

Future Directions in Nursing Science: A Call to Action for Mitigating the Social Determinants of Health

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Presentation Overview



Dynamic Context for Advancing Health Equity

Shifting the Paradigm: Eight Principles of SDOH Mechanisms

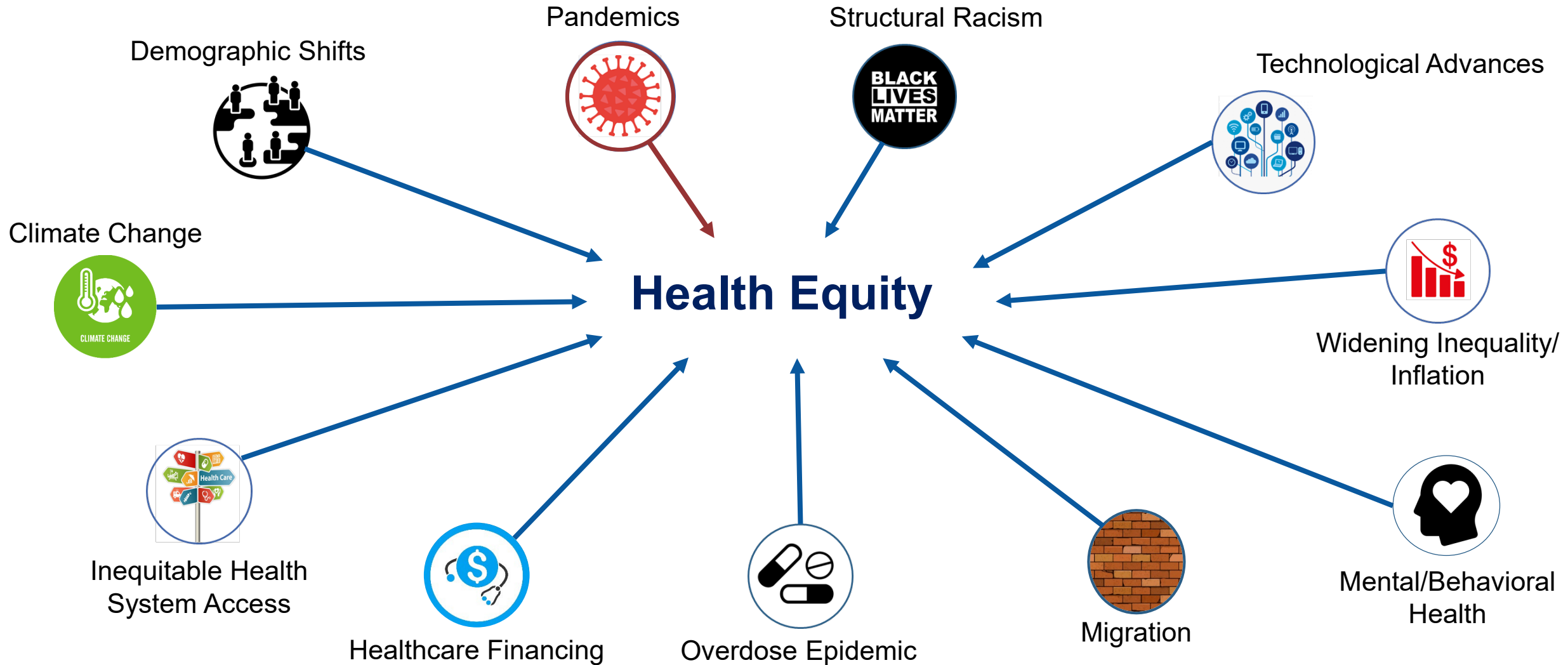
Multi-Level SDOH Mitigation: An Applied Example



Dynamic Context for Advancing Health Equity

Achieving Health Equity in an Evolving Context

Large-scale, transformative events accentuate and exacerbate **contemporary** and **chronic** health inequities.

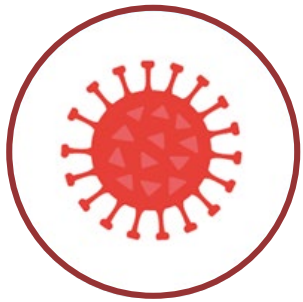


Large-Scale Events Shape Health Inequities

1.

By Creating New
Inequities

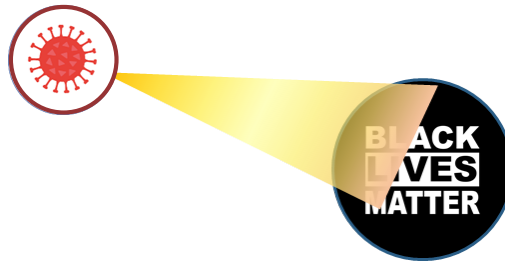
Example: The COVID-19 Pandemic



**Mortality differentials between
vaccinated and unvaccinated
individuals**

2.

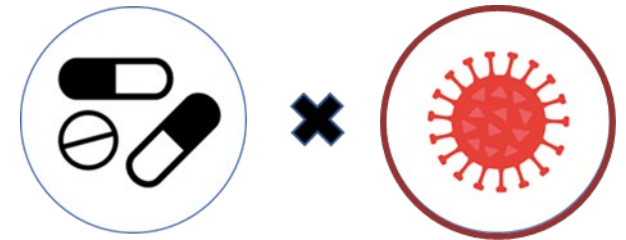
By Exposing Chronic
Inequities



**The disproportionate impact of
COVID-19 in communities of color
highlighting structural racism**

3.

