



ADDRESSING HEALTHCARE DISPARITY AND SDOH

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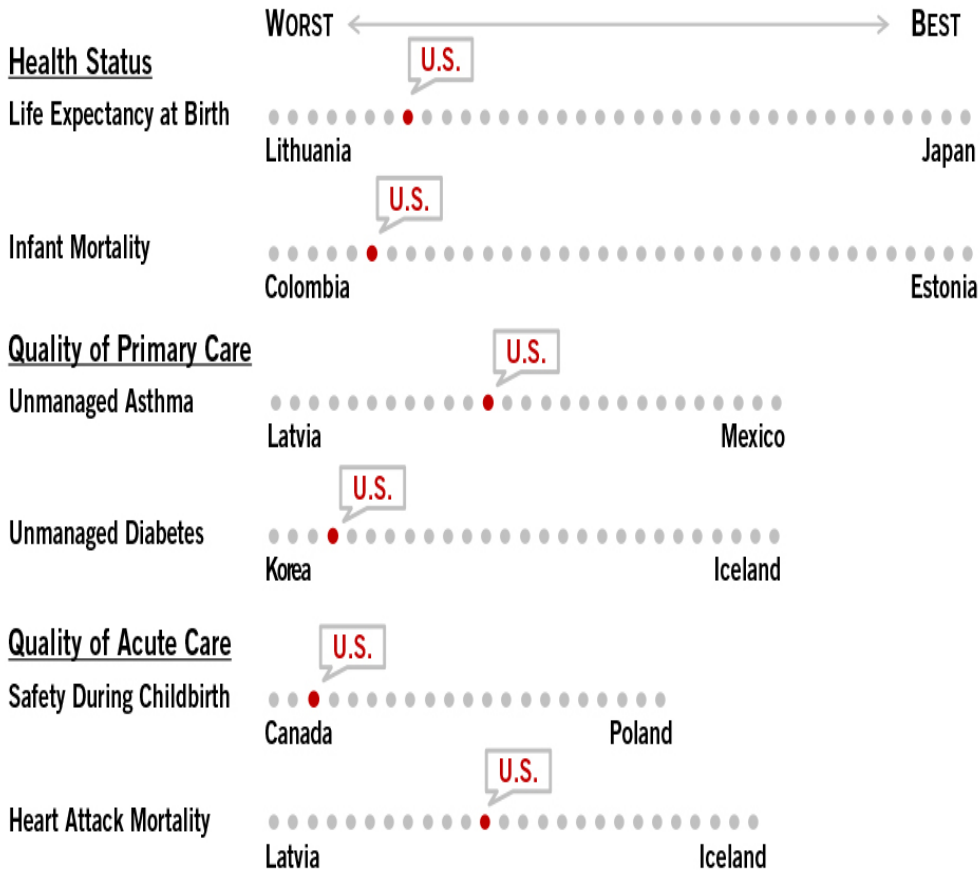
OBJECTIVES

- Review pertinent US statistics
- Describe health disparity and SDOH
- Factors hindering *pulmonary* health
- Some solutions

US HEALTH CARE

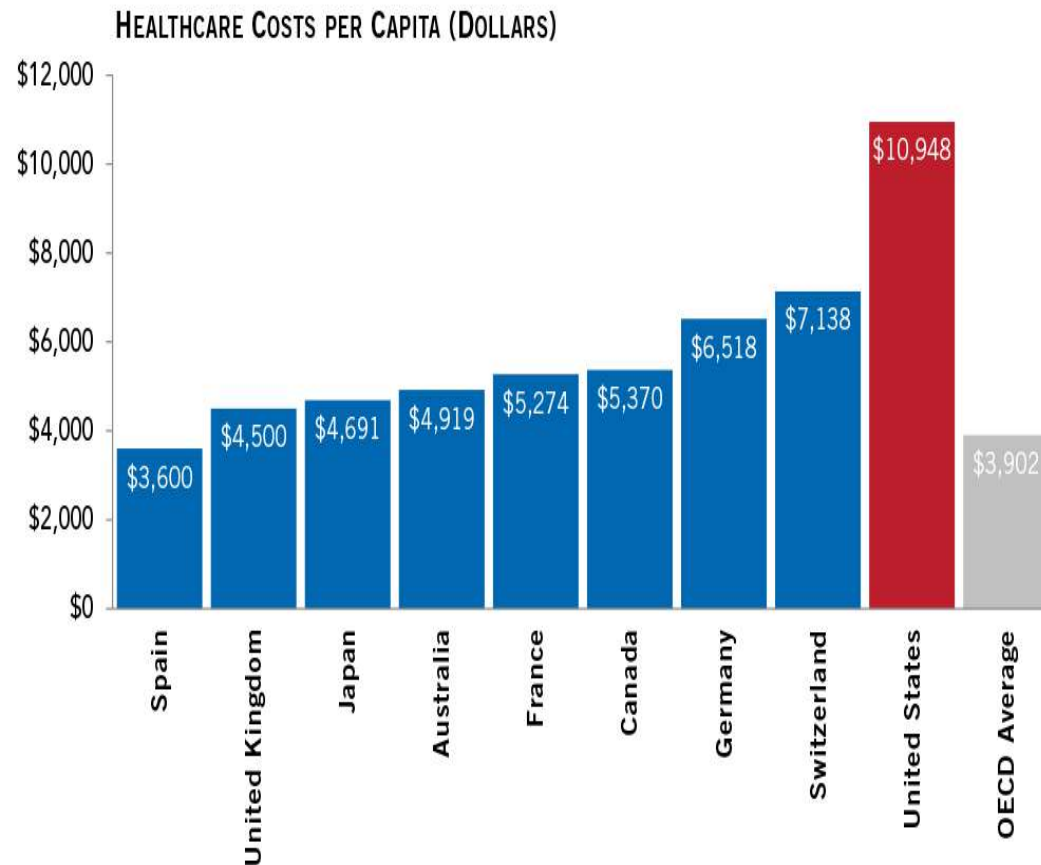
- Highest expenditure with some of the lowest life expectancy
- Highest rate of avoidable deaths
- Some of the highest numbers of preventable hospitalizations
- Highest chronic disease burden
- In general, has fewer physicians and beds
- “Decent” preventative medicine
- Expenditure is sitting at an obese 18.3% according to CMS (2022) or ~4.3 trillion.
- Early ACA brought insurance to nearly 20 mil people - at around 40m
- ACA did not exactly close the gap
- Lack of primary care providers, and providers in general - big push for mid-level providers
- Health literacy is abysmal
- Loss of health care personnel
- Reactive instead of proactive
- Technological shift – more autonomous

