

The Challenge of How---

Integrating the Social Determinants of Health in Health Care



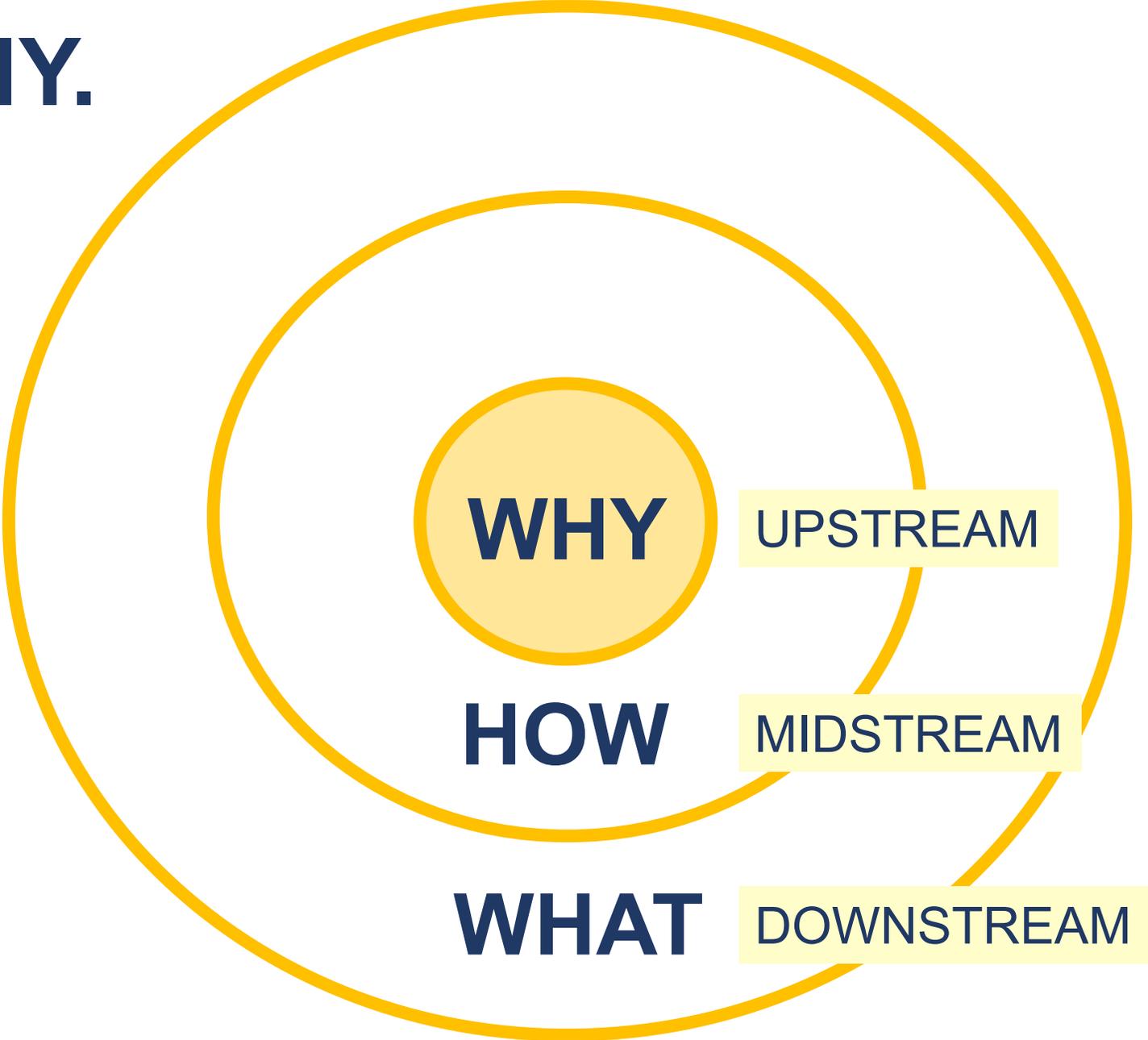
2022 HIT Conference
Architecting a Better Patient Portrait

Len B. Novilla, MD, MPH
Brigham Young University

Start with WHY.

Golden Circle

by Simon Sinek



PATIENT PORTRAIT 1

Veronica
Los Angeles

Rishi Manchanda, MD,
Health Begins
TED Talk, 2014

- Patient #17** out of 26, South Central Los Angeles clinic
- Chief Complaint: Chronic Headache x years
 - 3 weeks prior to consult: Went to LA ED for headache
 - Took pain meds but visited ED 3 more times
 - Past Hx: In and out of clinics & hospitals
 - Clinical Hx & Vital Signs
 - Seen by MA with GED-level training familiar with the community, "What's your chief complaint?" "Let's get your vital signs"
 - "Veronica, can you tell me about where you live? Specifically, about your housing conditions?"
 - Do you have mold? Do you have water leaks? Do you have roaches in your home?"
- (+) doubled over in pain sitting on exam table
(+) throbbing headache
(+) allergic salute

PATIENT PORTRAIT 2

Adjunct English
Professor
Chicago

Laura Zimmerman, MD,
Rush Medical Center
AMA STEPS Forward® Program
August 9, 2022

43 y/o woman with asthma

Chief Complaint: 30-lb weight loss in the last year

Up-to-date on age-appropriate cancer screening
(normal pap smear/mammogram)

- Vital Signs = normal
- BMI = 18
- PE = end-expiratory wheezing
- Lab:
 - Normal (TSH, A1C, CBC with diff, CMP, UA, QuantiFERON-TB gold
 - ANA, RF, HIV, syphilis, hepatitis serologies
 - Imaging: Normal (CXR, Pelvic U/S, CT chest/abdomen/pelvis
- Diagnostic procedures: Normal EGD/colonoscopy

PATIENT PORTRAIT 3

Justin Huggard
Salt Lake

Daphne Chen/Deseret News
April 26, 2017



38-year-old, male, homeless, grew up in Heber
Chief Complaint: Addiction - heroin and alcohol use
Past Medical History: Depression, pneumonia, chronic
substance use disorder

Oct 9, 2012: **Disturbing the peace.**
Dismissed.

Jun 20, 2013: **Use of roadway** by a pedestrian. Dismissed.

Mar 4, 2013: **Trespassing**, 3 days in jail, \$100 fine

Apr 18, 2014: **Open container.**
Dismissed.

Jan 18, 2015: **Theft of services** (UTA), 4 days in jail.

Jan. 2, 2016: **Disorderly conduct & intoxication**, \$370 fine

Daphne Chen/Deseret News
April 26, 2017



Photo courtesy Sadie Erickson

“Young Justin Huggard (middle) around 3 years old with two cousins on their grandfather’s snowmobile in Kamas”



It was nearly noon on Nov. 4 when police rolled Justin over and saw his face, purple and blue. It had been cold that night... and Justin's cause of death was ruled to be "exposure/pneumonia."