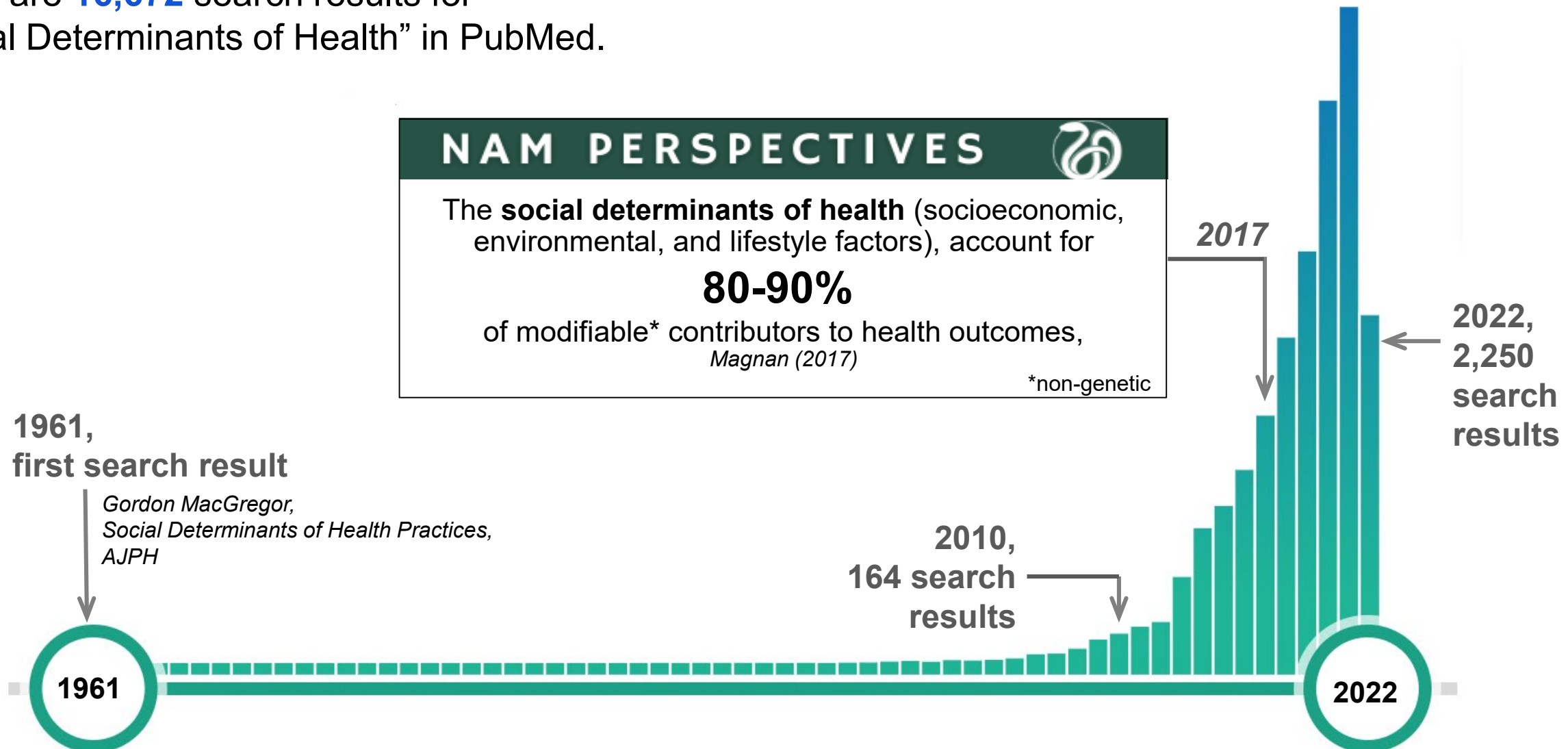
Through Synergies that
Exacerbate Existing Inequities



**Record increases in overdose
deaths during the COVID-19
pandemic**

Increasing Recognition of the Social Determinants of Health (SDOH)

There are **16,672** search results for
“Social Determinants of Health” in PubMed.



Nursing Stakeholders Prioritize SDOH and Health Equity



The Future of Nursing 2020–2030 Charting a Path to Achieve Health Equity



*The National
Academies of*

SCIENCES
ENGINEERING
MEDICINE



U.S. DHHS. NINR 2022–2026 strategic plan. *National Institute of Nursing Research*. (2020.); American Association of Colleges of Nursing. The essentials: Core competencies for professional nursing education. 2021. Accessed June 29, 2022. <https://www.aacnnursing.org/AACN-Essentials>; American Academy of Nursing & American Nurses Association. The American Academy of Nursing and the American Nurses Association Call for Social Justice to Address Racism and Health Equity in Communities of Color. *Nursing World*. 2020. Accessed June 29, 2022. <https://www.nursingworld.org/news/news-releases/2020/the-american-academy-of-nursing-and-the-american-nurses-association-call-for-social-justice-to-address-racism-and-health-equity-in-communities-of-color/>; American Association of Nurse Practitioners. Position paper: Commitment to addressing health care disparities during COVID-19. AANP. 2020. Accessed June 29, 2022. <https://www.aanp.org/advocacy/advocacy-resource/position-statements/commitment-to-addressing-health-care-disparities-during-covid-19>; American Organization for Nursing Leadership. AONL Guiding Principles: Diversity, Equity, Inclusion, and Belonging. AONL. N.d. Accessed June 29, 2022. <https://www.aonl.org/system/files/media/file/2022/01/DEIB%20Guiding%20Principles%20Final.pdf>; National Academies of Science, Engineering, and Medicine. The future of nursing 2020-2030: Charting a path to achieve health equity. *The National Academies Press*. 2021. doi: <https://doi.org/10.17226/25982>

Challenges to Health Equity Persist



More than half of Americans already have a chronic disease, and the proportion with ≥ 2 chronic diseases is increasing.



Since 2014, US life expectancy has stagnated/declined.



More than half of US adults delayed or skipped care due to costs last year.

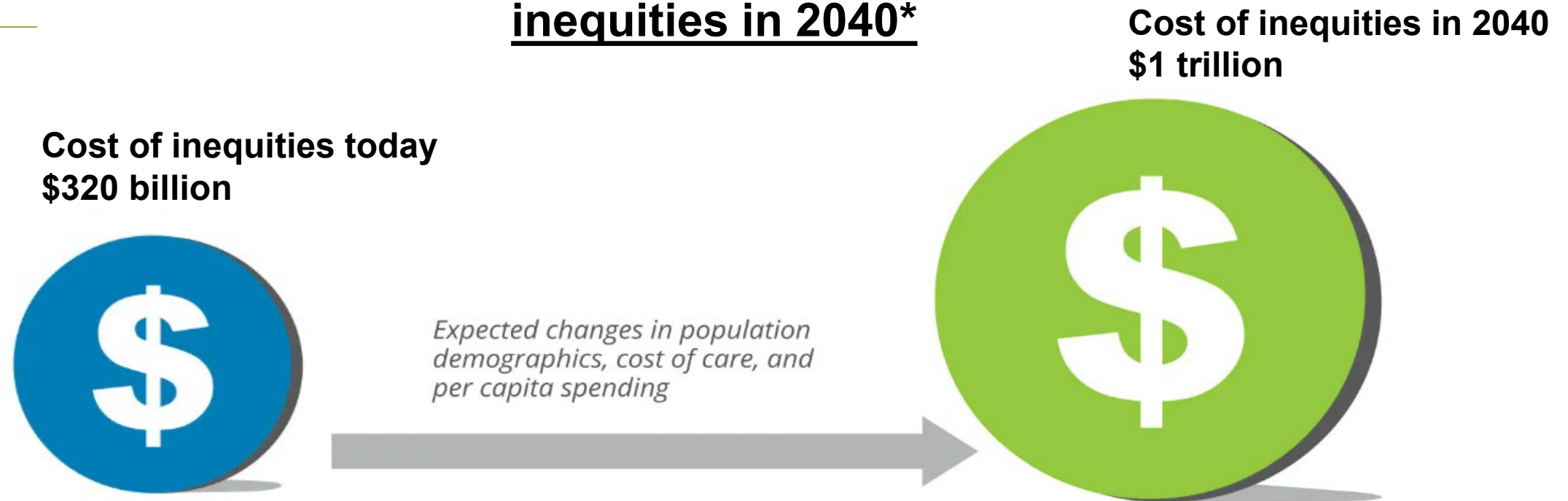
The Cost of Health Inequities

Without progress on chronic conditions, the **cost of health inequities is projected to triple** by 2040.