Although the United States spends more on healthcare than other developed countries, its health outcomes are generally not any better



SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2022*, July 2022.
 NOTES: Data are not available for all countries for all metrics. Data are for 2020 or latest available.

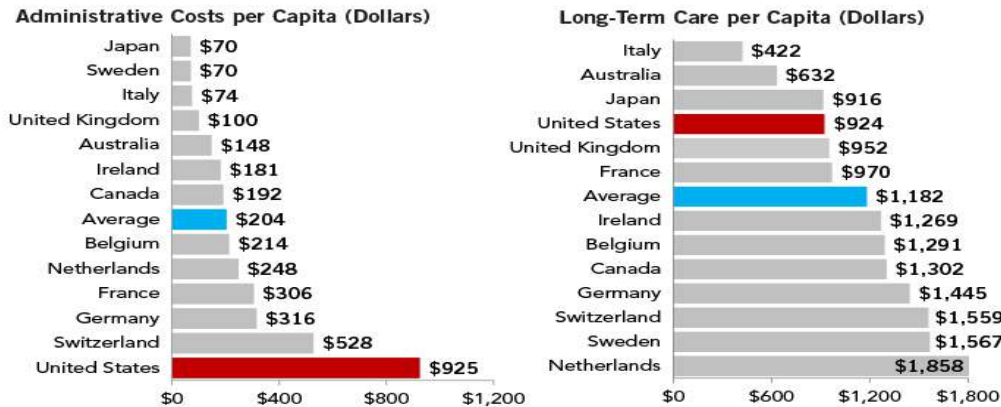
United States per capita healthcare spending is nearly three times the average of other developed countries



SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2021*, July 2021.
 NOTES: Data are for 2019. Chart uses purchasing power parities to convert data into U.S. dollars. OECD average excludes the United States.



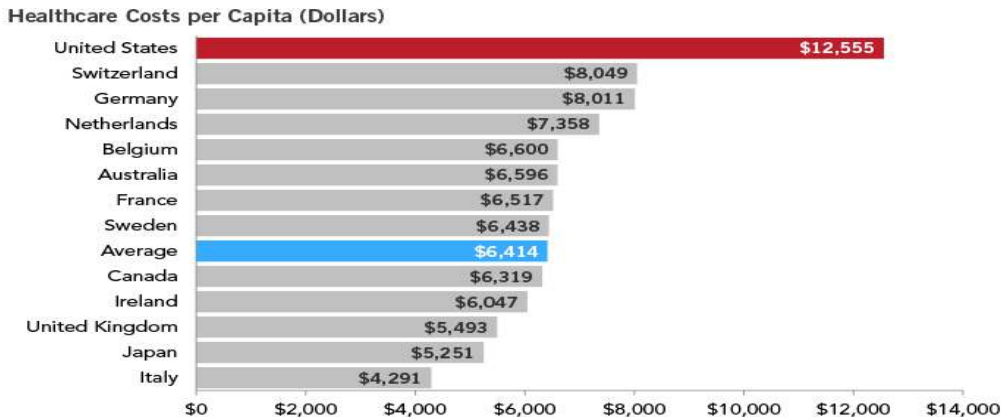
The United States spends more on administrative costs, but less on long-term healthcare, than other wealthy countries



SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2023*, July 2023.
 NOTES: Data are for the most recent values, including provisional values. Average does not include the United States. The five countries with the largest economies and those with both an above median GDP and GDP per capita, relative to all OECD countries, were included. Chart uses purchasing power parities to convert data into U.S. dollars.
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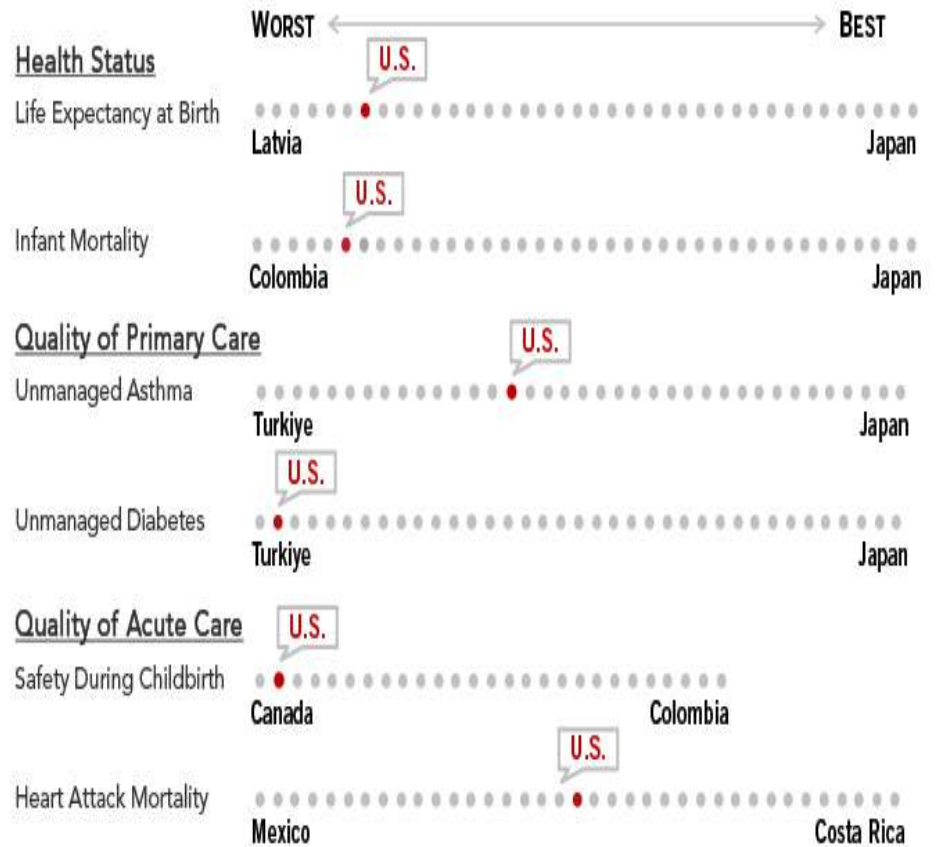
U.S. per capita healthcare spending is over twice the average of other wealthy countries



SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2023*, July 2023.
 NOTES: Data are from 2022 and include provisional values from some countries. Average does not include the United States. The five countries with the largest economies and those with both an above median GDP and GDP per capita, relative to all OECD countries, were included. Chart uses purchasing power parities to convert data into U.S. dollars.
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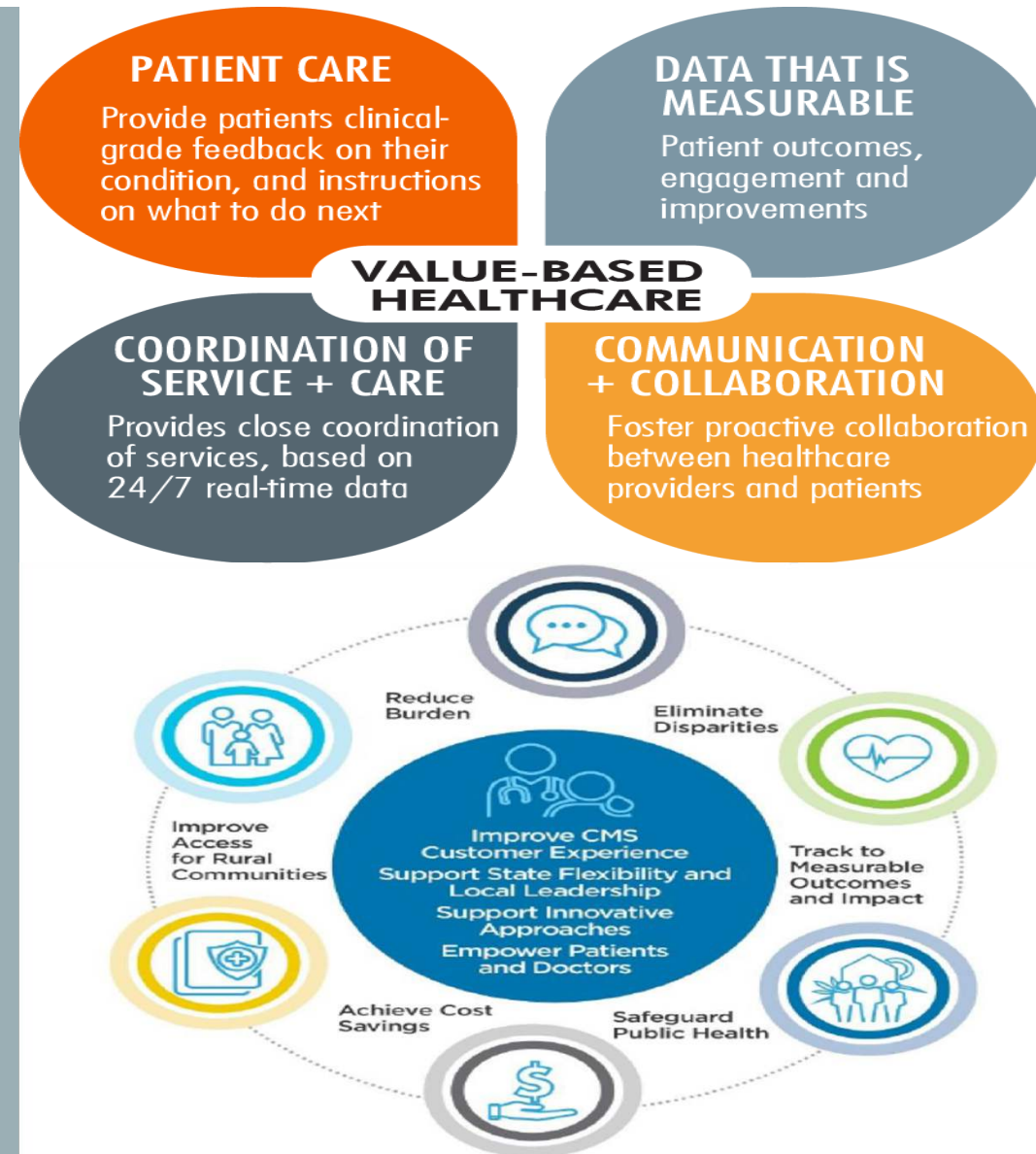
SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2023*, July 2023.
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US HEALTH CARE