Justin Huggard
SUCO
Ref: 4330
Intermountain Cremation Group



Photo courtesy Spenser Heaps/Deseret News, April 26, 2017



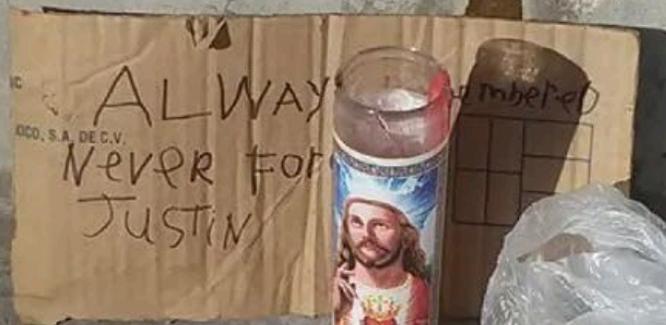
Justin Huggard #3440

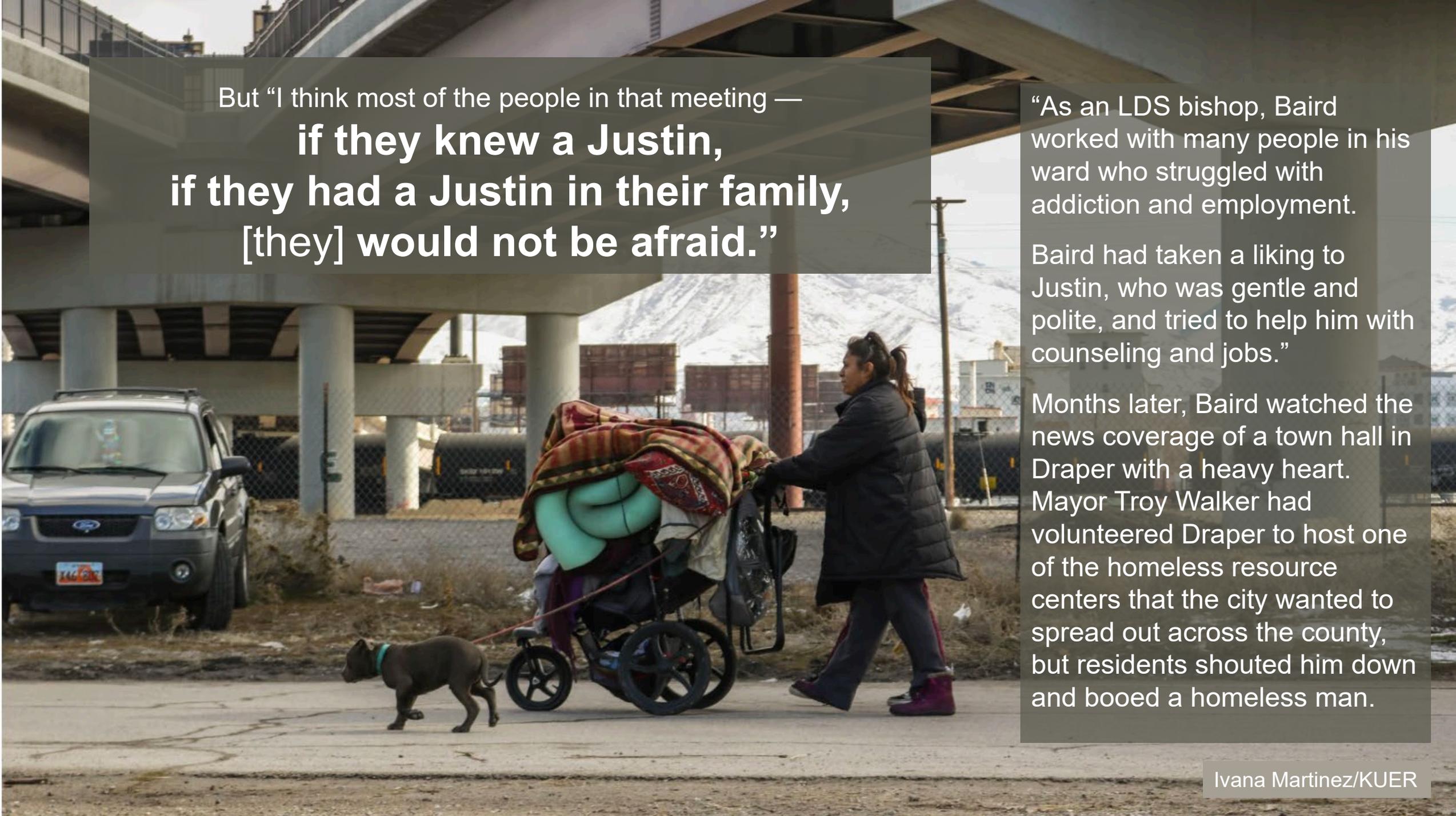
Photo courtesy Spenser Heaps/Deseret News, April 26, 2017



Photo courtesy Spenser Heaps/Deseret News, April 26, 2017

Always Remembered, Never Forgotten Justin



A woman in a dark puffer jacket and purple boots is pushing a stroller on a sidewalk. The stroller is heavily loaded with blankets and a green bag. A small brown dog is walking on a leash next to the stroller. In the background, there is a concrete bridge structure, a silver SUV parked on the left, and a chain-link fence. The scene is outdoors, possibly in an urban or industrial area.

But “I think most of the people in that meeting —
**if they knew a Justin,
if they had a Justin in their family,
[they] would not be afraid.”**

“As an LDS bishop, Baird worked with many people in his ward who struggled with addiction and employment.

Baird had taken a liking to Justin, who was gentle and polite, and tried to help him with counseling and jobs.”

Months later, Baird watched the news coverage of a town hall in Draper with a heavy heart. Mayor Troy Walker had volunteered Draper to host one of the homeless resource centers that the city wanted to spread out across the county, but residents shouted him down and booed a homeless man.

If we trace the systemic, unfair, preventable differences in health outcomes in communities, where are their deepest roots?



What are the
“Causes of the causes”?

“...a result of the **way we organize our affairs** in society.”

- Marmot MG. Health in An Unequal World. Lancet. 2006:20812094

Social Determinants of Health

“...the **conditions** in which people are born, grow, live, work, and age, including the health system...

...shaped by the **distribution of money, power & resources** at global, national & local levels

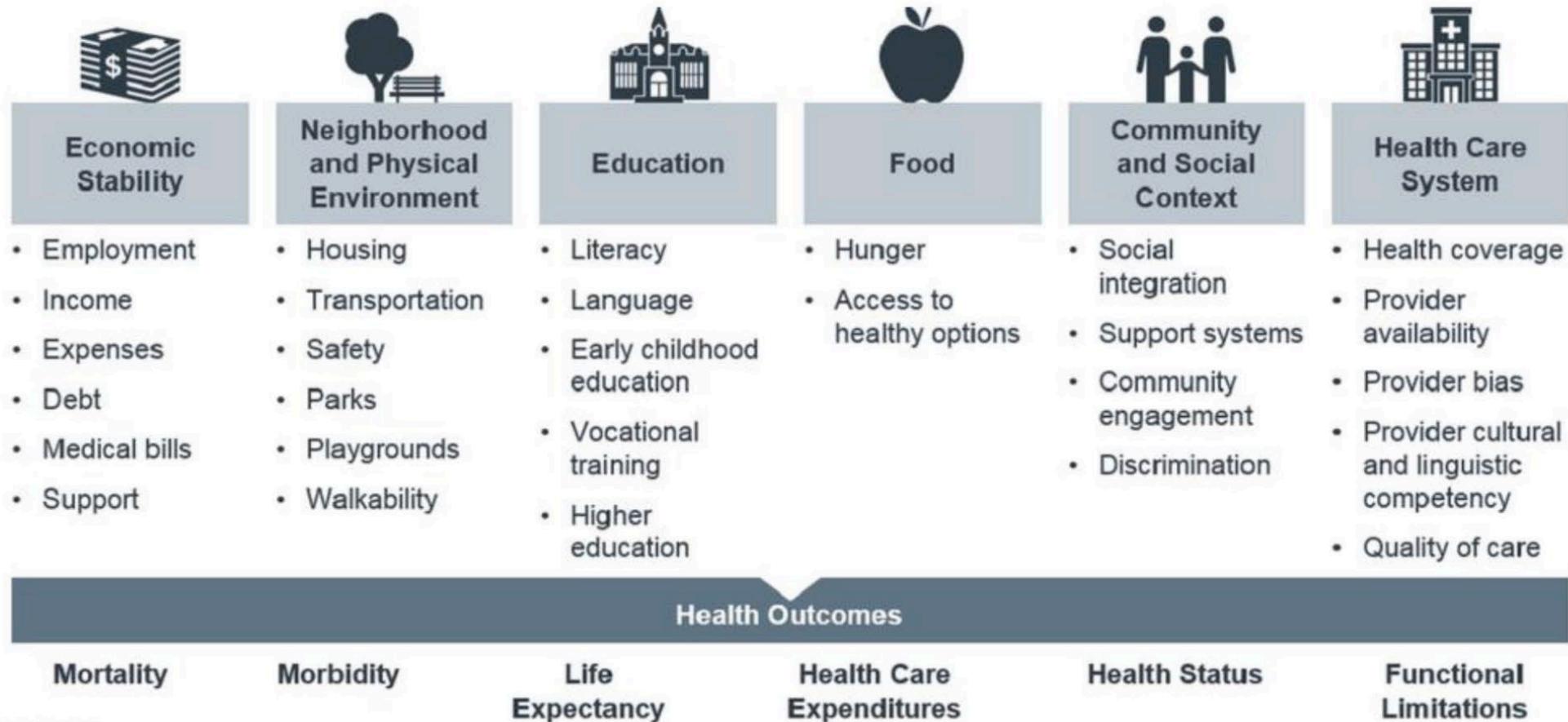
...mostly responsible for **health inequities** – the **unfair & avoidable differences in health status** seen within & between countries.”