Deloitte.
Insights

June 2022

Modeling the cost of health inequities in 2040*



*Calculations and estimates based on a set of high-cost diseases (e.g. breast cancer, diabetes, colorectal cancer, asthma, and cardiovascular disease) and the corresponding proportion of spending attributed to health inequities.

Implications for the Nursing Profession

Enduring inequities suggest the necessity of a paradigm shift for advancing health equity.

The nursing workforce is central to achieving this paradigm shift.





Shifting the Paradigm: Eight Principles of SDOH Mechanisms

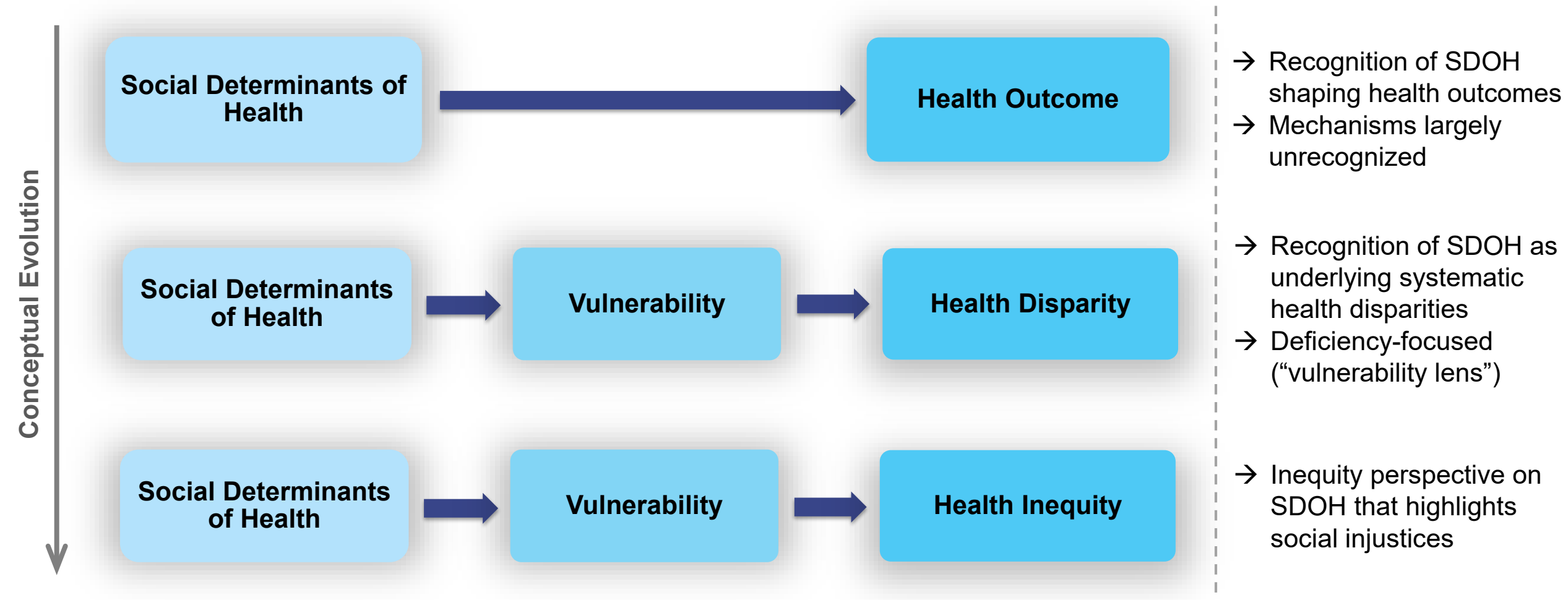
Current Policy and Programmatic Frameworks Recognize SDOH

Example:

→ ***HHS Healthy People 2030*** has an overarching focus on SDOH for advancing health equity.



The Paradigm Shift for Conceptualizing SDOH



*The conceptual evolution of SDOH is reflected in the extant literature.

Landmark conceptual and empirical research identifies
eight principles about the mechanisms of social determinants of health:



SDOH are Underlying Causes of Health Inequities



SDOH Context Shapes Health Inequities



SDOH Contextual Disadvantage is Not Deterministic



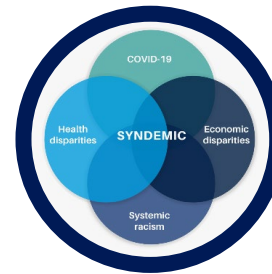
SDOH Shapes Health Over the Life Course



SDOH Operate Through Biological Embedding



SDOH Operate Intergenerationally



SDOH Shapes Clustering and Synergies of Health Inequities



SDOH and Social Injustices Interact to Produce Health Inequities

Principle #1: SDOH are Underlying Causes of Health Inequities



**Underlying Causes
Beyond Individual Factors
Drive Health Inequities**

Fundamental Causes Theory

Landmark theory that moved beyond individual “risk factor epidemiology” to propose distal factors as fundamental for shaping health inequities.



Distal factors/exposures influence **individual risk** and **protective** factors, and shape disease and health outcomes



Distal factors (i.e., education, SES, etc.) represent **fundamental causes** of inequities in disease.



Fundamental causes **disrupt access to resources** that are important in avoiding or mitigating negative health outcomes.



Fundamental causes act through **complex mechanisms** and on **diverse health outcomes** → difficult to quantify total effect

Principle #2: SDOH Context Shapes Health Inequities



Context Matters – The Structural Production of Risk

Rhodes T, et al. The social structural production of HIV risk among injecting drug users. *Social science & medicine*. 2005 Sep 1;61(5):1026-44. Rhodes T. The 'risk environment': a framework for understanding and reducing drug-related harm. *International journal of drug policy*. 2002 Jun 1;13(2):85-94.

