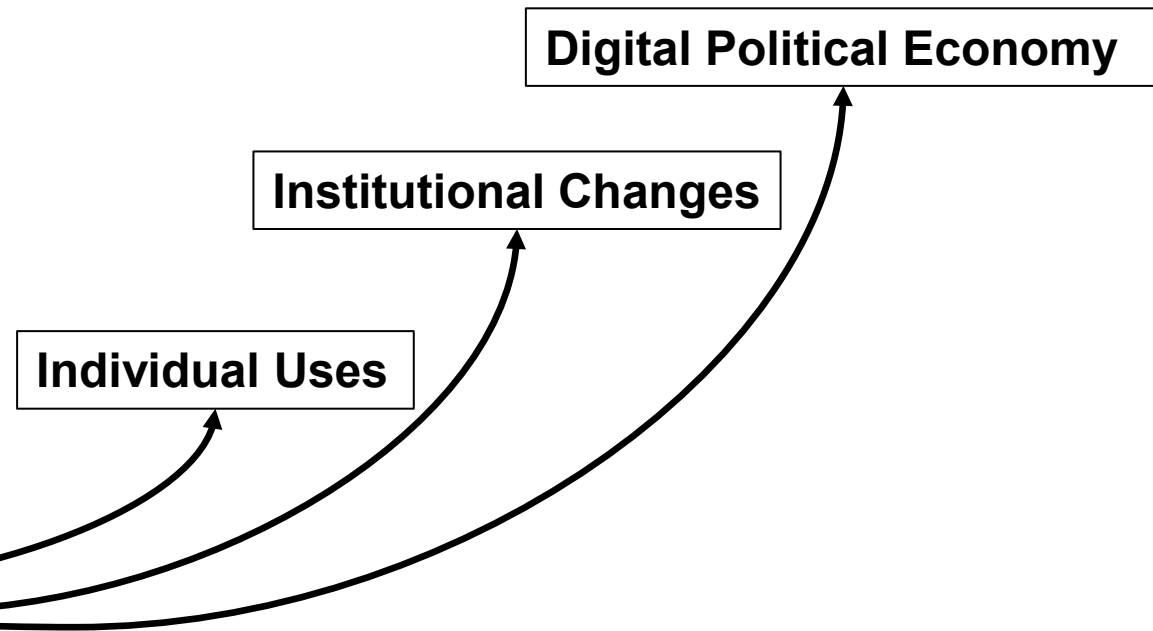
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*The inter-related set of **political, economic, and corporate** interests that shape policy and economic activity = the **broader context for our lives.***