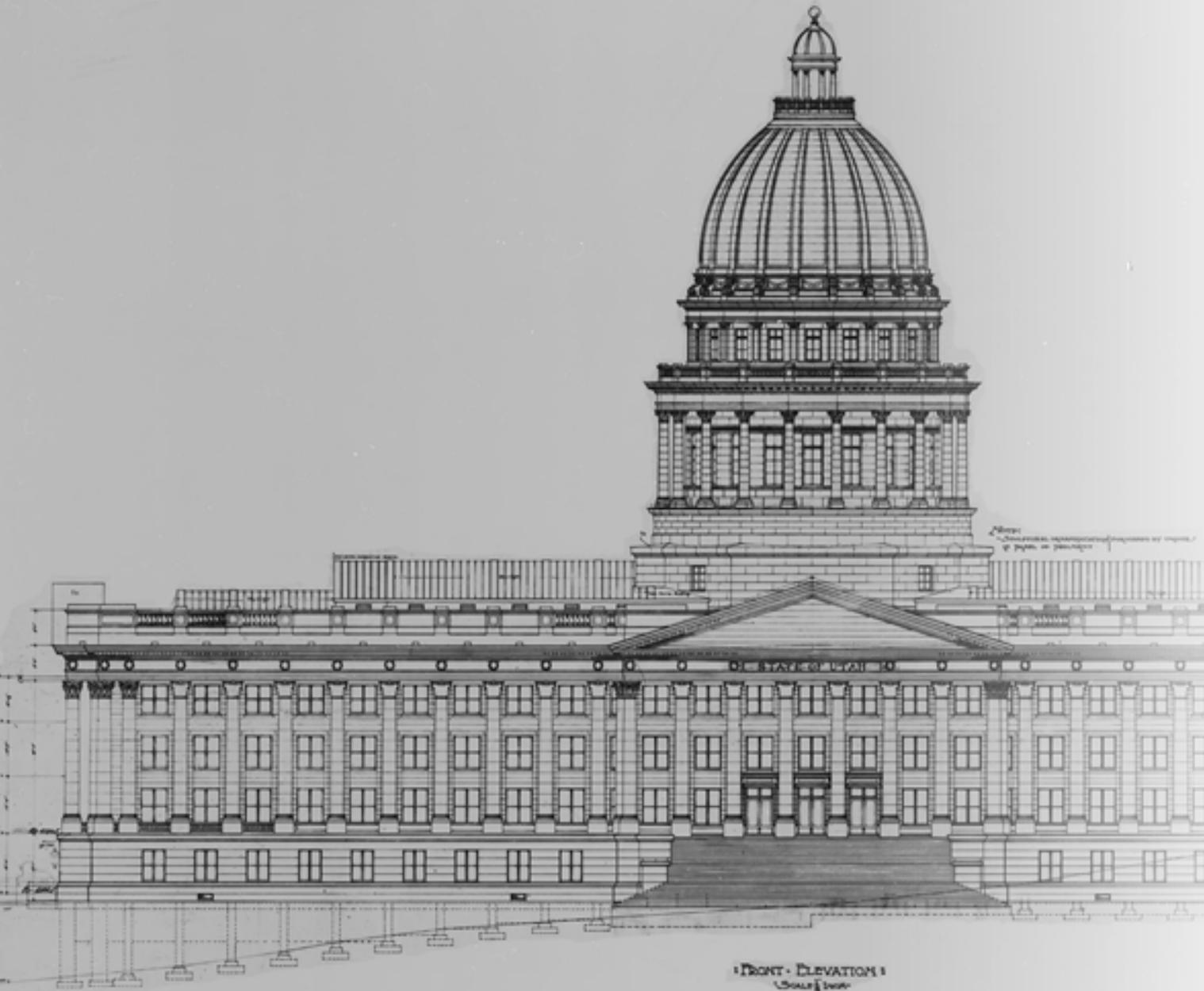
World Health Organization

http://www.who.int/social_determinants/sdh_definition/en/index.html

Social Determinants of Health



Source: Kaiser Family Foundation



HEALTH DISPARITIES

“preventable **differences** in health outcomes (e.g. infant mortality), as well as the determinants of health (e.g. access to affordable housing) across populations.”

HEALTH INEQUITIES

“Inequity – as opposed to inequality – has a **moral & ethical dimension**, resulting from **avoidable & unjust differentials** in health status” (WHO EURO, 1985)

“Health inequities are **systematic differences** in the **health status** of different population groups. These inequities have **significant social & economic costs** both to individuals and societies (WHO, 2021)

EQUALITY



EQUITY



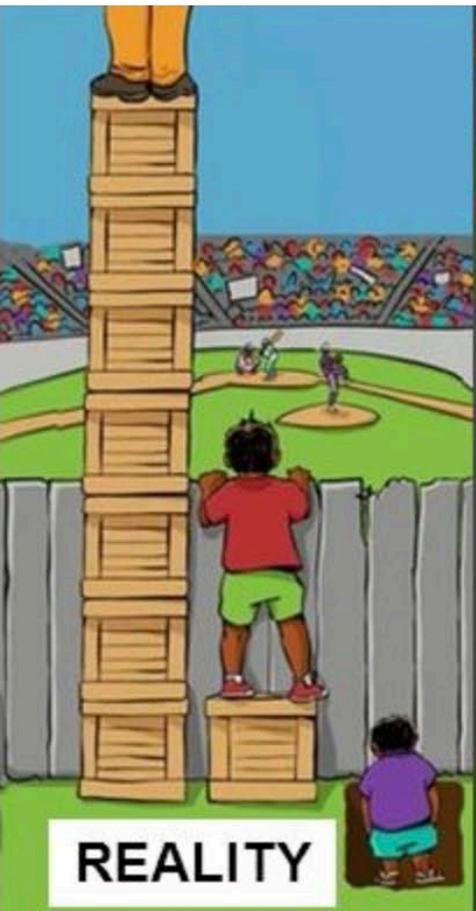
1

Where is the equity?

2



Original Concept: Craig Froehle – The Evolution of an Accidental Meme
Revised Version: Angus Maguire



REALITY

**DISPARITIES
IN ADVANTAGE**



EQUALITY

**SAME/UNIFORM
SUPPORT**



EQUITY

**NEEDS-BASED
SUPPORT**

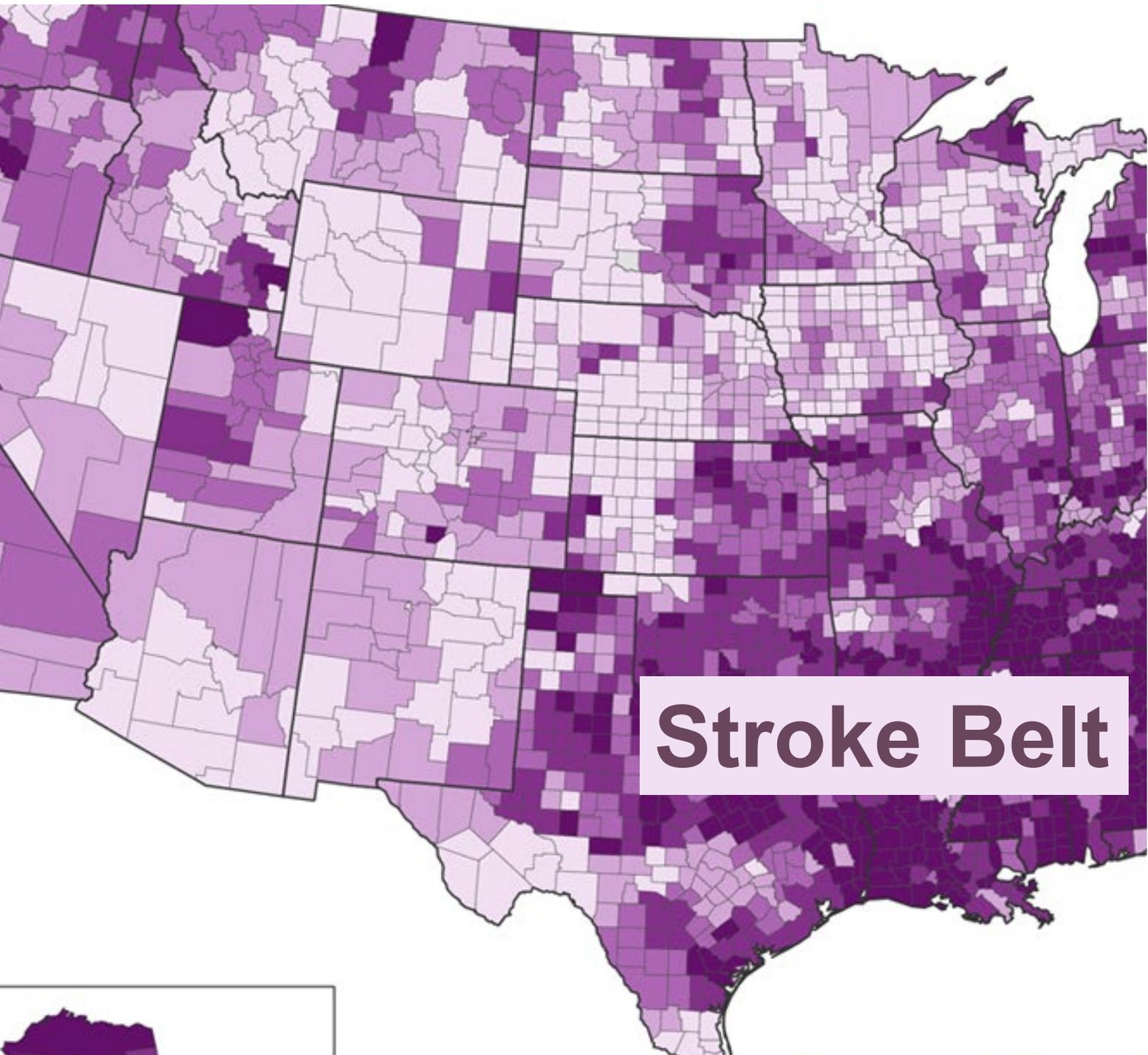


SOCIAL JUSTICE

**ADDRESS
SYSTEMIC
BARRIERS**

Social Justice is about Equity





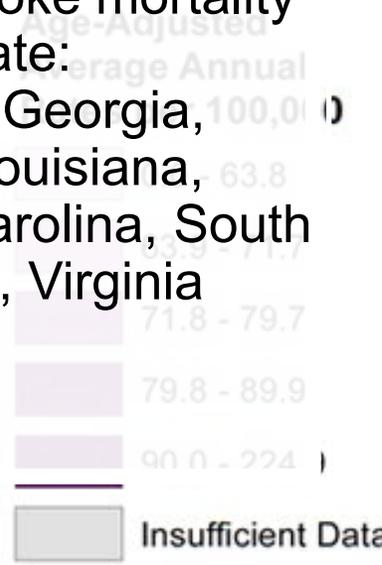
Stroke Belt

1965 – first noted the higher stroke mortality rates in the SE U.S. from stroke deaths in 1949-1951.