Risk Environment Framework: Environmental Determinants of Exposure

Landmark framework that characterizes the structural production of health inequities

Understanding the risk environment:



Comprised of risk-factors that are largely exogenous to the individual



The social situations, structures, and places where factors largely exogenous to the individual interact to produce health inequities

Four dimensions of risk environment:



Physical



Social



Economic



Policy

Context Matters: A Tale of Two Communities

Community A



Community B



Principle #3: SDOH Contextual Disadvantage is Not Deterministic

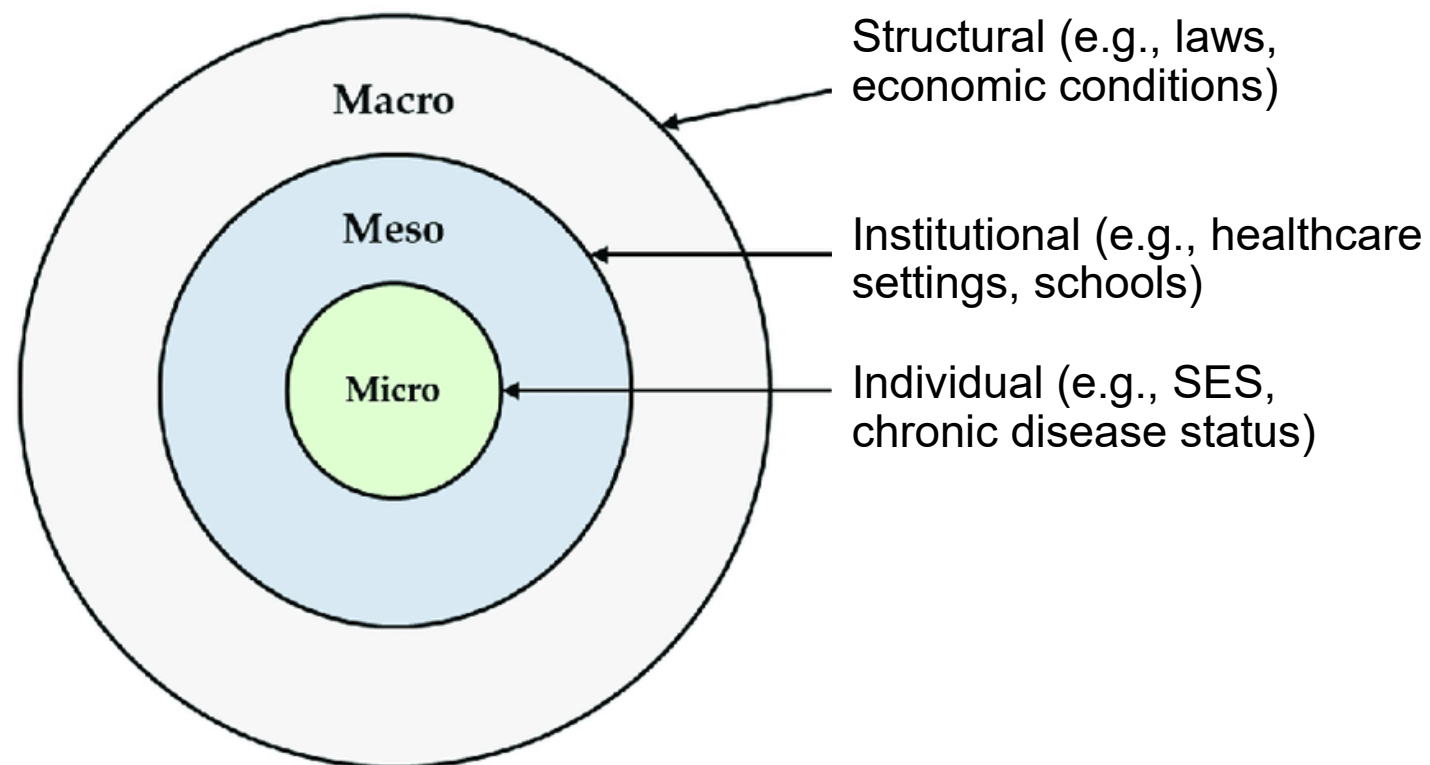


**Contextual
Disadvantage is
not Deterministic**

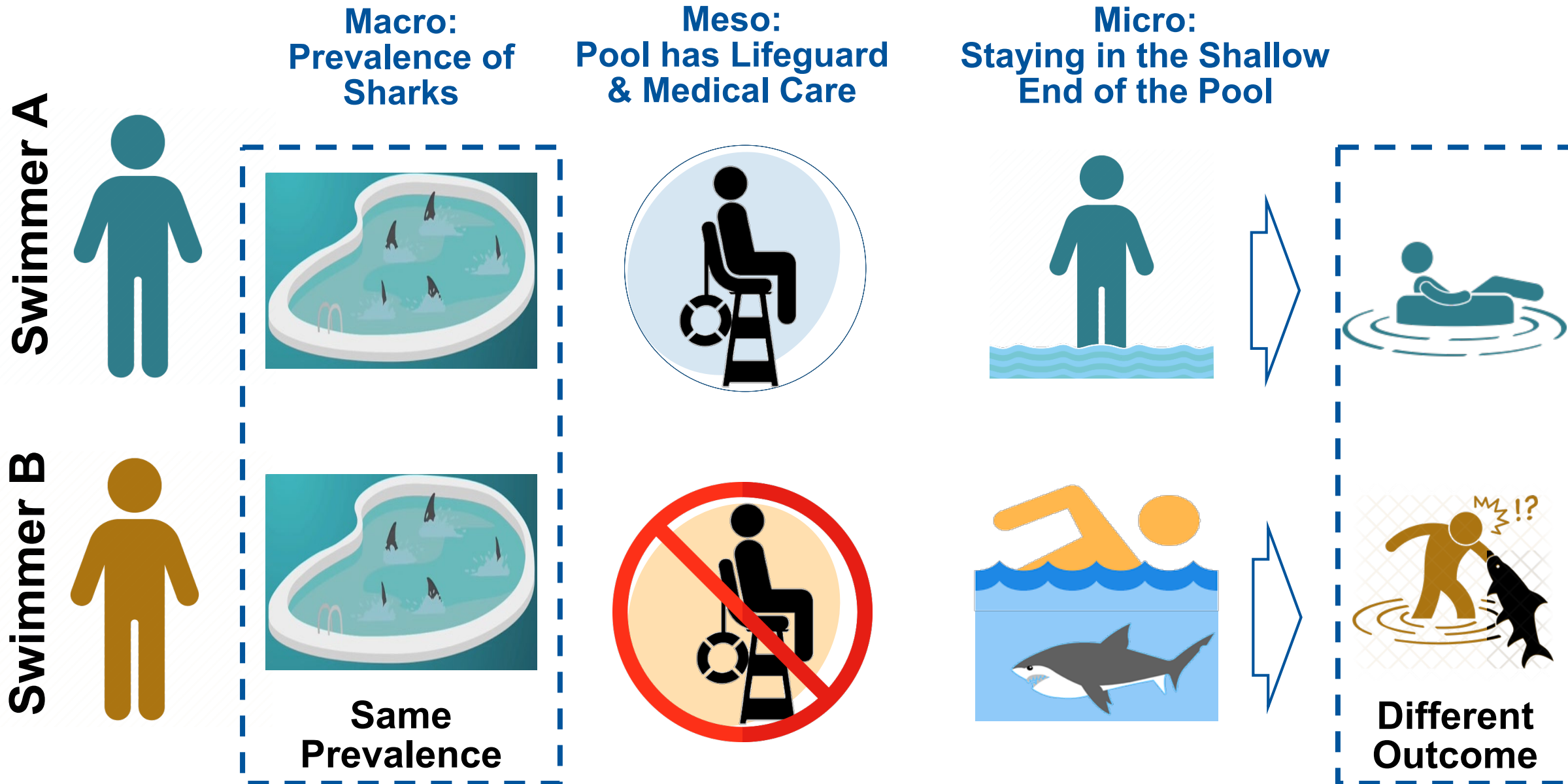
Rhodes T, et al. The social structural production of HIV risk among injecting drug users. *Social science & medicine*. 2005 Sep 1;61(5):1026-44. Rhodes T. The 'risk environment': a framework for understanding and reducing drug-related harm. *International journal of drug policy*. 2002 Jun 1;13(2):85-94.