Digital Political Economy

Institutional Changes

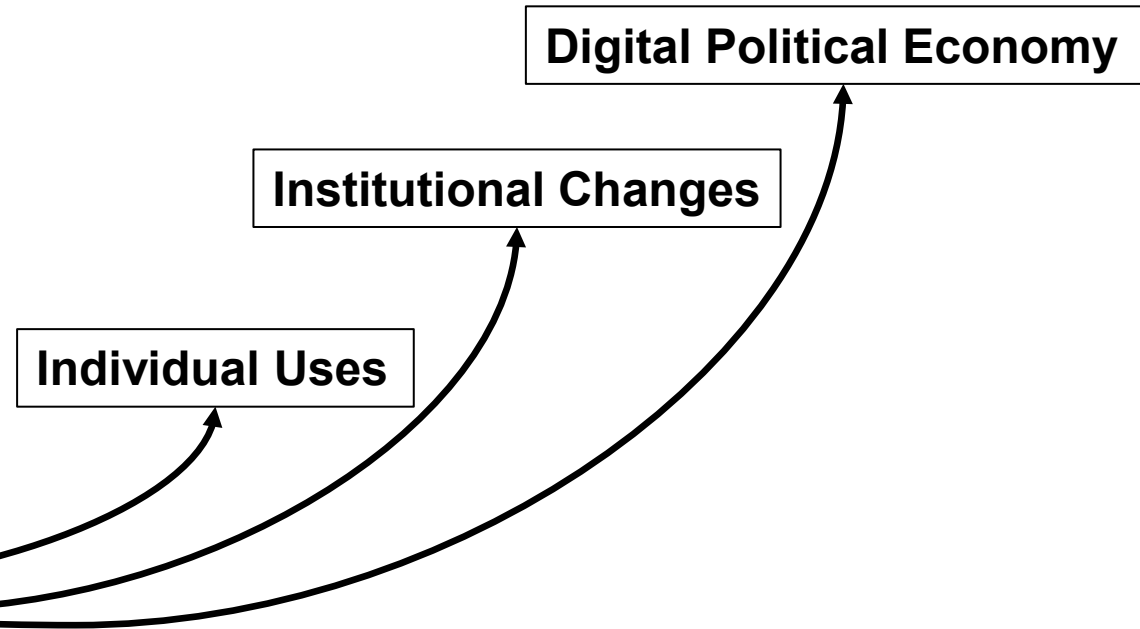
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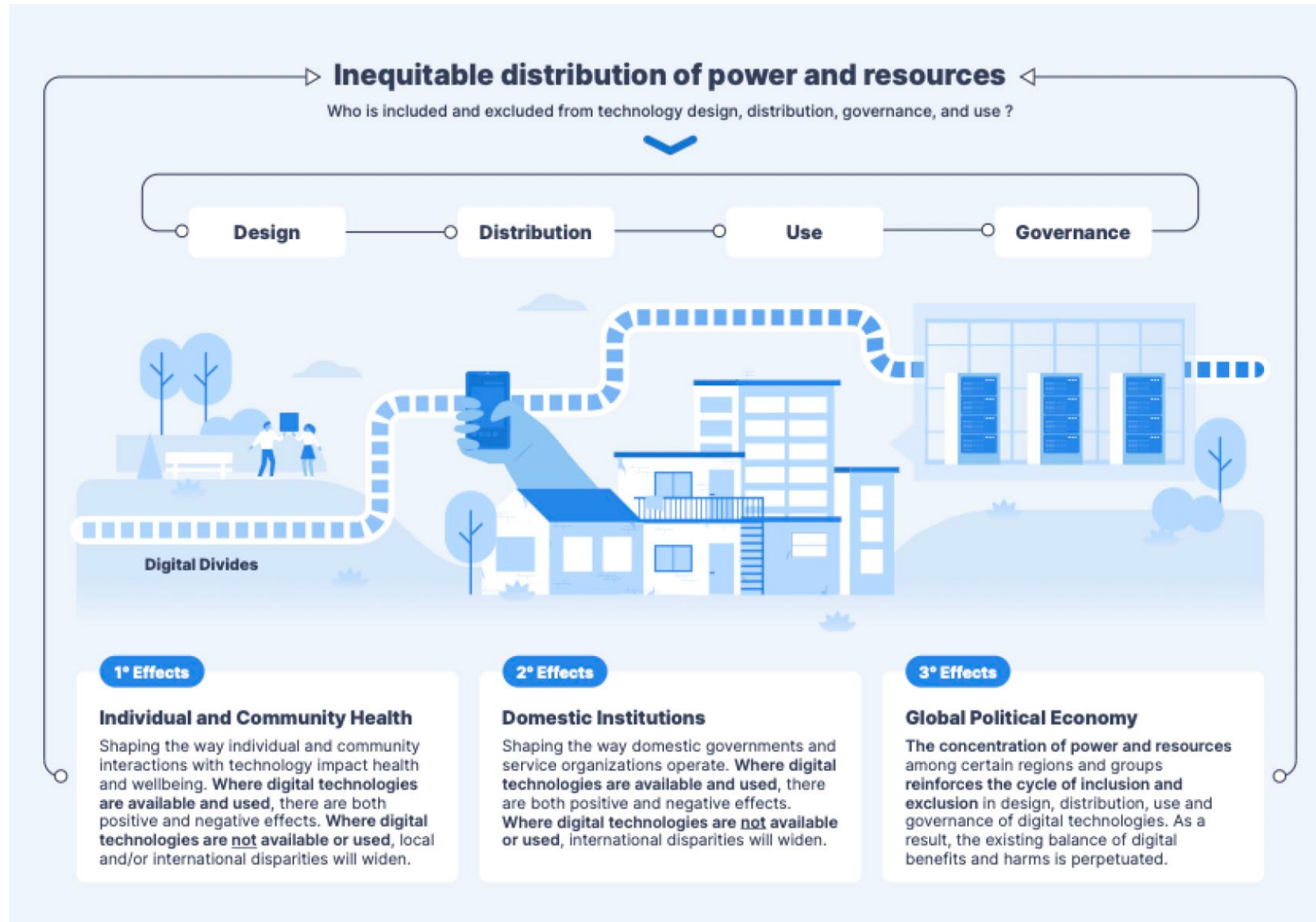
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THE DIGITAL DETERMINANTS OF HEALTH



THE DIGITAL DETERMINANTS OF HEALTH

DEFINING THE DDOH

- **Key point** about the DDOH:
- The DDOH refer to the ways that engagement with **digital technologies*** and the **socio-technical systems** of which they are a part **amplify or reduce** the impacts of our **contexts** on our **health**.
- *** *Digital transformations***

THE DIGITAL DETERMINANTS OF HEALTH

DEFINING THE DDOH

- **Key point** about the DDOH:
- **Digital technologies** and the **socio-technical systems** of which they are a part **amplify or reduce** the impacts of our **contexts** on our **health**.