Mid-1970s - region referred as the Stroke Belt.

1980s – NHLBI defined the 11 states where age-adjusted stroke mortality $\geq 10\%$ above national rate:

- Alabama, Arkansas, Georgia, Indiana, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia



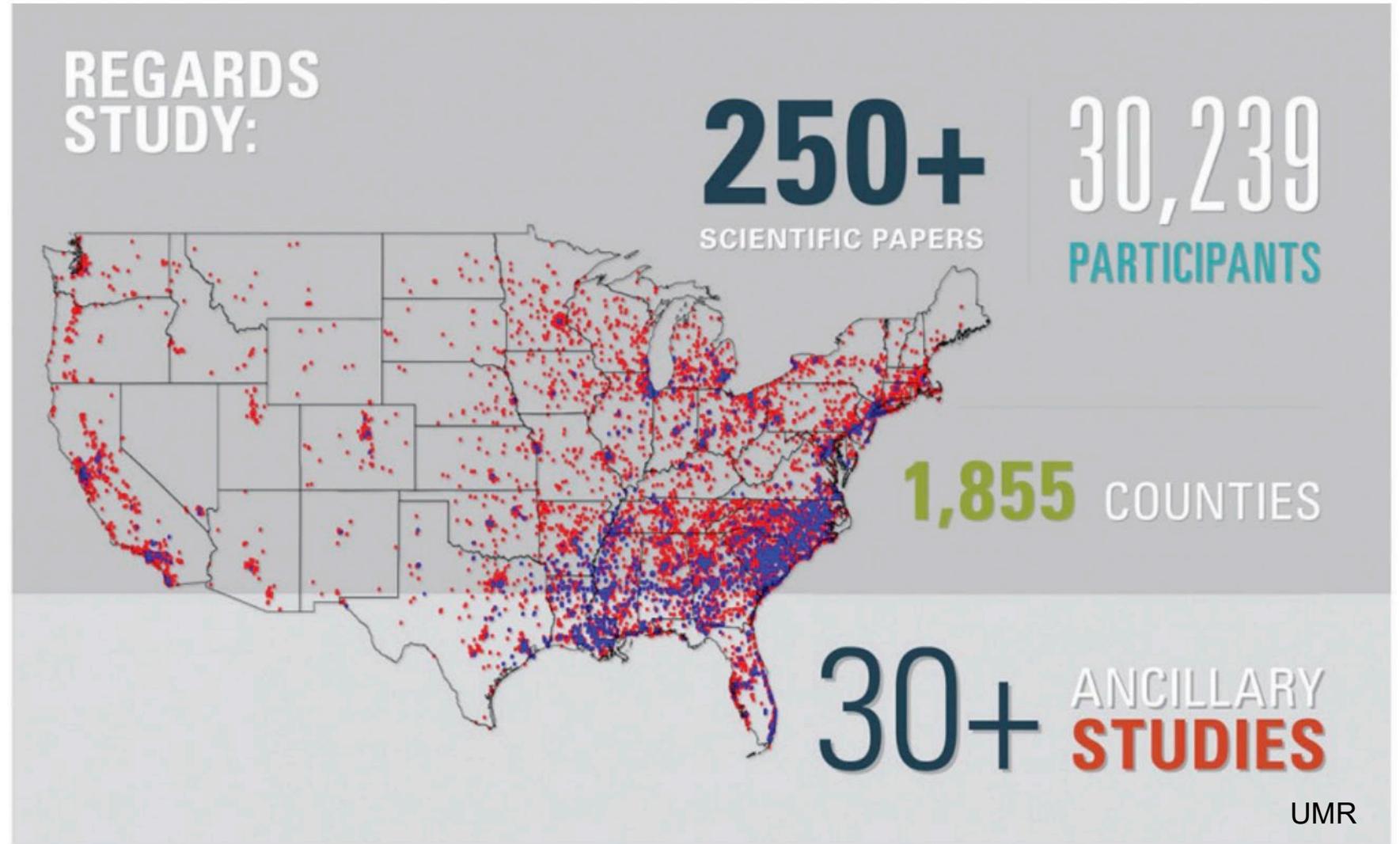
Reasons for Geographic and Racial Differences in Stroke (REGARDS) Study led by the University of Alabama at Birmingham School of Public Health

Those living in the **“Stroke Belt”** are far more likely to suffer from stroke or CVD.

Blacks are more likely to die from stroke than whites.

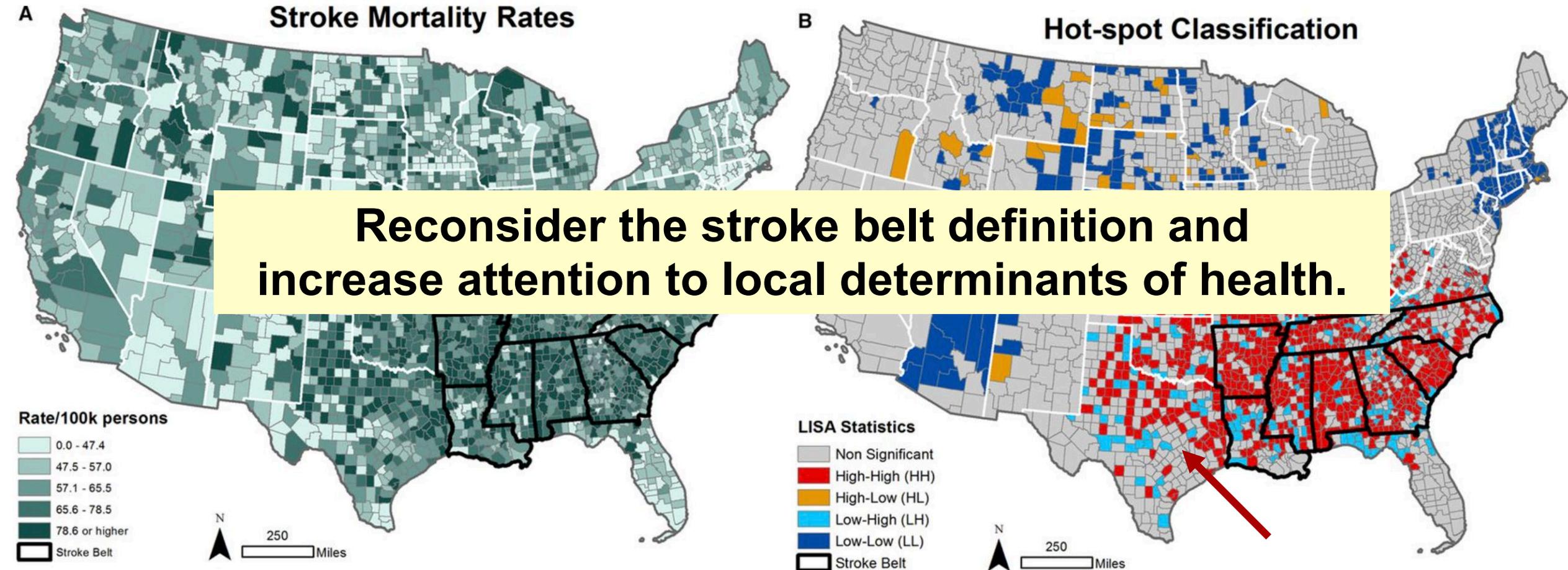
Stroke Belt according to the REGARDS Study:

1. Alabama
2. Arkansas
3. Georgia
4. Louisiana
5. Mississippi and
6. North Carolina
7. South Carolina
8. Tennessee



Reassessing the Stroke Belt

Using Small Area Spatial Statistics to Identify Clusters of High Stroke Mortality in the U.S.