- What is driving these costs and outcomes?
 - The best – right here and now
 - Medical technology
 - Specialty Medicine
 - Pharma/Specialty medicine
 - Volume-based vs value-based
 - Aging Population
 - Over-use, Under-use



HEALTH DISPARITY

- Income/Education
- Geography
- Race, Ethnicity, and Culture
- Sex/Orientation
- Behavior and Lifestyle
- Lack of Insurance
- Religion



HEALTH DISPARITY THE SYSTEM ITSELF

- An inadequate medical care system that is very complex and fragmented is in itself a health disparity. It has been stated that “as patients move across the spectrum, they may contend with fragmentation, poor continuity of care, and insufficient coordination of care for multiple health needs” (Shi and Singh, 2019, p. 42).

- As the country has grown unhealthier, the need for an increase in the number of healthcare providers has grown and will continue to rise. Lack of qualified healthcare providers in rural areas will continue to be an issue as graduating providers fill gaps in larger cities. Parsons (2019) states, “because the increase in healthcare jobs is expected to outpace growth in all other fields and industries, recruitment and retention will be matters of special interest to all healthcare leaders during the next several years.”



HEALTH DISPARITY INCOME AND EDUCATION

- Absent or low education attainment as well as low income are some of the most influential variables in regard to healthcare disparity
- low-income or socioeconomic status is a *prominent* indicator of health and often associated with health risk behaviors
- Attribution error and bias
 - When placed in the health care setting, those of lower education levels, in regard to health, are blamed for their lower income status and unhealthy actions
- Environmental factors
 - lower paying jobs, and in many cases, jobs that expose the individual involuntarily to hazardous materials and work environments (Shi & Singh, 2019, p.290)
 - Lower level income housing, which is usually unkept and overcrowded (Cohen et al, 2010, p.263) can expose the individual to communicable diseases, mold, vermin, and insects.

RISKY BEHAVIOR

- Predisposition? Type 4 dopamine receptor known to be linked to “risky behavior” and more.



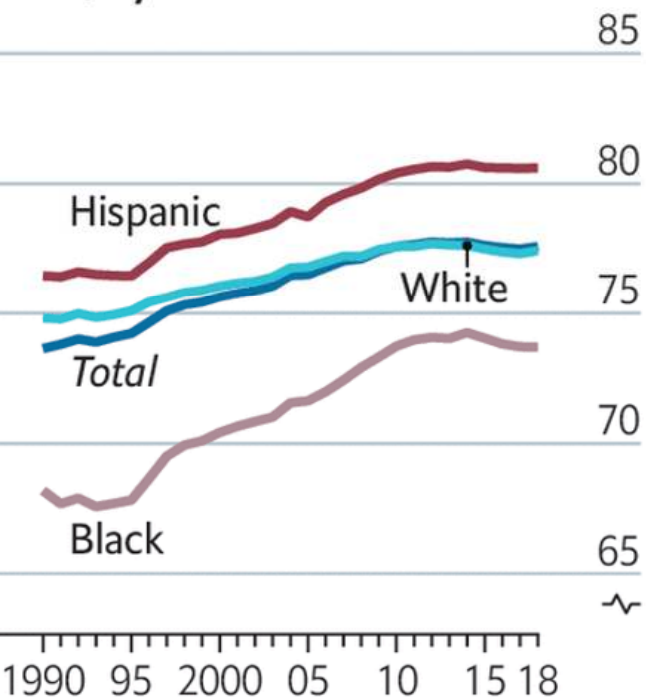
- Risky behavior
 - Sedentary lifestyles, poor diet, alcohol and drug use; these individuals are also more prone to health risks and factors such as stress, social isolation, environmental exposer, and lack of preventative care, such as vaccines (Flaskerud & Delilly, 2015; Cohen et al., 2010)