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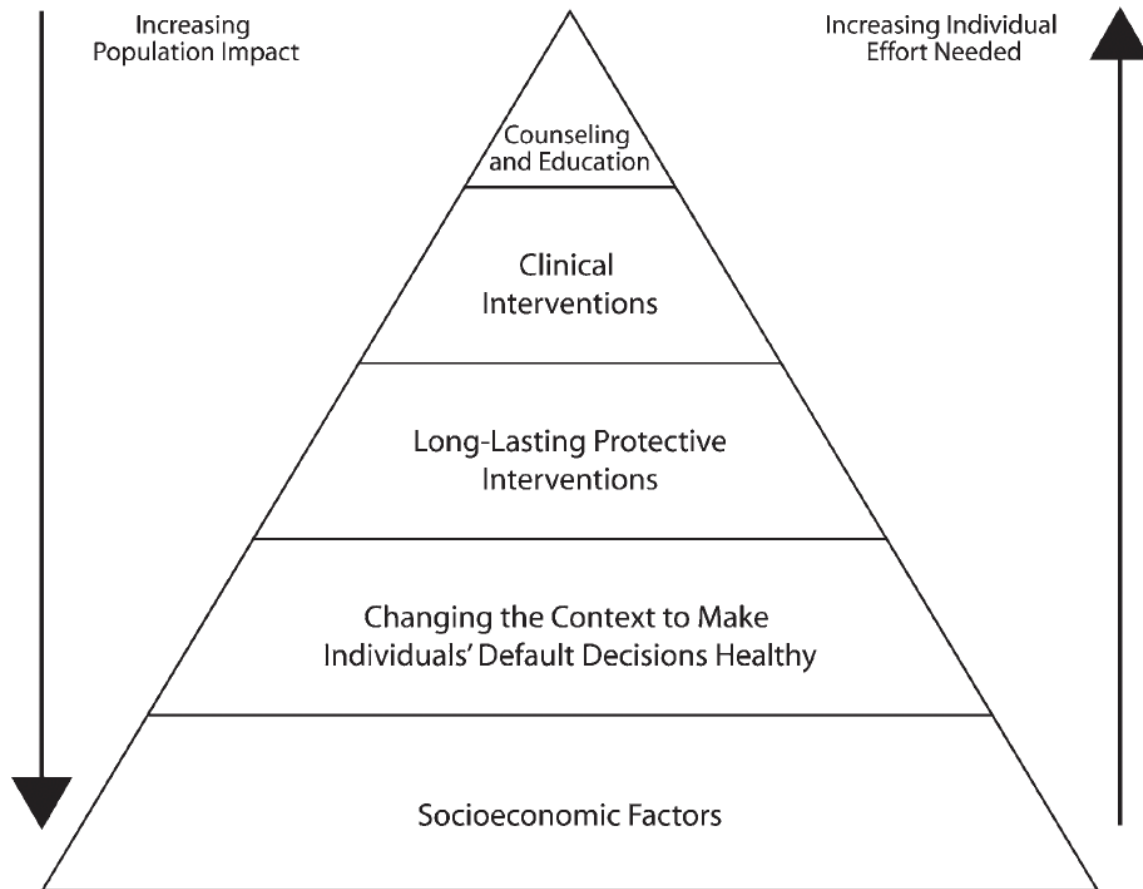
PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?

- **How should we address the DDOH?**

PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?