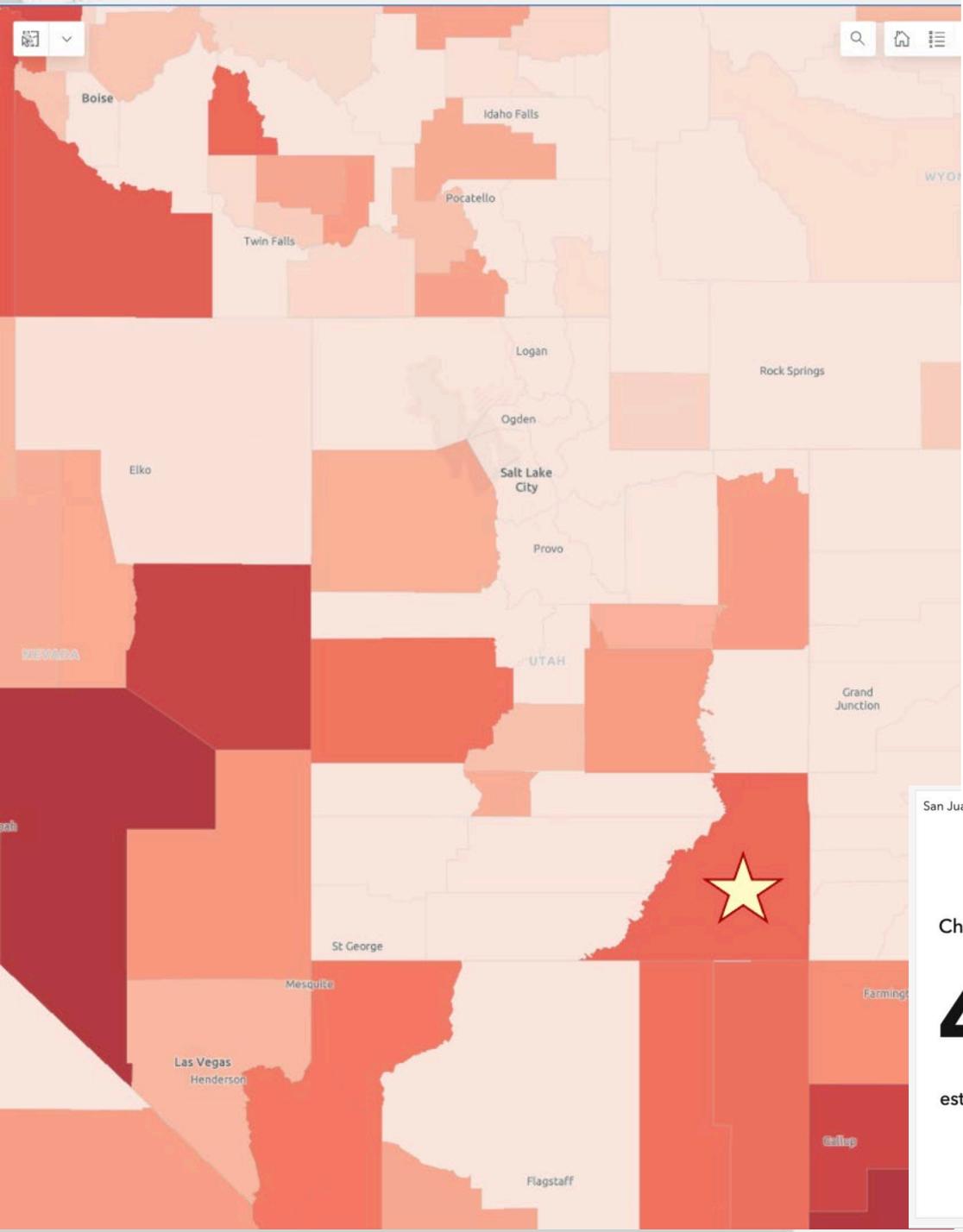
Hot spots had significantly larger proportions of **black residents; higher rates of unemployment, obesity, diabetes mellitus, hypertension; more hospital admissions & ED visits/capita; and lower median income & educational attainment.**

UTAH'S COVID COLOR DIVIDE

<https://coronavirus.utah.gov/case-counts/>

Data accessed Feb 25, 2021

Race/ Ethnicity	% of Total Utah Population	Cases	% of Cases	Case Rate / 100,000 Population	Hospitalization	Hospitalization Rate/ 1,000 Cases	Deaths	Case Fatality Rate/ 1,000 Cases	Mortality Rate/ 100,000 Population
American Indian/Alaska Native	2.3%	4946	1.3%	8761.1	454	91.8	70	14.2	124.0
Asian	3.8%	7031	1.9%	6080.2	340	48.4	58	8.2	50.2
Black/African American	2.1%	4938	1.3%	8478.6	241	48.8	18	3.6	30.9
Hispanic or Latino	14.2%	76643	20.8%	17023.5	3237	42.2	278	3.6	61.7
Native Hawaiian/Pacific Islander	1.6%	8857	2.4%	18603.6	763	86.1	56	6.3	117.6
White alone, not Hispanic or Latino	78.0%	235221	63.8%	9562.3	9138	38.8	1265	5.4	51.4
<u>Other</u> race	---	26022	7.1%	---	1105	42.5	117	4.5	---
Unknown	---	34283	9.3%	---	356	10.4	116	3.4	---
Statewide	---	368601	---	11660.5	14554	39.5	1879	5.1	59.4



San Juan County, Utah COVID-19 Co-Morbidities

Any condition
48.4 %
 estimated number: 5,195

San Juan, Utah :
 Any condition is defined as BRFSS respondents who answered "yes" to any of the following questions: "Have you ever been told by a doctor, nurse, or other health professional that you have: chronic obstructive pulmonary disease (COPD), emphysema or chronic bronchitis; heart disease (angina or coronary heart disease, heart attack or myocardial infarction); diabetes; or chronic kidney disease." Or if their calculated BMI is ≥ 30 kg per sq meter.

San Juan, UT
 Chronic kidney disease
4 %
 estimated number: 428

San Juan, UT
 COPD
8.9 %
 estimated number: 957

San Juan, UT
 Heart disease
8.8 %
 estimated number: 949

San Juan, UT
 Diagnosed diabetes:
15.4 %
 estimated number: 1,652

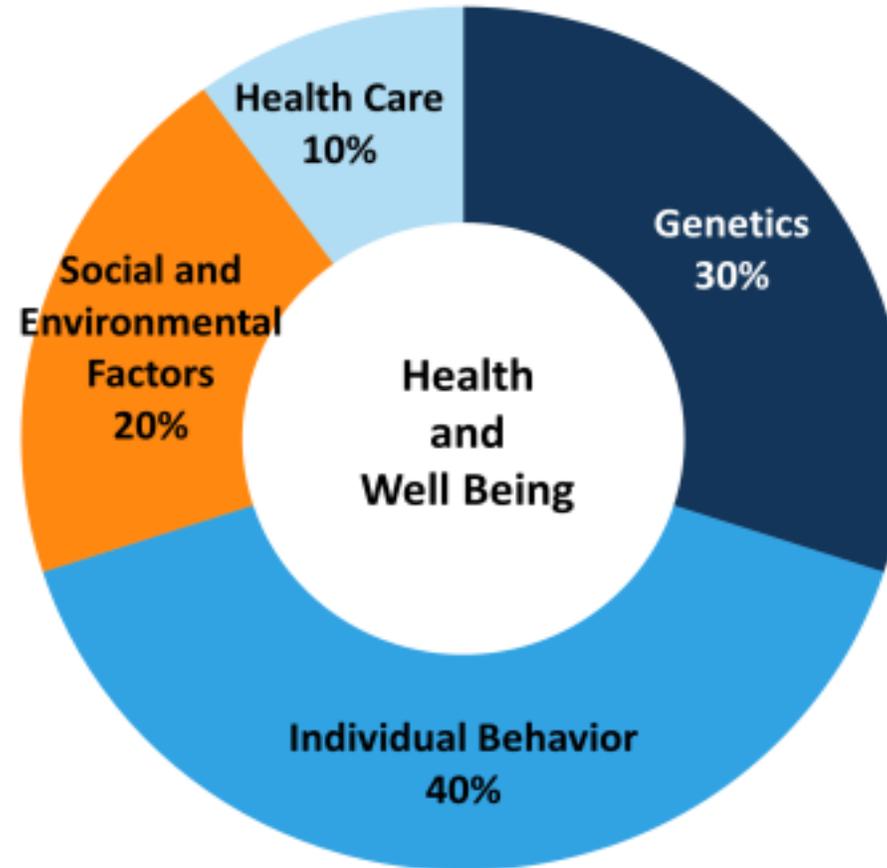
San Juan, UT
 Obesity (BMI ≥ 30):
37.6 %
 estimated number: 4,034