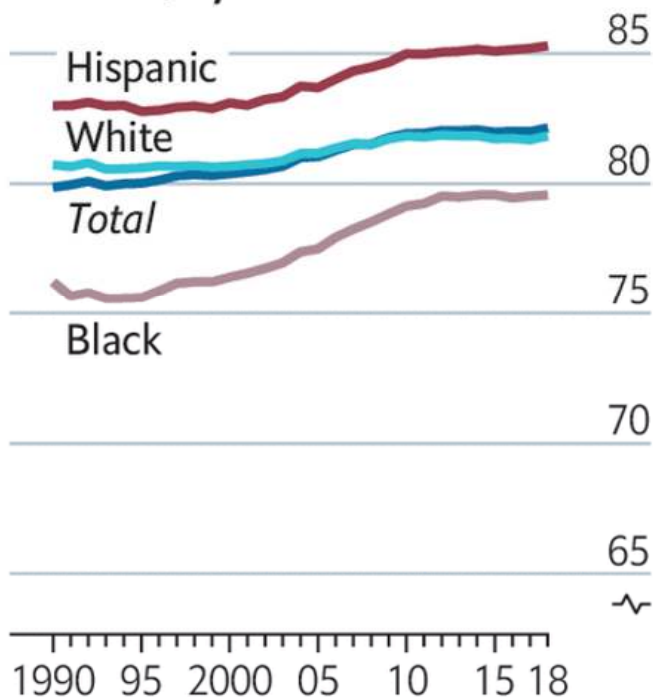
Catching up, falling behind

United States, average life expectancy at age 25

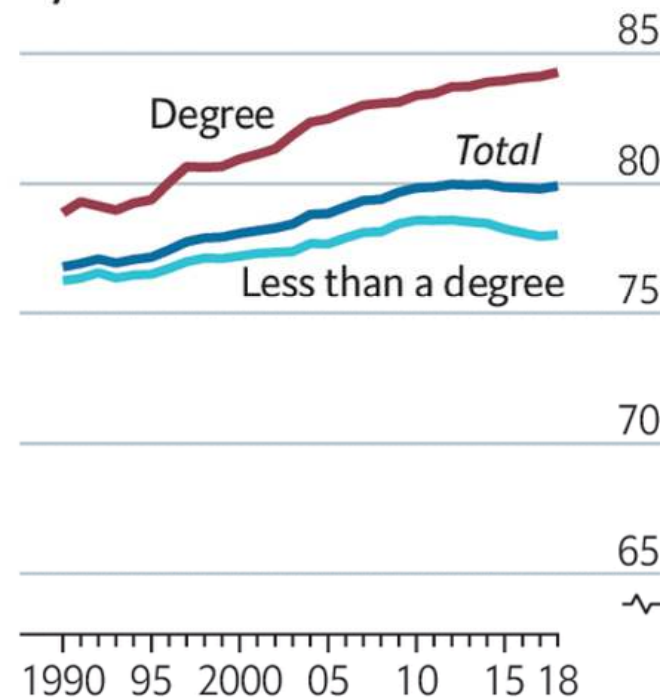
Men, by race



Women, by race

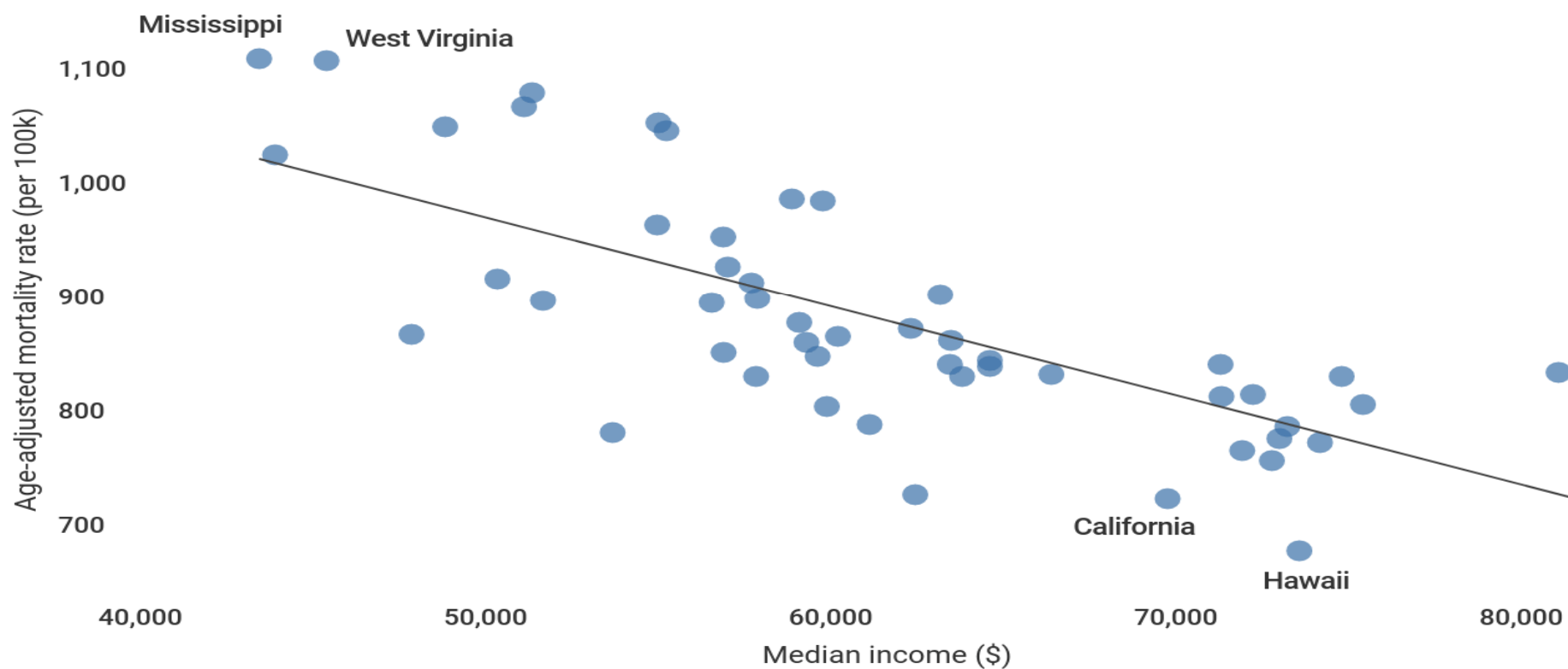


By education



Source: "Life expectancy in adulthood is falling for those without a BA degree, but as educational gaps have widened, racial gaps have narrowed" by Anne Case and Angus Deaton, PNAS, 2021.