Risk Environment Framework: Level of Influence

The Risk Environment Framework outlines influences at three distinct levels that interact to **reinforce or weaken** the effect of one another.



Contextual Disadvantage is not Deterministic: Two Swimmers



Principle #4: SDOH Shape Health Over the Life Course



**SDOH Influence
Manifests Over the
Life Course**

Life Course Perspective:

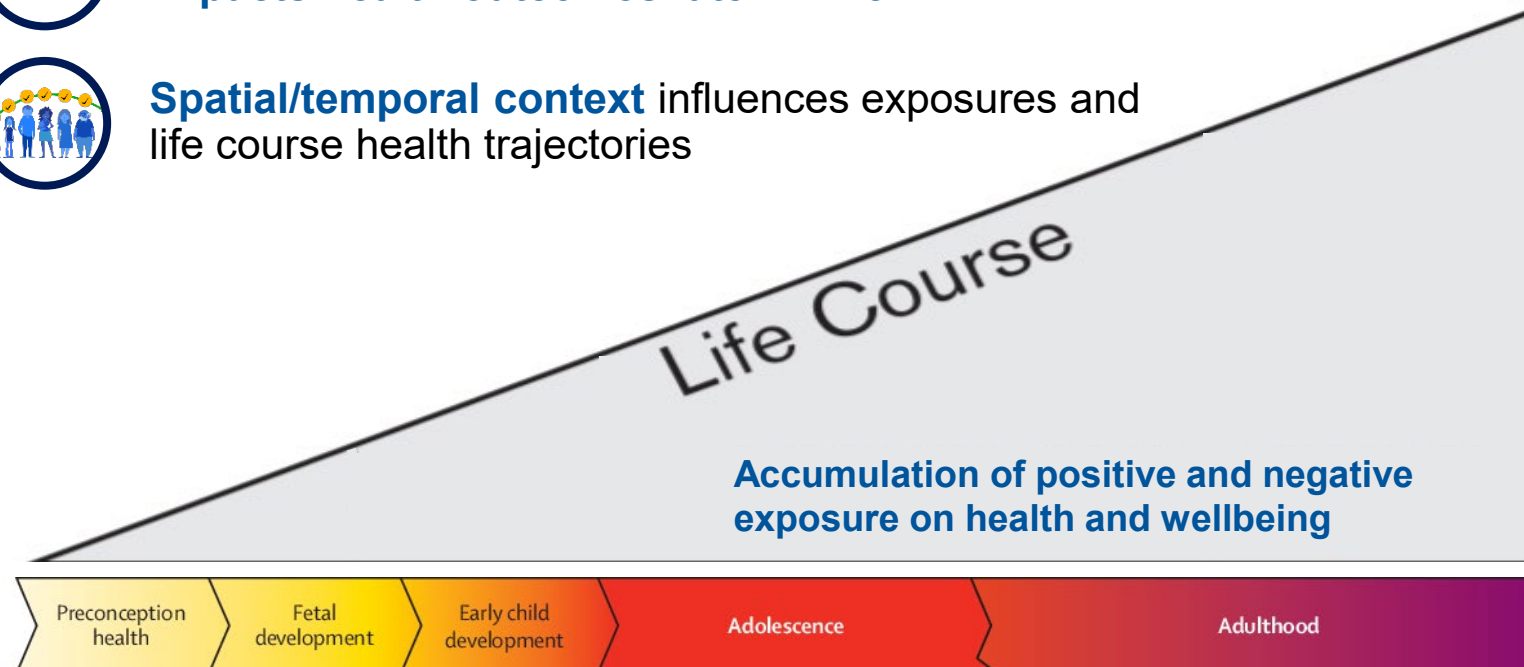
The life course framework suggests **social, economic, psychological, and environmental influences accumulate over the life course** to shape health behaviors and mental and physical health.



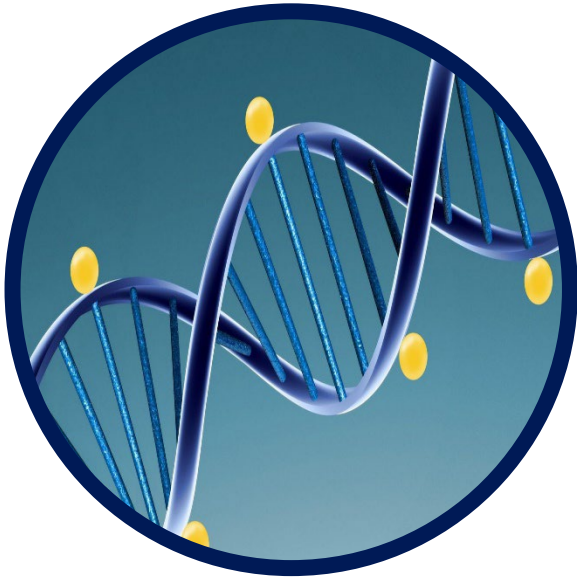
Early-life exposure to risk or protective SDOH factors impacts health outcomes later in life



Spatial/temporal context influences exposures and life course health trajectories



Principle #5: SDOH Operate Through Biological Embedding

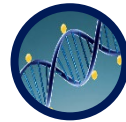


SDOH Operate Through Biological Embedding

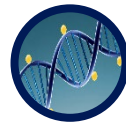
Biological Embedding Framework: A Determinant of Biological Susceptibility

Biological Embedding: The process by which **social conditions initiate** and **sustain biological** changes that have short- and long-term effects on physical health and well-being.