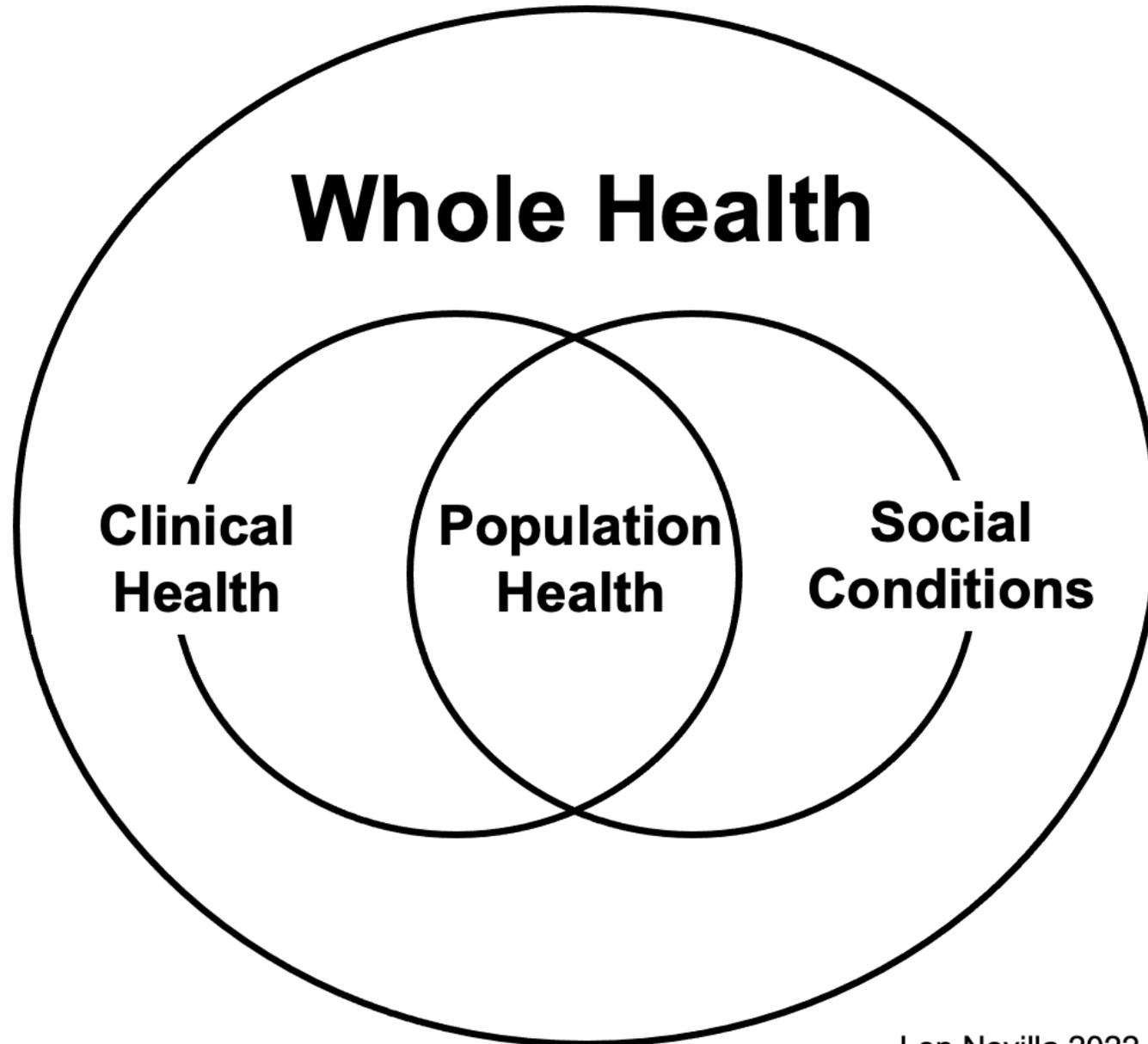
Figure 1

Impact of Different Factors on Risk of Premature Death

Why are the social determinants of health important?

1. Move beyond controlling disease to **addressing the root causes** of disease
2. Achieve **health equity**
3. Secure **national prosperity and security**





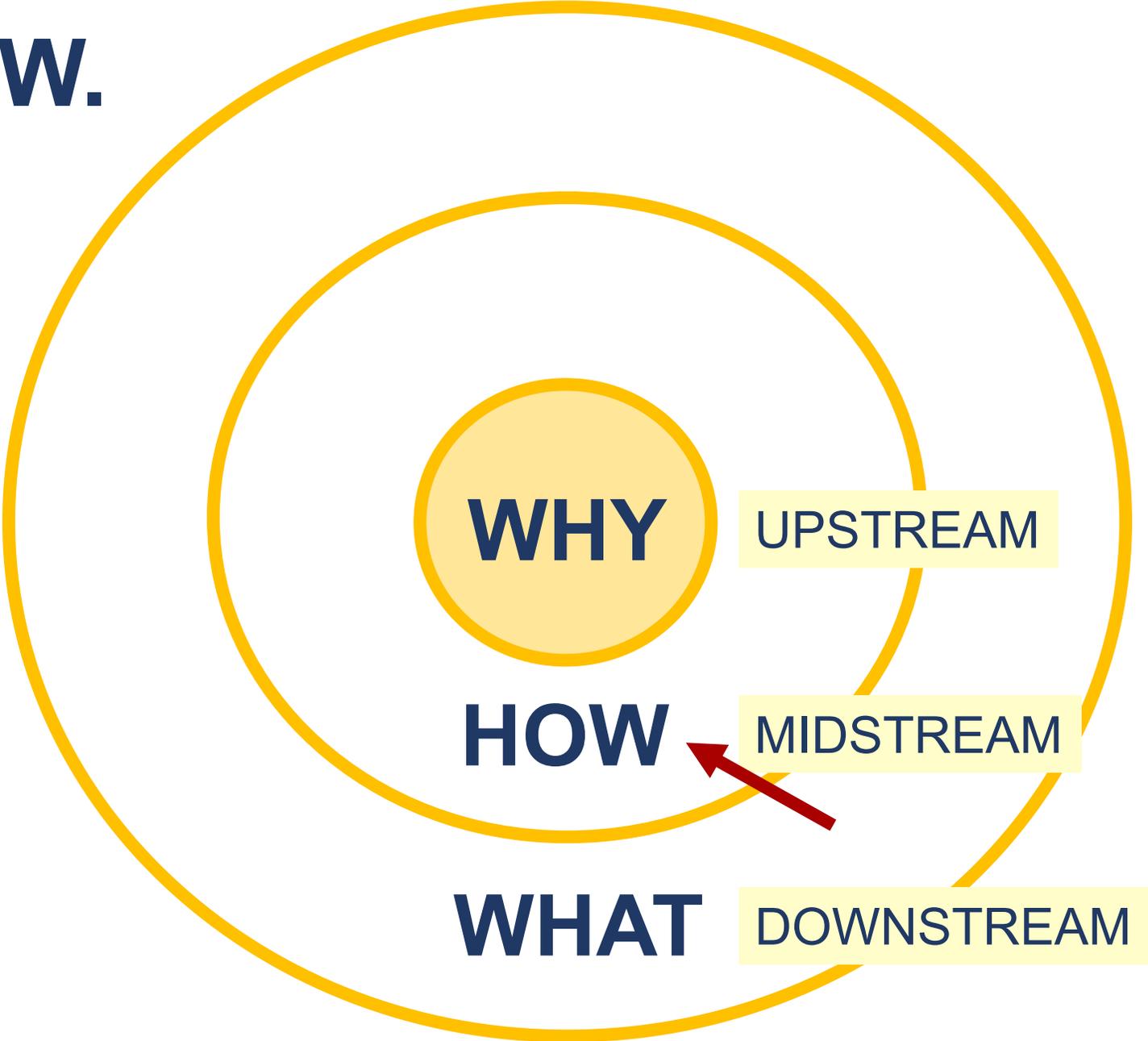
Social influences on health:

- Chronic hunger → sickness
- ACES/toxic stress → adults with chronic illness
- Lonely elders/despair → early death
- Poverty → disease
- Despair → death
- Inequity → death

Know the HOW.

Golden Circle

by Simon Sinek



IHI Triple Aim Initiative

Institute of Healthcare Improvement, IHI
John Whittington & Tom Nolan, 2006

Population Health

Can you achieve the Triple Aim without addressing the social determinants of health?

Experience
of Care

Per Capita
Cost



Time & Training

Need to tailor PRMs to meet clinic priorities

Lack of standardized SDH screening tools

Lack of clarity on which PRMs matter most

Burden of collecting, analyzing, using data

Challenge of acting on PRM with available resources

Inability to bill for time to interpret patient-reported measures, PRMs

The Challenge of HOW

Ambulatory Care-Based SDH Screening Tools

Organization	Administration	SDH Screening Tool
Health Begins Los Angeles, CA	Paper, verbal	Health Begins Upstream Risks Screening Tool, 2015 28 questions, 5 domains (economic stability, education, social & community context, neighborhood & physical environment, food)
WellRx Pilot - OCH-UNM Albuquerque, NM	Paper, verbal	11 questions, 4 domains (economic stability, education, neighborhood & physical environment, food)
Care Management Institute, Kaiser Permanente Oakland, CA	Paper, verbal, electronic	Your Current Life Situation, YCLS, 2018 32 questions, 6 domains (economic stability, education, social & community context, health & clinical care, neighborhood & physical environment, and food)
National Association of Community Health Centers, NACHC , Washington, DC	Paper EHR: NextGen, eClinical Works, GE Centricity, Epic	Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences (PRAPARE), 2016 13-36 questions, 5 domains (economic stability, education, social & community context, health & clinical care, neighborhood & physical environment)
OCHIN Portland, OR	Paper, EHR	PRAPARE-plus - Official Epic version of PRAPARE, 20 Qs Diverse workflows: patient portal, check-in, rooming, post-visit Added Qs on loneliness and social isolation for >50 y/o, 2022
IOM/NAM - Institute of Medicine/National Academy of Medicine	Electronic	2014, 23-29 questions, 3 domains (economic stability, social & community context, and neighborhood & physical environment)

What is Veggie Rx

Rush University Medical Center Food Is Medicine (Veggie Rx) is a produce and shelf stable food prescription program designed to address food insecurity and increase intake of fresh produce.

FUTURE PROJECT
Fresh F/V Pantry + Diabetes
Control + Medicare Patients



Food as Medicine

“We wrote prescriptions for food. I had that iconic exchange with first the Mississippi governor, who accused us of communism. Then with OEO, who sent someone down to scream at me, when I was giving away food and charging it to the pharmacy.

I said, “What’s wrong with that?” He said, “The pharmacy is for drugs and the treatment of disease.”