Strong negative correlation between median income & mortality rate among U.S. states



Source: U.S. Centers for Disease Control and Prevention Underlying Cause of Death 2017; U.S. Census Bureau 2017 Current Population Survey

HEALTH DISPARITY - GEOGRAPHY

- According to Douthit et al. (2015), barriers to health care access vary with geography.
- Rural areas are particularly hard hit
- Not many practitioners want to practice in rural areas
- This is not to say that inner city living has its perks either (increased wait times, hard to find providers that aren't booked completely up)



Scarcity of resources



Lack of providers



Inadequate internet sources – limiting telehealth



Limited facilities



Inadequate vehicles in some areas



Delay in care



Increased mortality

Let's say you needed an electrocardiologist = 1 – 124,000 people
Your child needs a pediatric cardiologist? – 1 – 35,000



HEALTH DISPARITY – OTHER DEMOGRAPHICS

- Minorities compared to non-minorities tend to receive lower quality health care.
- Research shows that minorities have higher incident rates of chronic disease.
- The issue of race causes bias and stereotyping which can lead to misdiagnoses by the healthcare provider, and mistrust of health information by the patient (Abdallah, et al., 2019).

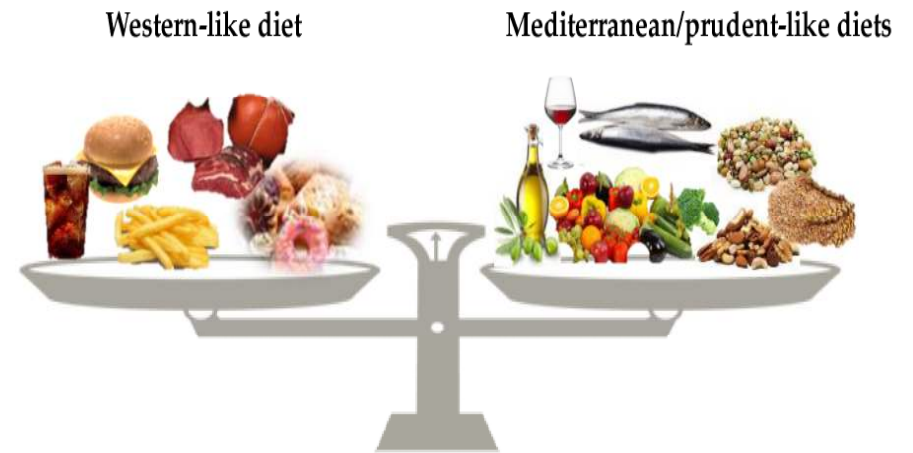
- Cultural competence means being able to effectively understand the behaviors, language, beliefs, and communication methods of other racial, ethnic, or religious groups.
- Patients also play a large role in breaking down barriers to quality healthcare. Prior experiences of racism and the fear of racism or culture ignorance influences how patients engage with the healthcare providers and utilize services offered (Ben, et al., 2017).



PULMONARY HEALTH - NUTRITIONAL

- Those in lower socioeconomic standing are less likely to follow established nutritional recommendations
- They are less likely to purchase healthy food
- More likely to eat processed product and fast food
- More likely to go without

Dietary patterns



Dietary factors

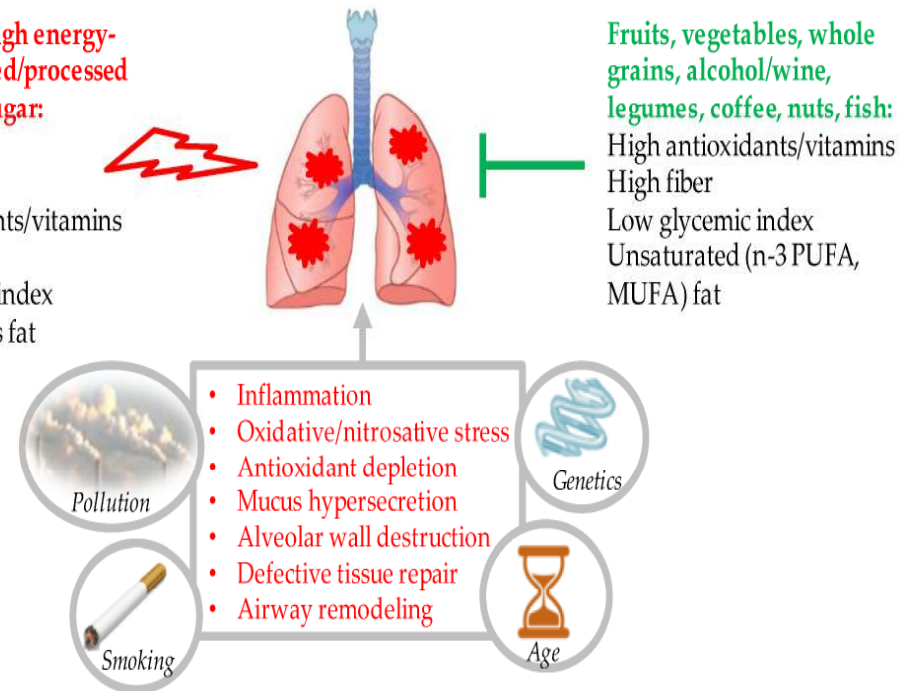
Refined and high energy-dense foods, red/processed meat, added sugar:

Salt
Preservatives
Low antioxidants/vitamins
Low fiber
High glycemic index
Saturated/trans fat

Fruits, vegetables, whole grains, alcohol/wine, legumes, coffee, nuts, fish:

High antioxidants/vitamins
High fiber
Low glycemic index
Unsaturated (n-3 PUFA, MUFA) fat

Disease pathogenesis



PULMONARY HEALTH - ENVIRONMENTAL

It is historically known that those with lower levels of education tend to work less favorable jobs

Those that work less favorable jobs due to lack of education can be exposed to occupational hazards

Lower education levels and lower pay force individuals to crowded and sometimes unkept living arrangements



TOP 10 OSHA Violations for 2019

1



**Fall Protection
General Requirements
(1926.501)**

2



**Hazard Communication
(1910.1200)**

3



**Scaffolding
(1926.451)**

4



**Lockout/tagout
(1910.147)**

5



**Respiratory protection
(1910.134)**

PULMONARY HEALTH – RISKY BEHAVIOR

- 30% of health disparities are caused by health behaviors
- Health behaviors include lifestyle and behavior choices that a person makes that can adversely affect their health. Some of these lifestyle and behavior choices include physical activity level, obesity, tobacco use, alcohol use, substance abuse, irresponsible sexual behavior, mental health, and injury due to violence

- The lifestyle and behavior choices being made by adults in the last few decades have directly affected the overall health of upcoming generations. Peyer et al. (2016) state, “Numerous studies have found increased odds of child overweight if one or both parents is overweight or obese” (p. 2)
- Higgins (2018) states, “one unhealthy behavior pattern that stands above all others in terms of longstanding and devastating impact on individual and population health is cigarette smoking” (p. 2). Higgins also states that the death rate from cigarette smoking has become so normal that Americans are sensitized to it.



SOLUTIONS

- One way that change can be implemented when it comes to health disparities is through policy interventions.
- Transitioning from a volume-based to a value-based care delivery and payment model of healthcare will be one of the most important efforts in healthcare delivery in the coming decade” (Shi and Singh, 2016, p. 45).
- Community-based interventions can come in the form of civic engagement, youth organizations, collaboratives, and the forming of coalitions.

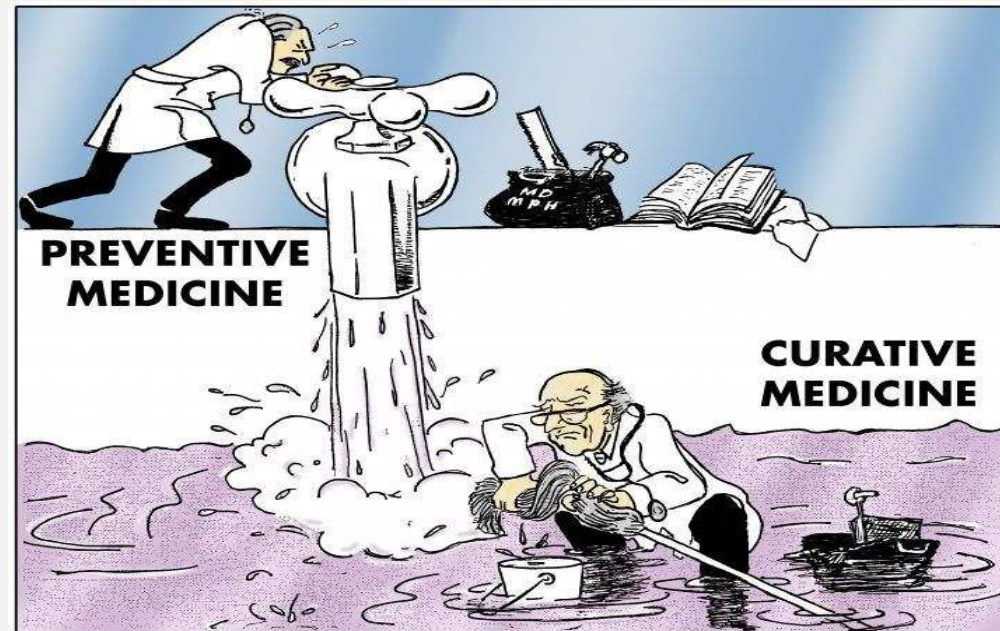
- Understanding a patient’s socioeconomic situations can simmer this bias, and lead to better outcomes. Piff et al. (2020), showed a strong correlation in regard to obtaining the mentioned situational information and greater concern about inequality: “five studies ($n = 34,442$) show that attributing poverty to situational forces is associated with greater concern about inequality, preference for egalitarian policies and inequality-reducing behavior” (p.496).