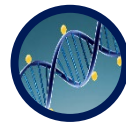
Properties of Biological Embedding:



Social conditions **alter biological processes** (e.g., epigenetic, neurodevelopmental, immune, endocrine, microbiome)



Alterations in biological processes are **stable** and **long-term**



Altered biological processes impact health, wellbeing, learning, and/or behavior **over the life course**

Principle #6: SDOH Operate Intergenerationally



SDOH Operate Intergenerationally

Framework of Biosocial Inheritance

Biosocial Inheritance: “The processes through which social adversity is transmitted across generations through mechanisms both biological and social in nature.”

Three Types of Biosocial Inheritance

Cross-Generational

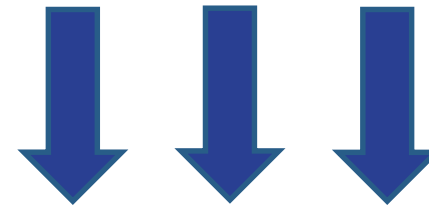
SDOH (Parent)



Health of the next generation (fetus)

Multi-Generational

SDOH



Health of multiple generations simultaneously

Transgenerational

e.g.,
Transmission
through
germline



Multiple generations consecutively

Biosocial Inheritance Mechanisms

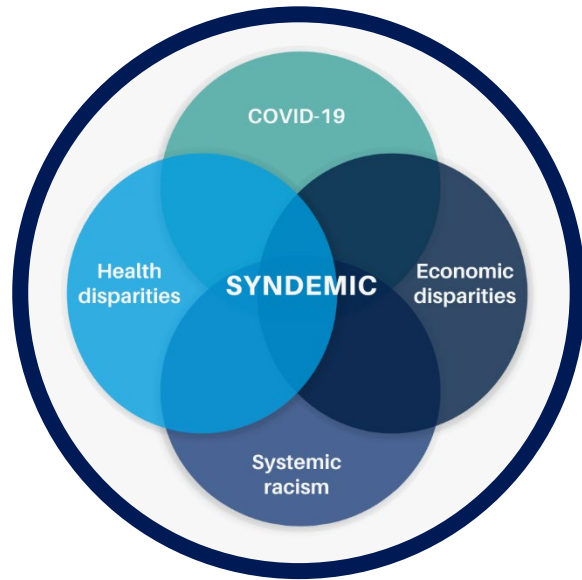
Biological

- Epigenetic
- Immune
- Neuro
- Endocrine
- Microbiome
- Metabolic programming

Social

- Social arrangements
- Historical context
- Political-economic context

Principle #7: SDOH Shape Clustering and Synergies of Health Inequities



**The Impacts of SDOH
Cluster and Interact
Synergistically**

Syndemic Theory:

A **syndemic** is defined as two or more clustered epidemics interacting synergistically within a community or population, resulting in excess disease burden.

There are two underlying mechanisms that produce syndemics:



Biological synergism, e.g.: inflammation due to STIs facilitating transmission or acquisition of HIV.

AND / OR



Socio-contextual synergism, e.g.: increased risk of sexual HIV acquisition among substance users due to sexual behavior.

SDOH may operate through both biological (e.g., inflammatory response) and socio-contextual synergisms.

Principle #8:

SDOH and Social Injustices Interact to Produce Health Inequities



**Social Injustices and
Structural Racism Shape
the Impact of SDOH**

Ecosocial Framework:

Ecosocial Theory conceptualizes **health inequities** as **biological expressions of social processes**—the result of social injustices.

Social positioning (based on intersectional identity)