And I said, **“The last time I looked in my medical textbook, the most effective therapy for malnutrition is food.”**

And he went away.” - Dr. H. Jack Geiger



ICD-10-CM Code Category	Problems/Risk Factors Included in Category
Z55 – Problems related to education and literacy	Illiteracy, schooling unavailable, underachievement in a school, less than a high school diploma, no general equivalence degree (GED), educational maladjustment, and discord with teachers and classmates. Education & Literacy
Z56 – Problems related to employment and unemployment	Unemployment, change of job, threat of job loss, stressful work schedule, discord with boss and workmates, uncongenial work environment, sexual harassment on the job, and military deployment status. Un-/Employment
Z57 – Occupational exposure to risk factors	Occupational exposure to noise, radiation, dust, environmental tobacco smoke, toxic agents in agriculture, toxic agents in other industries, extreme temperature, and vibration. Occupational Exposure to Risk Factors
Z58 – Problems related to physical environment	Inadequate drinking-water supply, and lack of safe drinking water. Physical Environment
Z59 – Problems related to housing and economic circumstances	Sheltered homelessness, unsheltered homelessness, residing in street, inadequate housing, housing instability, discord with neighbors, lodgers and landlord, problems related to living in residential institutions, inadequate food, lack of adequate food, food insecurity, extreme poverty, low income, and insufficient social insurance and welfare support. Housing & Economic Conditions
Z60 – Problems related to social environment	Adjustment to life-cycle transitions, living alone, acculturation difficulty, social exclusion, rejection, target of adverse discrimination and persecution. Social Environment

ICD-10 Z Codes

Hospitals can capture data on the social needs of their patient population using the ICD-10-CM codes included in categories Z55-Z65 (“Z codes”).

Z62 – Problems related to upbringing	Inadequate parental supervision and control, parental overprotection, upbringing away from parents, child in welfare custody, institutional upbringing, hostility towards and scapegoating of child, inappropriate excessive parental pressure, personal history of abuse in childhood, personal history of neglect in childhood, personal history of unspecified abuse in childhood, parent-child conflict, and sibling rivalry. Upbringing
Z63 – Other problems related to primary support group, including family circumstances	Absence of family member, disappearance and death of family member, disruption of family by separation and divorce, dependent relative needing care at home, stressful life events affecting family and household, stress on family due to return of family member from military deployment, and alcoholism and drug addiction in family. Family & Support Group
Z64 – Problems related to certain psychosocial circumstances	Unwanted pregnancy, multiparity, and discord with counselors. Psychosocial
Z65 – Problems related to other psychosocial circumstances	Conviction in civil and criminal proceedings without imprisonment, imprisonment and other incarceration, release from prison, other legal circumstances, victim of crime and terrorism, and exposure to disaster, war and other hostilities. Other Psychosocial Factors

“**Health equity...**
the attainment of the
highest level of health for
all people,

where **everyone** has a **fair**
and just opportunity to
attain their **optimal health**

regardless of race,
ethnicity, disability,
sexual orientation,
gender identity,
socioeconomic status,
geography, preferred
language, or other
factors that affect access
to care and health
outcomes.”

-CMS Framework for Health Equity
2022–2032

Priority 1:

Expand the Collection,
Reporting, and Analysis
of Standardized Data



Priority 2:

Assess Causes of Disparities
Within CMS Programs, and
Address Inequities in Policies
and Operations to Close Gaps



2022 - 2023
CMS Framework for
Health Equity Priorities

Priority 3:

Build Capacity of Health
Care Organizations
and the Workforce to
Reduce Health and
Health Care Disparities



Priority 5:

Increase All Forms
of Accessibility to
Health Care Services
and Coverage



Priority 4:

Advance Language Access,
Health Literacy, and the Provision
of Culturally Tailored Services



Then WHAT?

Golden Circle

by Simon Sinek



WHAT are we going to do with our “Veronicas,”
our “English professors,” and our “Justins”?

THEN

WHAT

Our Communities' Experience – CHNA Examples



Utah Valley Hospital CHNA Reports

- CHNA Report 2019
- CHNA Summary 2019
- CHNA Implementation Strategy 2019



Intermountain Medical Center CHNA Reports

- CHNA Report 2019
- CHNA Summary 2019
- CHNA Implementation Strategy 2019
- CHNA Report 2016

Intermountain Healthcare conducted its 2019 Community Health Needs Assessment (CHNA) for 23 hospitals in Utah and southeast Idaho. Our significant health priorities are to:

- 1. Improve Mental Well-Being**
- 2. Prevent Avoidable Disease & injury**
- 3. Improve Air Quality**



- CHNA Report 2019
- CHNA Summary 2019
- CHNA Implementation Strategy 2019
- CHNA Report 2016



- CHNA Report 2019
- CHNA Summary 2019
- CHNA Implementation Strategy 2019
- CHNA Report 2016



One Community, Together

We're used to talking to our doctor about our blood pressure, prescriptions, and recommendations about how to feel better. But what if your doctor asked about your debt-to-income ratio? Or how often you worry about not having enough to eat? Things like housing, social support, and financial security all have a profound impact on our health.



Awareness

Screening high-risk individuals for social needs



Assistance

Helping people navigate services with a community health worker



Alignment

Developing shared goals with community partners

“Healthcare is moving beyond just treating the sick and at Intermountain Healthcare we’re leading that change. We’re taking a comprehensive look at health which includes engaging in programs that promote individual and community well-being.” –R. Neal Davis, MD

20 | 20
21 | 23



University of Utah Health Hospitals and Clinics
**COMMUNITY HEALTH
NEEDS ASSESSMENT**



- 3-year plans have been outlined and implementation teams identified for each of the priorities which include:
- Addressing **diabetes**, and reducing **obesity and obesity-related conditions**;
 - Improving **mental health** and reducing **suicide**;
 - Reducing **prescription drug misuse, abuse, and overdose**; and
 - Addressing **racism** to reduce inequities caused by social, economic, and structural determinants of health.

Integrating Public Health & Primary Care

“Public health and primary care should
function as one system...
two groups as part of a single system
and members of a **collaborative team**
with **common objectives** —

improving population & community health,
sharing the **same information systems,**
and serving the **same patients**
and **populations** at the **same time.**”

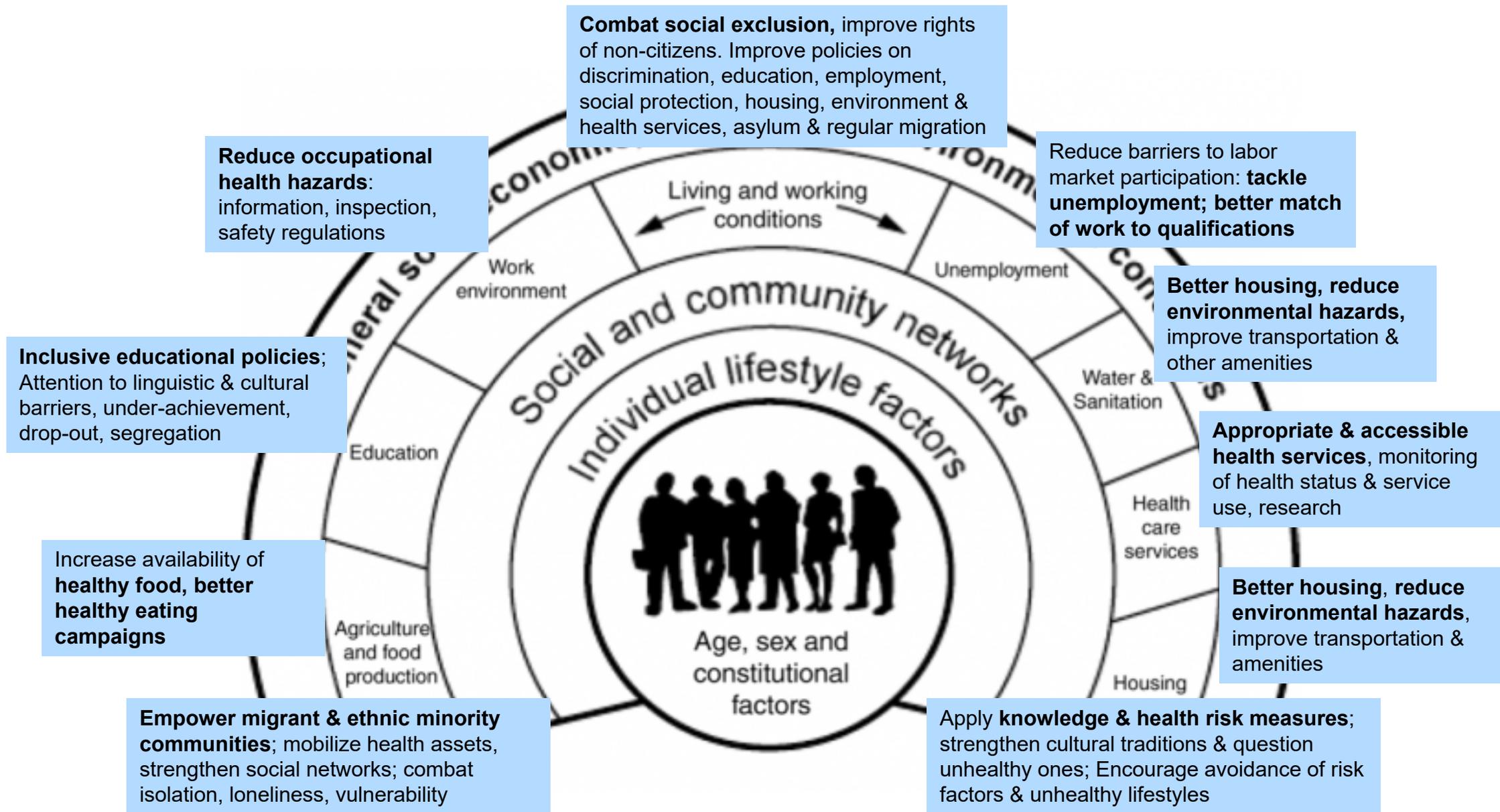


Figure 1: **Dahlgren & Whitehead Model (1993)**. Diagram of the social determinants of health adapted from the Determinants of Health Dahlgren G & Whitehead M (1993). Tackling inequalities in health: What can we learn from what has been tried? Background paper for *The Kings' Fund International Seminar on Tackling Health Inequalities*. Ditchley Park, Oxford" The King's Fund.