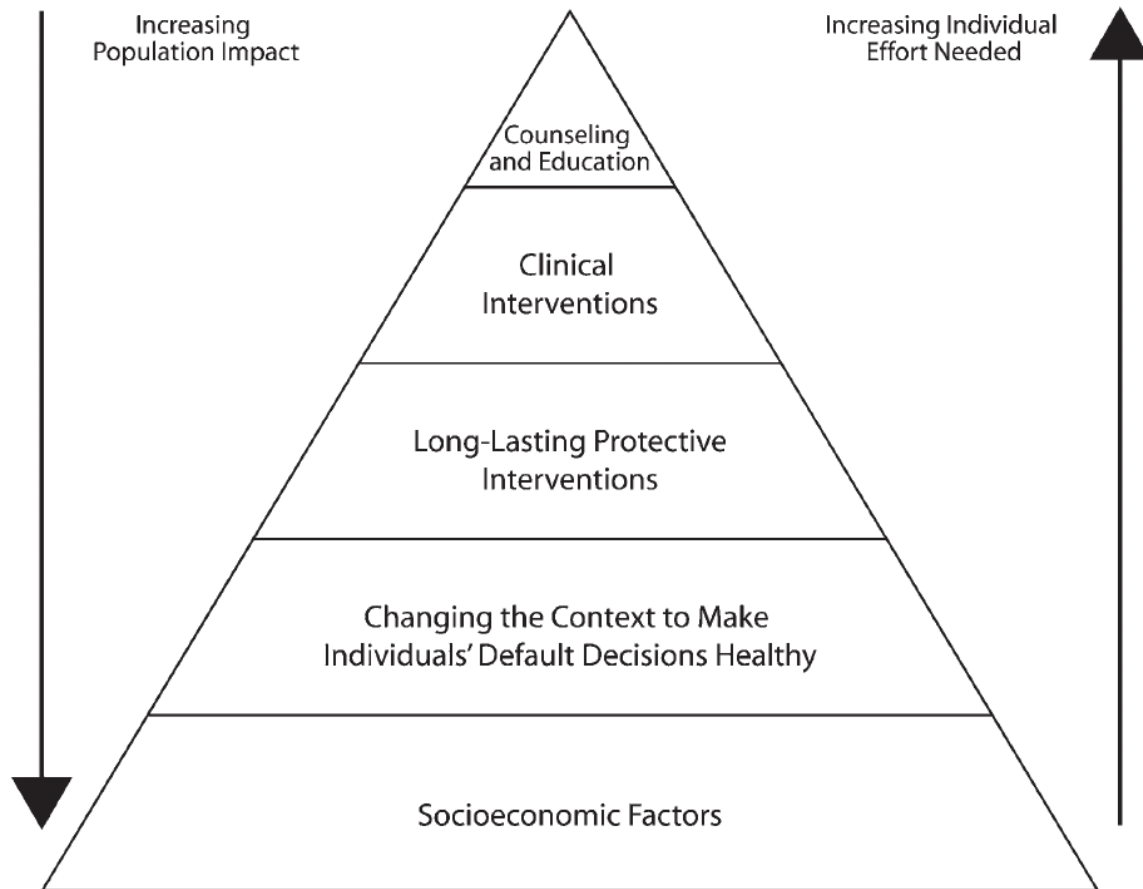


A Framework for Public Health Action: The Health Impact Pyramid

Thomas R. Frieden, MD, MPH

PUBLIC HEALTH INTERVENTION

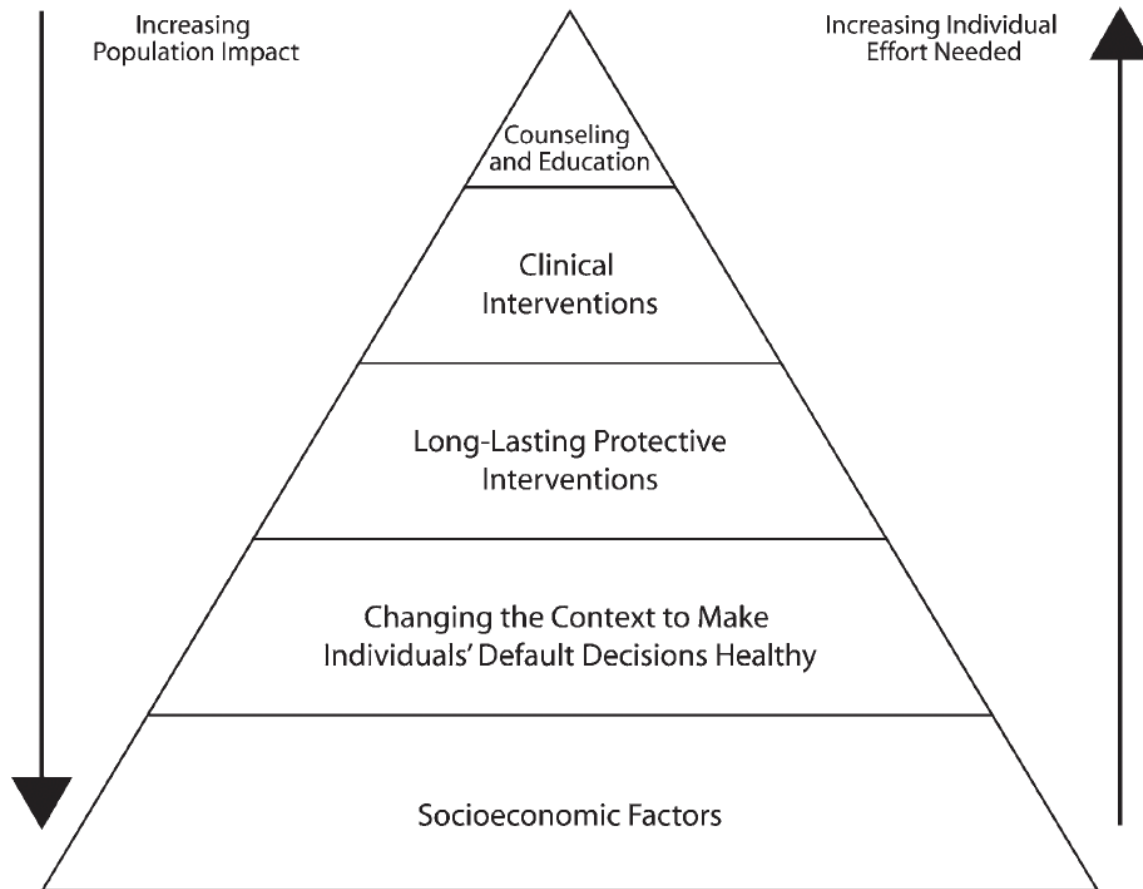
SO, WHAT DO WE DO?