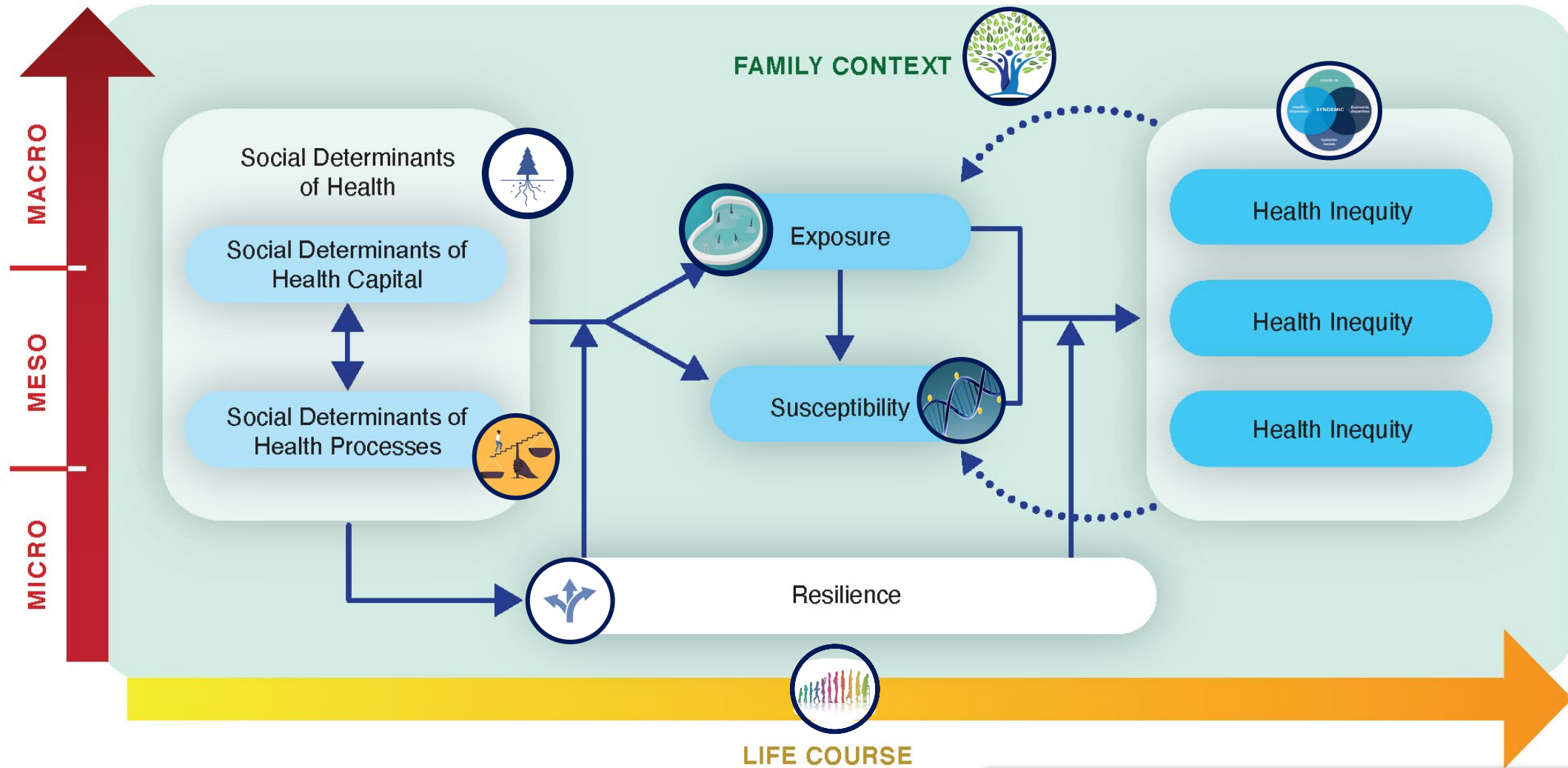


Unjust social processes



Health inequities

Synthesis of SDOH Mechanisms: An Organizing Framework

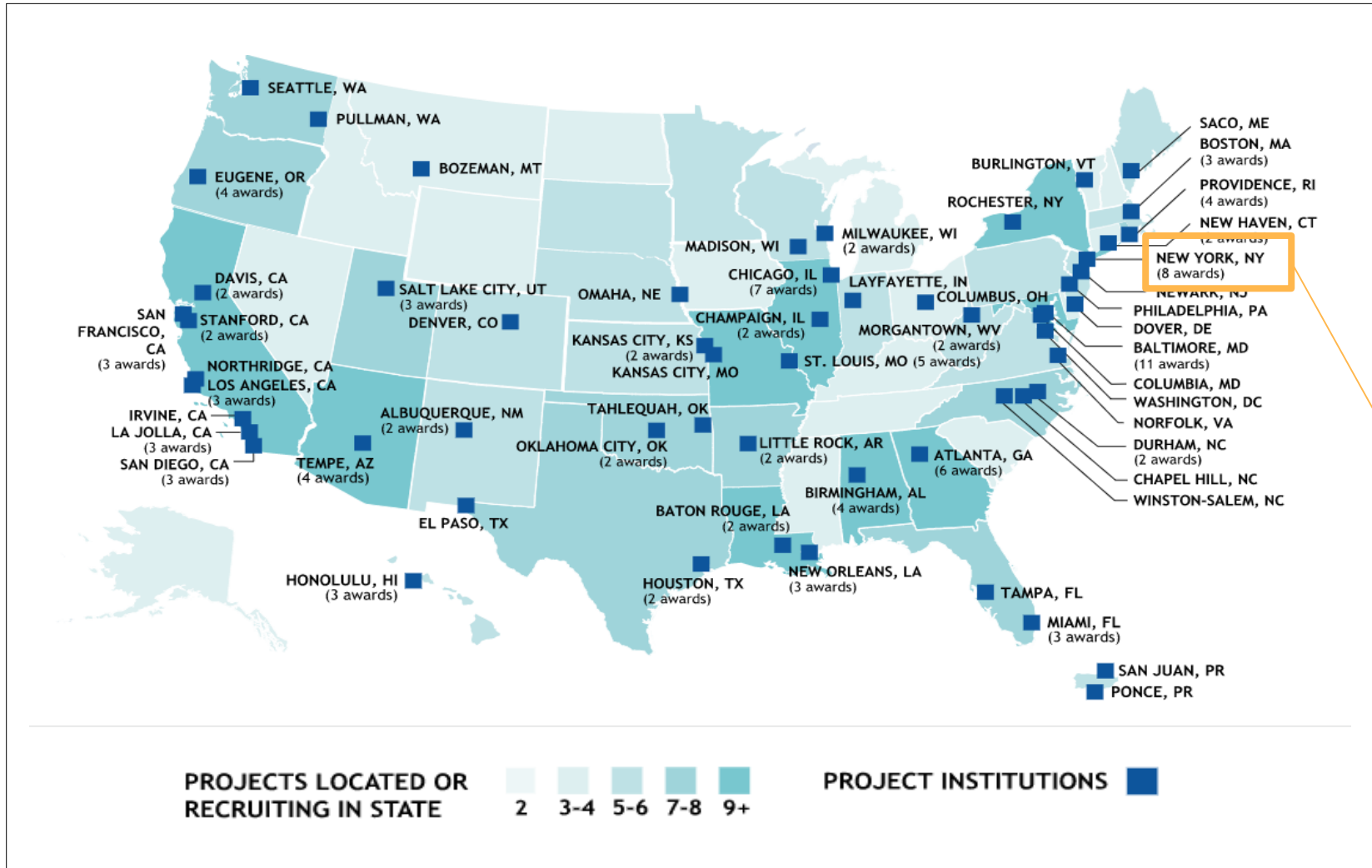




Multi-Level SDOH Mitigation: An Applied Example

RADx® Underserved Populations (RADx-UP)

RADx-UP is a NIH-wide initiative designed to address the COVID-19 pandemic in underserved communities.

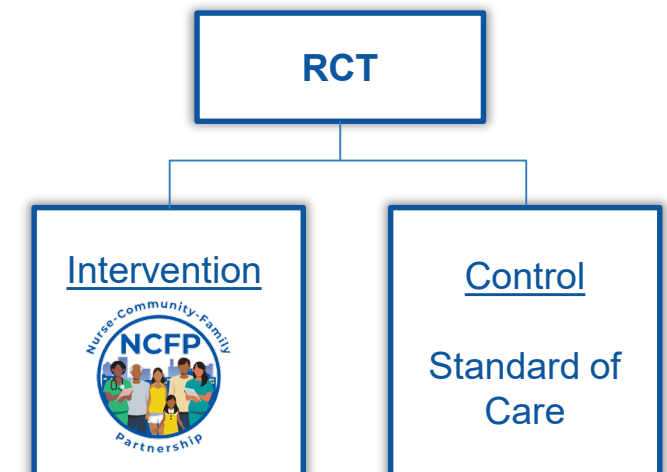


RADx-UP Initiative

Project Title: A Nurse-Community Health Worker Family Partnership Model to Increase COVID-19 Testing in Urban Underserved and Vulnerable Communities

MPIs: Drs. Vincent Guilamo-Ramos and Holly Hagan

A collaboration between Duke University School of Nursing and New York University