Health in All Policies

“...an **approach** to public policies **across sectors** that systematically takes into account the **health implications** of decisions, **seeks synergies**, and **avoids harmful health impacts** in order to **improve population health & health equity**.”

It improves **accountability of policymakers** for health impacts **at all levels** of policy-making. It includes an emphasis on the **consequences of public policies** on health systems, determinants of health and well-being.”

World Health Organization 2013 Helsinki Statement

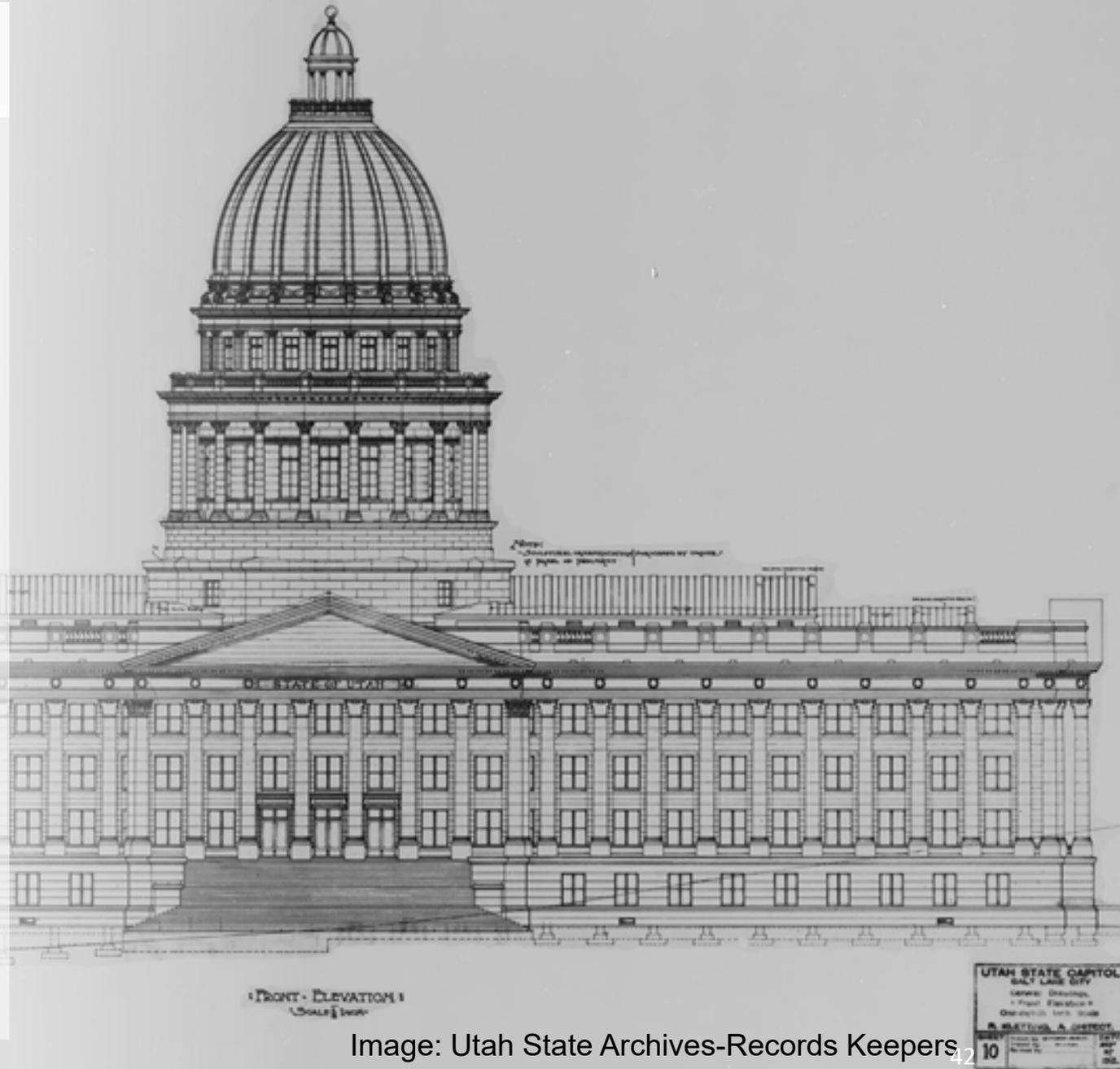


Image: Utah State Archives-Records Keepers

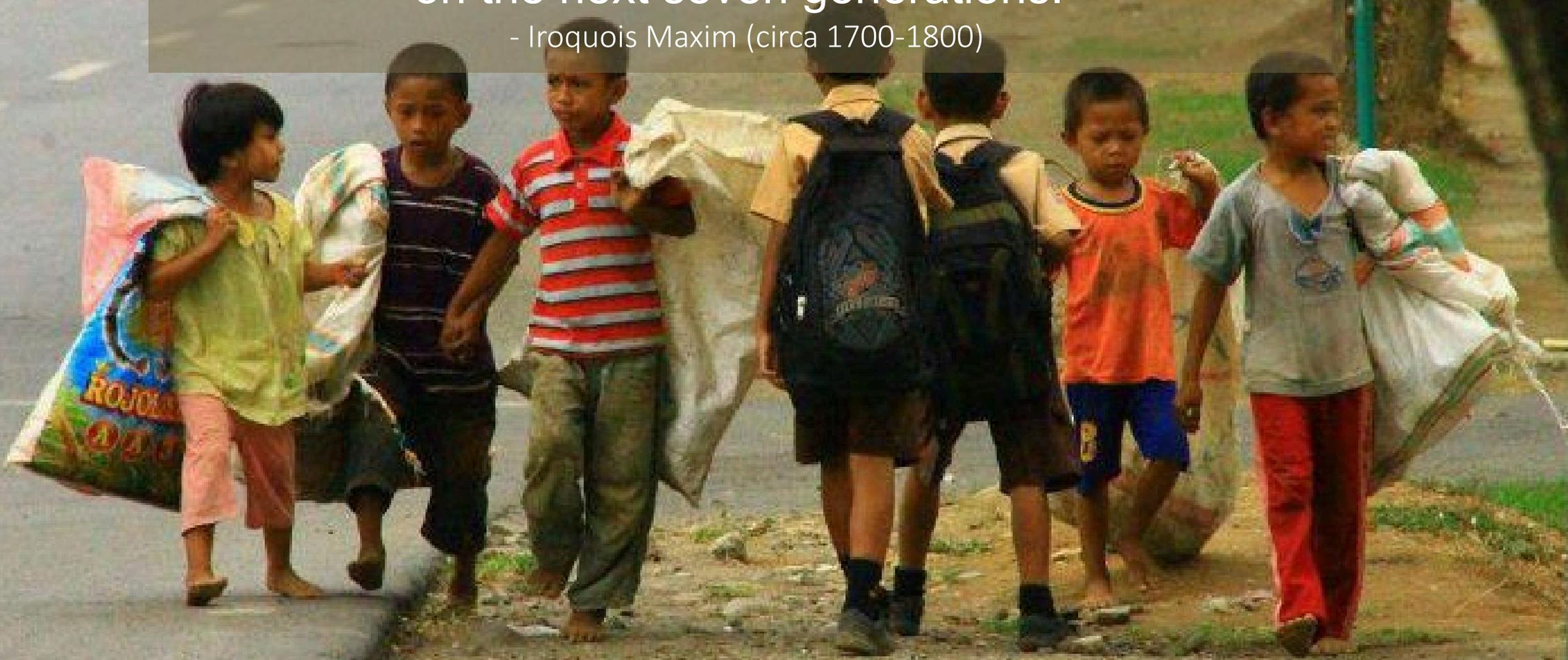
- 
- The background of the slide is a close-up, low-angle shot of the Statue of Liberty's head and crown. The statue is rendered in a monochromatic teal or green color. The crown's spikes are visible, and the face is looking slightly upwards and to the right. The lighting is dramatic, highlighting the texture of the statue's skin and the details of the crown.
1. Support the **human rights** conventions of the United Nations.
 2. Assure **health care as a universal human right** in the United States.
 3. Support U.S. leadership in addressing **climate change**.
 4. Support **compassionate American immigration policy reform**.
 5. Reform the **criminal justice system**.
 6. End **hunger and homelessness**.
 7. Assure **voting rights & integrity of democratic institutions**.

“Moral Determinants of Health”

Donald M. Berwick, MD, MPP
JAMA. 2020;324(3):225-226

“In our every deliberation,
we must consider the impact of our decisions
on the next seven generations.”

- Iroquois Maxim (circa 1700-1800)



—Angeles City, Pampanga, Philippines/Image: Facebook