Individual **mental health and addictions** support

PUBLIC HEALTH INTERVENTION

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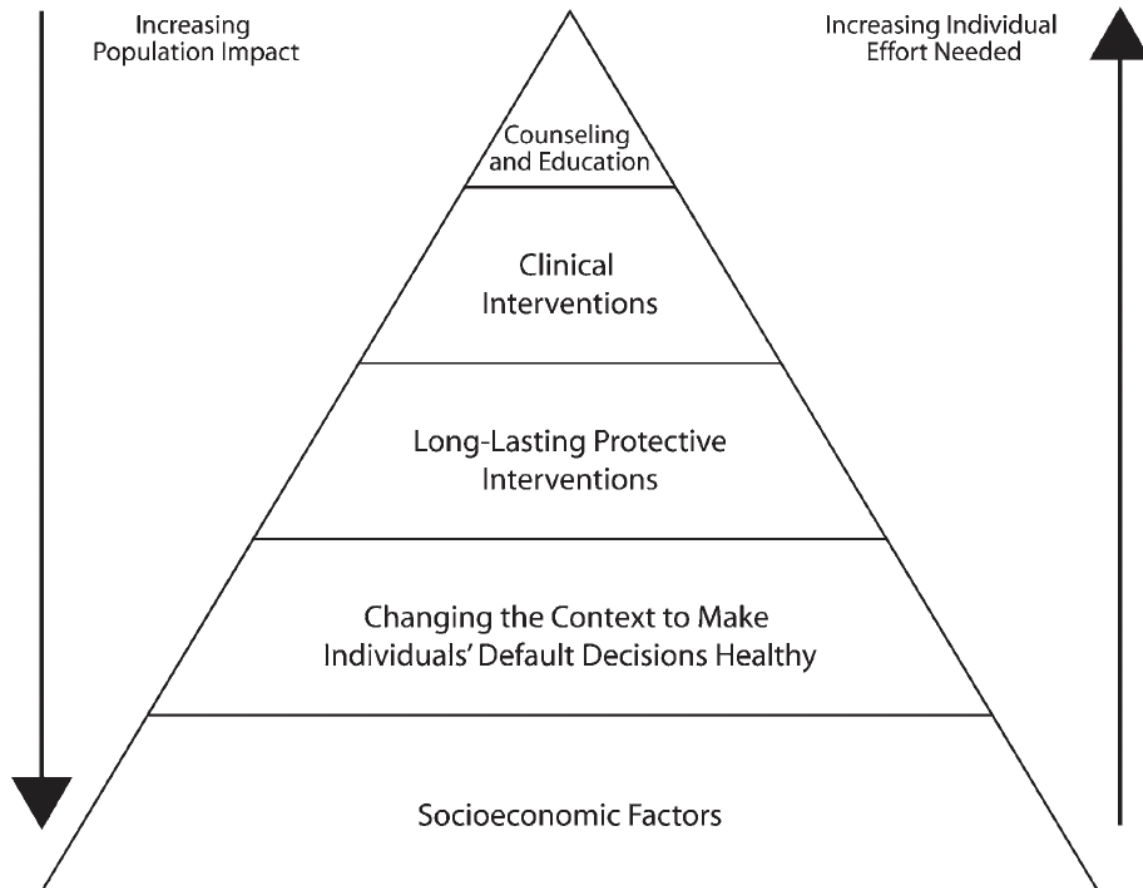


Individual **mental health and addictions** support

Debunking health misinformation campaigns

PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?