COVID-19 in the Bronx, NYC

The Bronx has the

HIGHEST

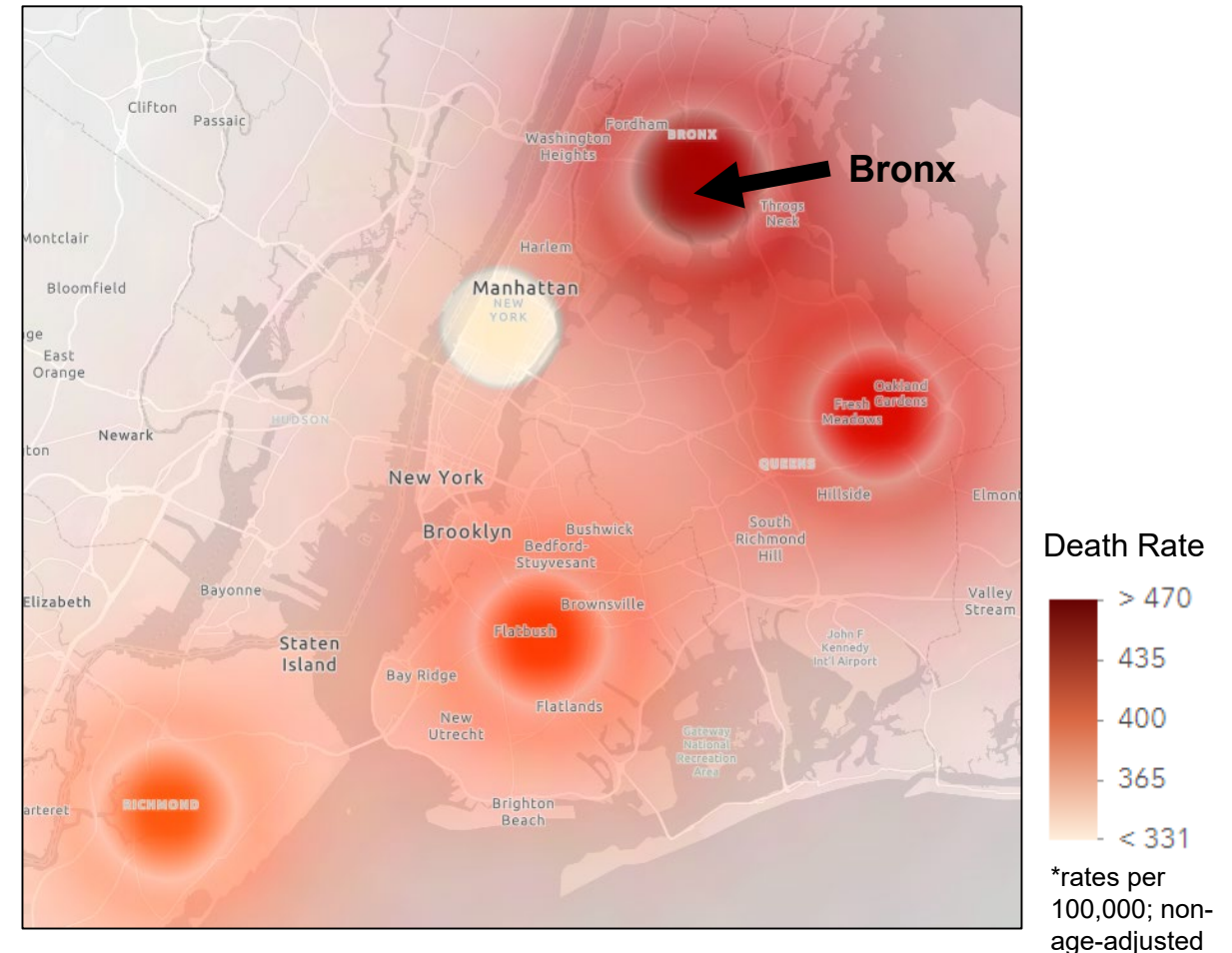
rates of COVID-19 **hospitalizations**
and **deaths** of any NYC borough

The Bronx has more COVID-19 **cases** and
deaths than

99%

of other counties in the United States.

COVID-19 Death Rates by Borough, NYC (2020-2022)*



The Nurse-Community-Family Partnership (NCFP) Program



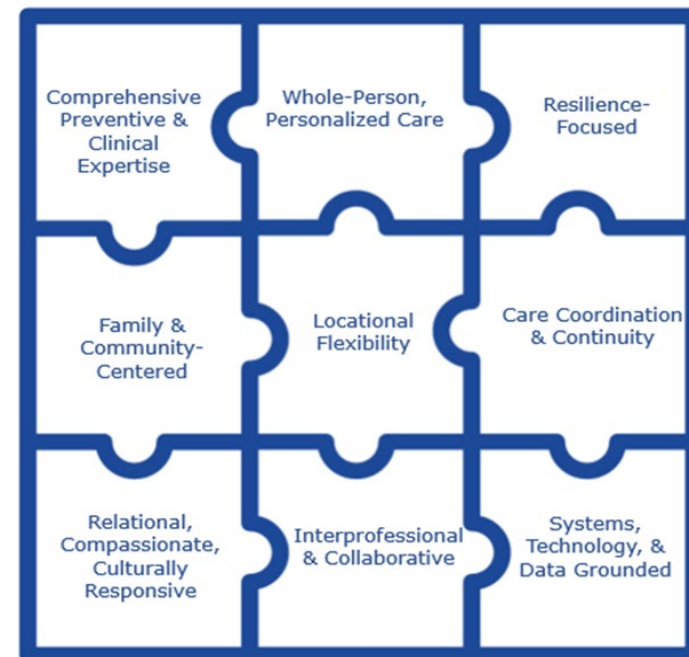
RADx-Up Randomized Controlled Trial

Purpose: Reduce **COVID-19** inequities through an applied framework of SDOH mechanisms and a nurse-led, multi-level intervention.

Multi-level Nursing Interventions:



Nurse-led Model of Care:



SDOH Principles as a Roadmap for Nurse-Led Intervention Development



The RADx Nurse-Community-Family Partnership Intervention



Home visits by bilingual and bicultural nurse-community health worker intervention teams to mitigate the scarcity of culturally/linguistically appropriate health services



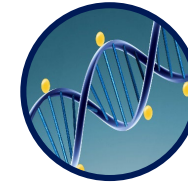
Development of an individualized household infection control plan tailored to the unique risk environment



Explicit focus on resilience by building capacity for COVID-19 mitigation within households and the broader community



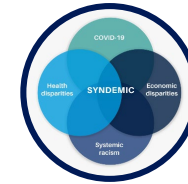
Health, social, educational, and vocational support across the life course through a household needs assessment and navigation to ancillary services



Enhancement of COVID-19 immunity through theory-based intervention content to shape vaccine decision-making and navigation to vaccination services



Family-based COVID-19 prevention and mitigation approach delivered to households as the unit of intervention



Case management for comorbidities including COVID-19 comorbidity risk assessment, anticipatory guidance for COVID-19 management, and symptom monitoring



Collaborative development of the NCFP Trustworthiness Agreement on four dimensions of trustworthiness (transparency, respect, reliability, benefit)

The NCFP Program in Action



Key Takeaways – Future Directions for SDOH Research:



Moving beyond the **characterization** of inequities towards SDOH mitigation



Focusing on **mechanisms** of SDOH influence



Bolstering the science of resilience by strengthening the factors and conditions that enable individuals, families, and communities to **thrive despite adversity**



Developing and evaluating effective, **multi-level, nursing-led interventions**

NINR Strategic Plan

A call to action for nurse-led SDOH and health equity research



Thank You!



Vincent Guilamo-Ramos

Please send any questions or comments to:
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NCFP Team

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