SOLUTIONS

- Improving diversity, inclusion, and cultural competence of the nation's healthcare workforce is a major component of public policy intended to reduce health disparities
- With chronic diseases accounting for almost two-thirds of global deaths in 2011 (Shi & Sing, 2019) the call to action on prevention and early detection of chronic diseases is necessary.

- Weight-loss programs, tobacco cessation, and physical fitness programs are all examples of some individual level interventions
- Be proactive – not reactive
- Emphasis on preventative medicine
- If we have to practice curatively, then overcome the obstacles



CYCLE OF ENVIRONMENTAL HEALTH DISPARITIES

COMPOUNDING FACTORS

- Limited Educational Services
- Limited Health Care Services
- Limited Social Capital

SOCIAL & ECONOMIC

- Limited Education
- Limited Employment Options
- Limited Empowerment
- Limited Income

RESIDENTIAL OPTIONS

- Limited Choice
- Limited Infrastructure
- Limited Services

RESIDENTIAL CHARACTERISTICS

- Older Houses
- Adverse Environmental Factors
- Adverse Social Factors

ENVIRONMENTAL IMPACT

- Increased Toxins
- Increased Stress

HEALTH RISK FACTORS

PREGNANCY VULNERABILITY

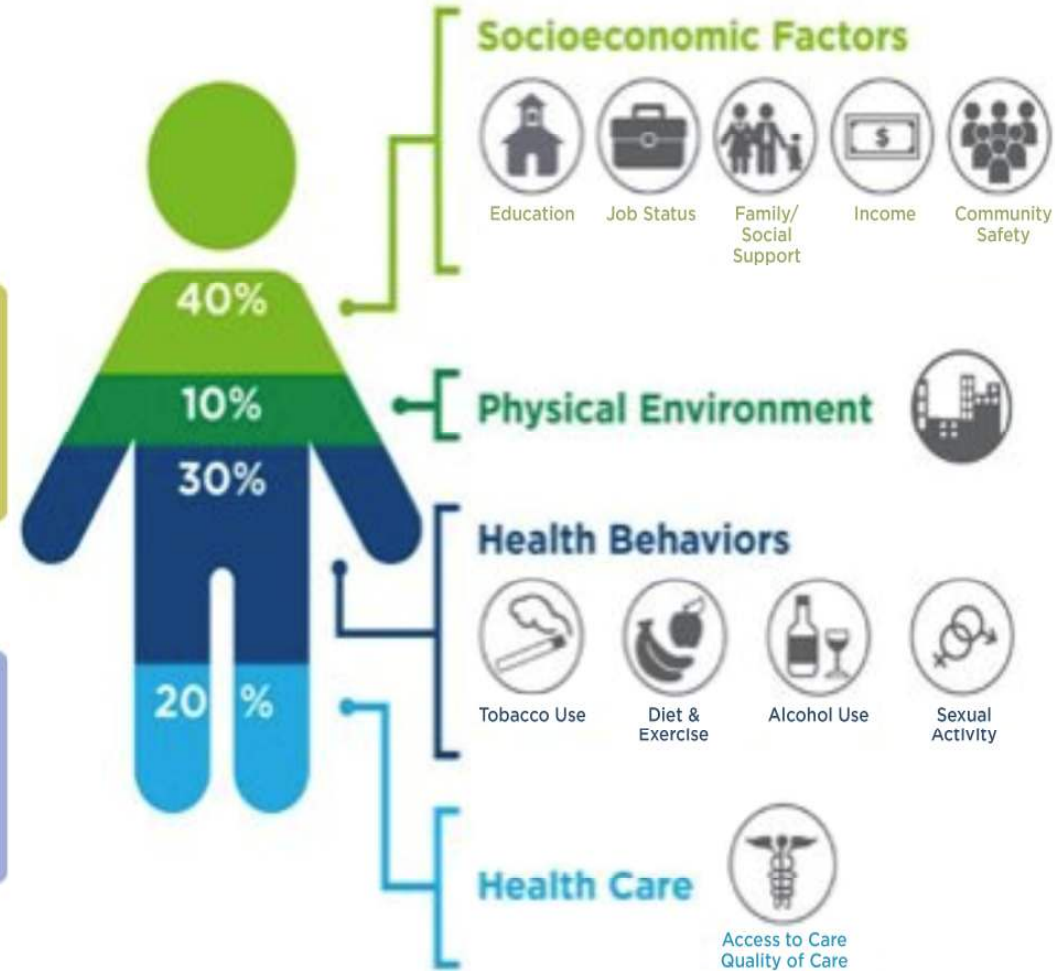
- Poor Prenatal Care
- Intrauterine Injuries
- Low Birth Weight & Prematurity

PHYSICAL HEALTH

- Neurodevelopmental Disorders
- Asthma & Allergies
- Obesity & Hypertension

MENTAL HEALTH

- Toxic Stress & PTSD
- Substance Abuse
- Violence & Crime



RECAP

- Healthcare costs do not match outcomes
- There are a number of factors involved in getting a patient the care that sickness requires
- Health policy is generally unclear and confusing
- Most people do not understand their care
- Education and Income are two of the greatest influences on health

- Solutions are in abundance
 - Policy change
 - More physicians, APP (including RT)
 - Better reimbursements
 - Value-based care, ACO
 - Community outreach
 - Etc.



LINKS AND REFERENCES

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