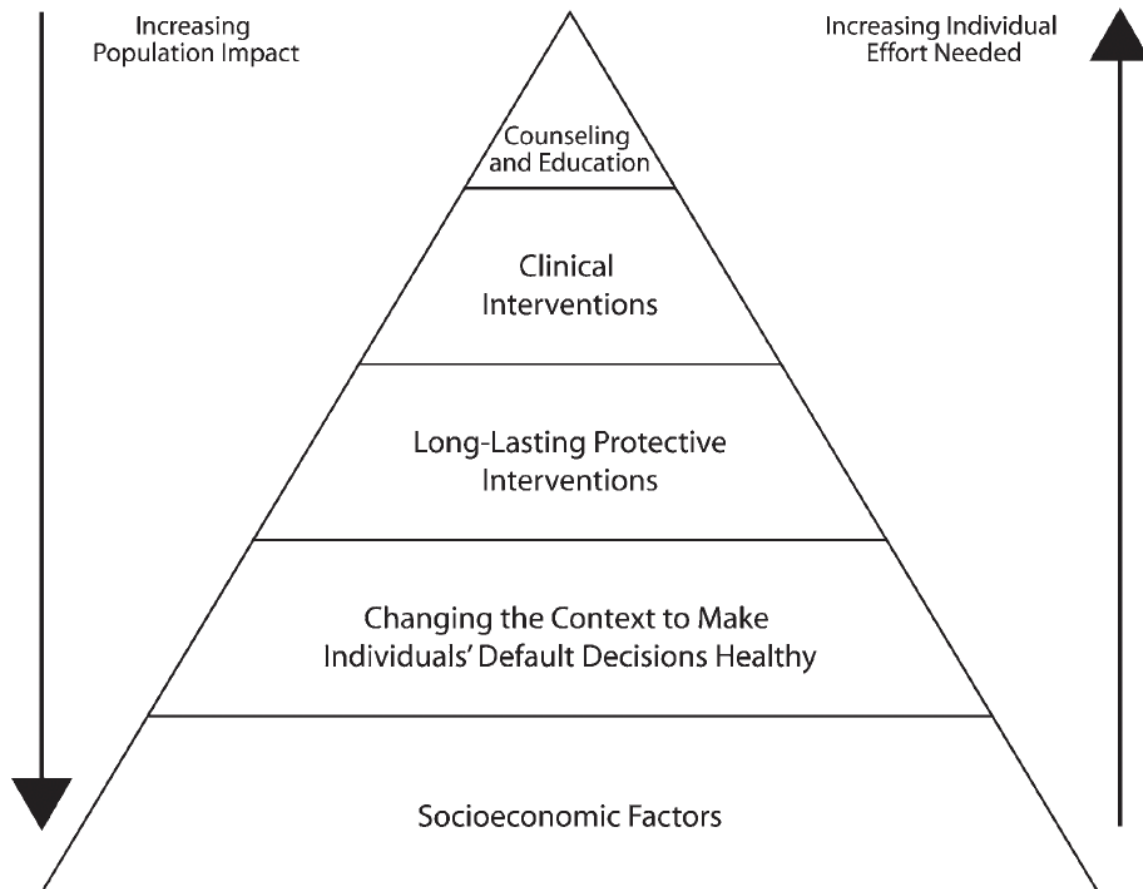
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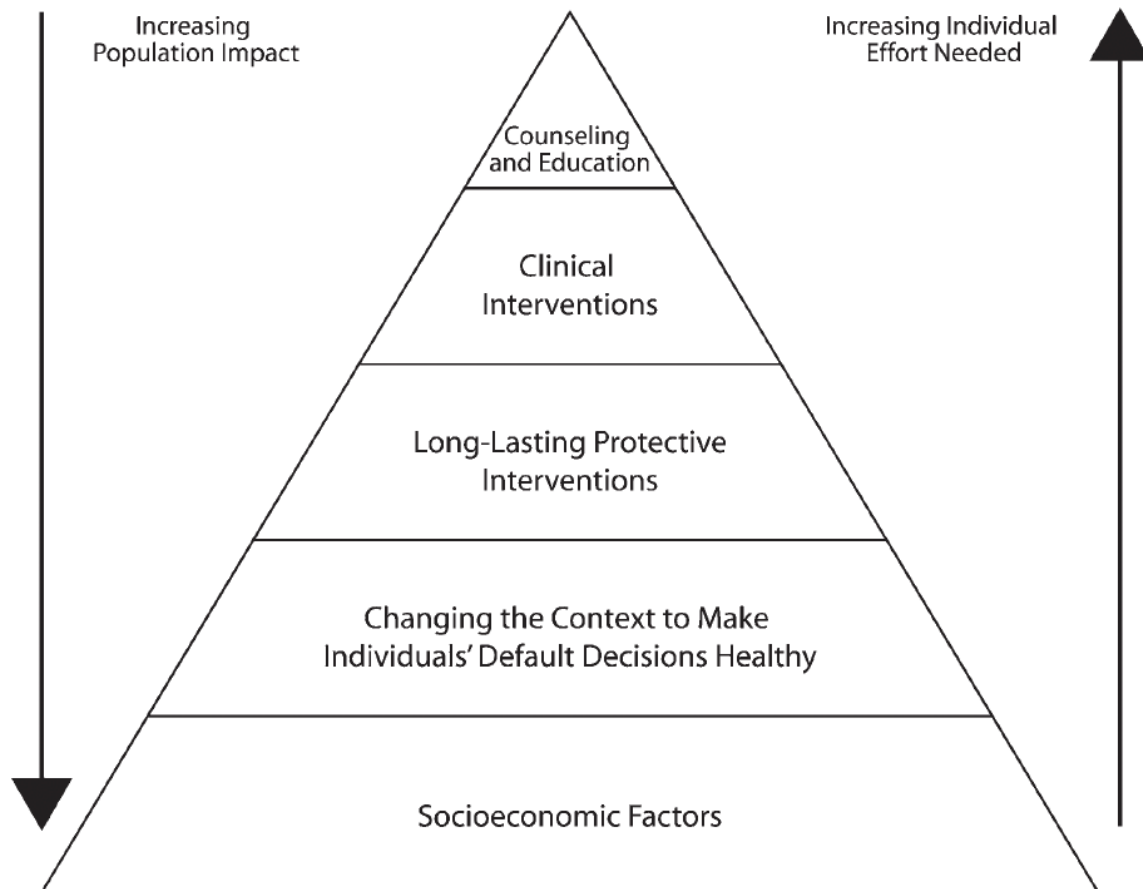
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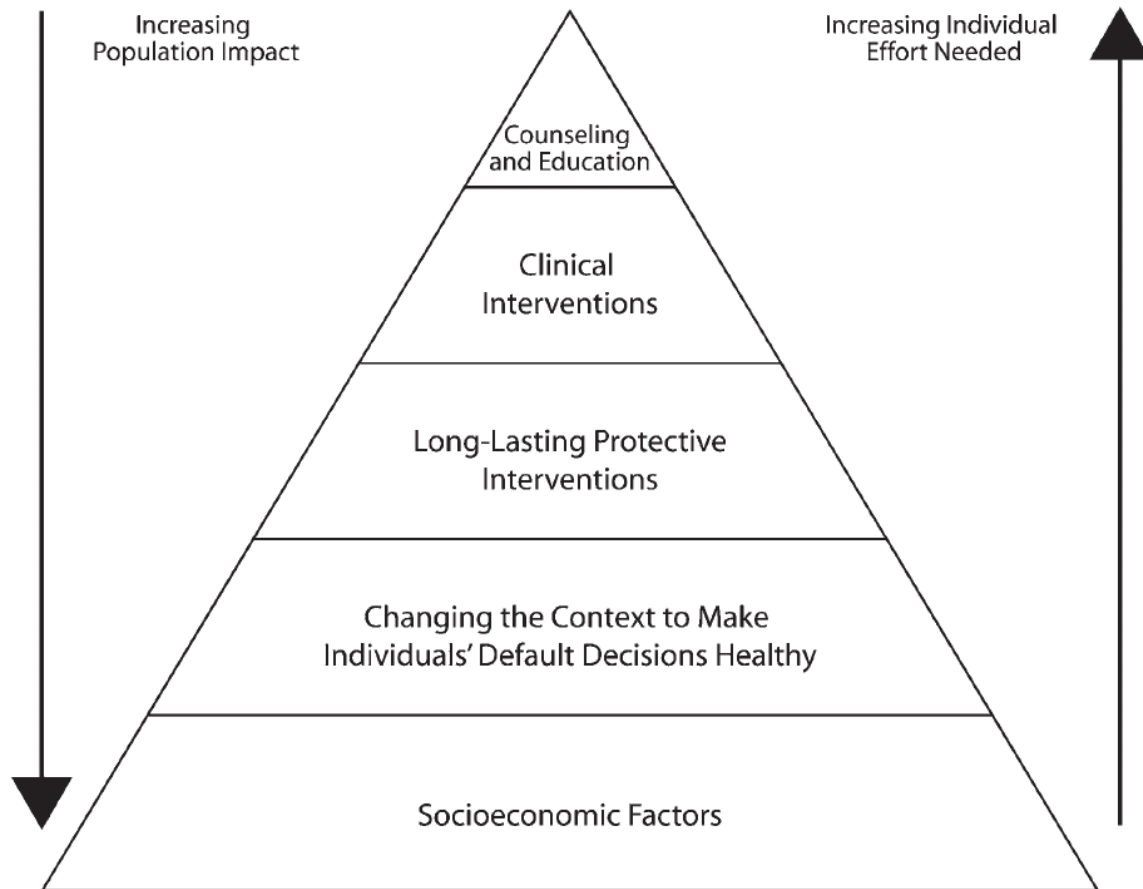
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Regulating harmful practices of **Big Tech**

