Health by ZIP Code

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Despite the fact that we spend almost 90% of our health care dollars on medical care, it is estimated that only 10% to 20% of health outcomes are due to access to care and medical interventions.[1] Social determinants of health, or non-medical factors that affect health, account for the remaining 80% to 90% of health outcomes.[2] These social determinants of health include where someone lives, what kind of work they do, what they eat, if they have access to food, whether they smoke, and race and socioeconomic status.

Healthypeople.gov categorizes social determinants of health into 5 areas: economic stability, education, social and community context, health and health care, and neighborhood and built environment (human-made surroundings that define where we live and work, ranging in scale from buildings, streets, and parks to cities and beyond).[3,4] All of these factors contribute to health outcomes and exist primarily outside of the clinic examination room. If your patient does not have access to healthy food or a safe neighborhood to walk in, the quality of the health care they receive may not effectively balance their high risk of adverse health outcomes. Several papers in this issue of *WMJ* provide information about the effects of social determinants of health on the overall health of people in Wisconsin.

The paper by Ezenwanne et al compares health outcomes in Wisconsin to the rest of the country based on similar surveys, performed first in 1990 and again in 2018.[5] The survey, performed by "America's Health Rankings," rated Wisconsin as the 7th healthiest state in the US in 1990 and the 23rd healthiest in 2018. The difference in health ranking was related to several factors, including infant mortality, obesity, smoking, occupational fatalities, and infectious disease. The 2 surveys were not exactly the same, which could account for some of the variation, but the authors argue that health indicators have worsened in Wisconsin over the last 30 years. According to America's Health Rankings, 25% of Wisconsinites drink excessively compared to the national average of 18%.[6] Alcohol is the third leading cause of preventable deaths, after tobacco use and physical inactivity. Health care is excellent for most people in Wisconsin, so one must presume that much of the decrease in health rankings are related to social determinants of health.[7]

> "When it comes to your health, your ZIP code matters more than your genetic code."
>
> *—Dr. Anthony Iton*

The paper by Krawisz entitled, "Health Effects of Climate Destabilization" provides information about the science behind climate destabilization, as well as a description of how climate changes can affect human health.[8] The author examines how floods and changes in air quality and temperature can lead to increased incidences of infectious diseases and respiratory illnesses. Changes in temperatures can provide an enhanced environment for ticks and mosquitos, which, in turn, can lead to more disease. The paper also discusses the mental health effects of climate changes—namely an increase in anxiety levels.

Maurice et al use a case example of how price changes at the University of Wisconsin Hospitals and Clinics cafeteria affected changes in dietary habits.[9] When there was a simultaneous increase in the price of fried foods and a decrease in the salad bar's cost, the authors observed a significant increase in consumption of the salad bar and decreased consumption of fried foods. A similar finding was observed from decreased prices of bottled water as consumption increased. These changes had a neutral effect on revenue but could significantly improve health outcomes.

Bicycling is associated with both health and environmental benefits but also poses a risk of injury. Schmidt et al explore ridership and helmet use throughout Wisconsin and found that differences between sex, race or ethnicity, and education level were associated with both.[10]

Researchers at the University of Wisconsin School of Medicine and Public Health have developed a website called the Wisconsin Health Atlas (wihealthatlas.org), where people can find health indicators broken down by ZIP code throughout the state. The site also ranks where Wisconsin health indicators fall compared to other states (eg, 30 out of 51 for adult obesity, 16 out of 51 for percentage of minors who live in poverty, and 10 out of 51 for percentage of adults meeting weekly physical activity goals). It is time for the medical community to recognize and emphasize the effect that social determinants of health have on our patients. We can work together to help make sure that all ZIP codes in Wisconsin are equally healthy.

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white mothers. However, inherited blinders may interfere with our ability to find common cause.

What Remains Unclear?

A growing body of research connects historical US policies to today's differences in health between groups. Yet, this remains unclear, even to those who work in population health and health care. A lack of knowledge about broken treaties and policies such as the 1819 Civilization Fund Act serves as an example. Beginning in the early 19th century, the US Congress passed a series of laws intended to assimilate American Indians by requiring that children be sent away to boarding schools. The systematic removal of American Indian children from their families and communities persisted in various and increasingly devastating and abusive forms into the 20th century. Scholars report that 29% of American Indian children were in boarding schools by 1931.[4]

These are not simply old wounds with no current relevance to health. Evidence links historic trauma and toxic and cumulative stress with poor physical, behavioral, and mental health. Recognizing the centrality of early-life experience on long-term outcomes, Adverse Childhood Experiences (ACEs) have been proposed as a Leading Health Indicator.[5] Yet, health consequences related to policy-driven experiences of Indigenous people and African Americans—including dehumanization and restricted opportunity to amass economic wealth—are not easily communicated. The dominant narrative attributes worse health outcomes for people of color to bad behaviors and poor choices, while a more empathetic lens is emerging for white populations. Despair, as a legitimate driver of poor health, is reserved for some but not for all.[6-7] Cultural and systemic racism have shaped dominant narratives, making it difficult to understand how the decisions we have made as a society confer advantages to some groups more than others.

Is Racial Equity Everyone's Problem?

How might systems of racial inequity impact everyone? First, we must acknowledge that our ideas about "race" are social constructs that artificially elevate the value of some groups over others. Then, we can interrogate whether our policy choices serve overall population health. If evidence-based policies are rejected or implemented unevenly, primarily due to beliefs about which groups are "deserving," the harm to all in need cannot be contained.[2] While most of us believe that everyone should be treated fairly, our laws and practices are not always aligned with that belief.

What's Next for the PHI?

Why should the PHI generate, test, and disseminate ideas that can reduce health inequities? We believe the stakes are high. Because there is evidence that too many people are dying prematurely and the burden of poor health is unevenly distributed, the PHI will:

- build a framework and metrics that uncover drivers of health and equity.
- create reports, tools, and resources.
- engage diverse stakeholders to create and advance a transformative narrative.

We have what it takes to make Wisconsin and the nation a place where everyone thrives. Shared values and aspirations form the foundation from which we can implement solutions together. Creating healthy and safe communities is within our reach.

We must be willing to test ideas, acknowledge mistakes, and start again. Sound familiar? Kind of like rocket science?

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