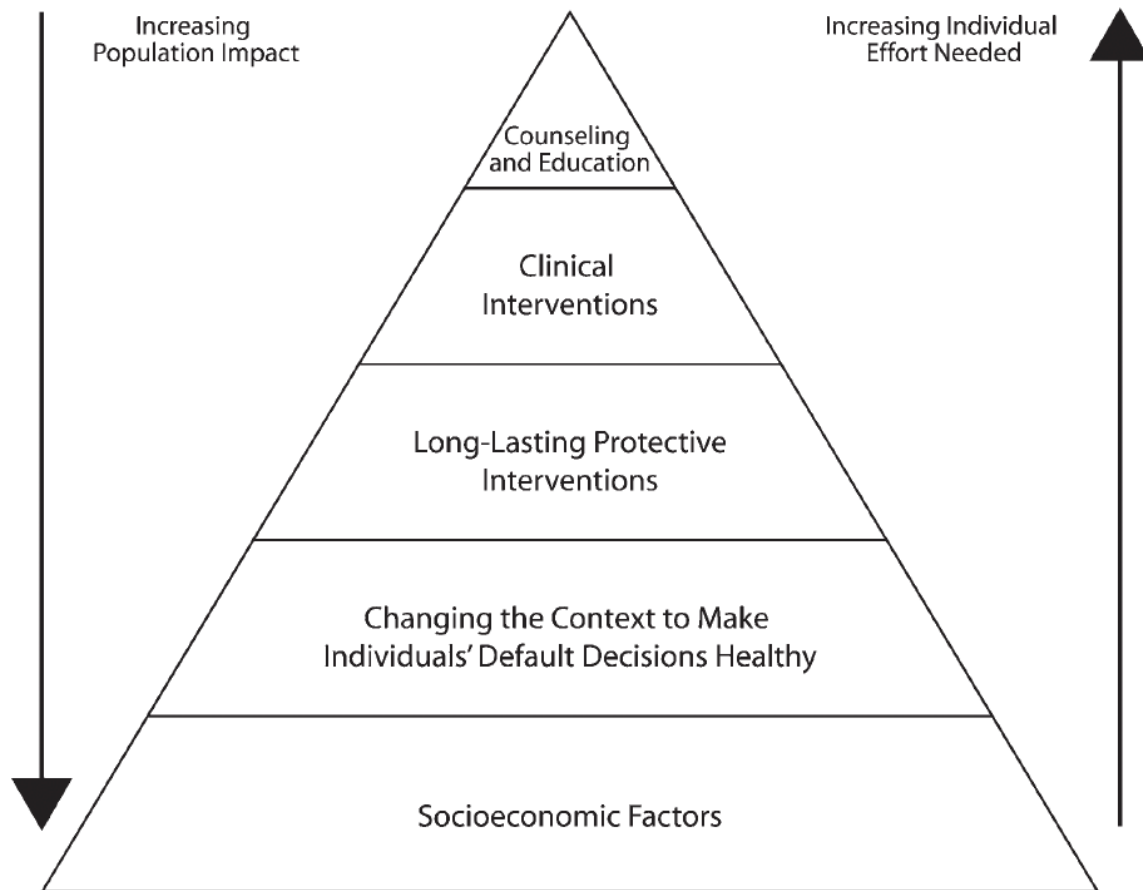
PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?



PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?



Correcting false beliefs at the family doctor

Debunking health **misinformation** campaigns

Critical digital and health information **literacy** across life course

School **smartphone bans**, social media **age restrictions**, and **content moderation**

Incentivizing safe information environments on **Big Tech platforms**

PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?

OBSTACLES TO PROMOTING SMOKING CESSATION IN DEVELOPING COUNTRIES

Important obstacles to the promotion of smoking cessation in developing countries include:

- economic factors;
- lack of awareness by policy makers of the health consequences and costs of tobacco;
- low perception of risks among the public;
- lack of policies that promote cessation;
- smoking behaviour of service providers and their own lack of knowledge or awareness;
- poor healthcare systems;
- lack of infrastructure; and
- industry action.

OCCASIONAL REVIEW

Promotion of smoking cessation in developing countries: a framework for urgent public health interventions

A S M Abdullah, C G Husten

PUBLIC HEALTH INTERVENTION

SO, WHAT DO WE DO?

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Entire clinical services devoted to smoking cessation

Mass public health campaigns to minimize smoking

Smoking banned in many public places

Smoking packaging requirements

Corporate taxation and increased costs

PUBLIC HEALTH INTERVENTION

WHERE FROM HERE?

PUBLIC HEALTH INTERVENTION

WHERE FROM HERE?

- Need a **formal framework to guide public health intervention** on the DDOH.
- The framework needs to be:
 - **Adaptable** to different **use cases**, e.g., misinformation, harmful screen time, home surveillance, etc.
 - **Multi-level** to address multiple points of intervention.
 - **Policy-focused** to address the social and economic conditions of digital technology.
 - **Community-driven** to ensure diverse publics' views are represented.

PUBLIC HEALTH INTERVENTION

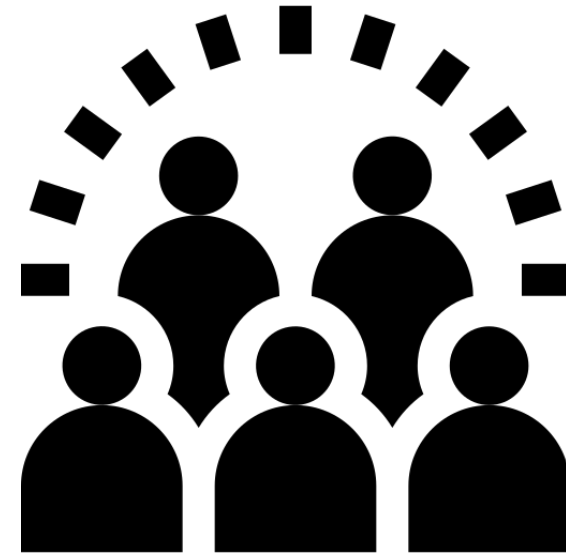
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 - **Community-driven** to ensure diverse publics' views are represented.

*We need a **community of practice**.*

CONCLUSIONS

1. Context: **Public health and the digital realm**
2. What are the DDOH
3. Building a **public health framework** for the DDOH
4. **Future Directions**



THANK YOU!

- Jay.shaw@utoronto.ca

