

# Chapter 2

## What Are Health Disparities?



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### 2.1 Introduction

Medical institutions and educators are uniquely positioned to provide students with the understanding, contextualization, and skills to confront issues such as racial and ethnic disparities that drive health inequity [1]. This chapter aims to deliver contextualized summaries of key terms that can differentiate one's understanding of health disparity, inequality, and inequity. Transforming healthcare into a more inclusive, equitable, and ethical practice requires an evolution in medical curricula that reflects the social and multifaceted realities in the relationships between health, race, and ethnicity. This endeavor also necessitates the dedication and ability to continuously confront and address systemic and institutionalized prejudices and policies.

The ability to define health disparities and health inequities will provide students with the foundational terms used across medical, social, and political discourse. This in turn may facilitate their critical application of these terms in not only region-specific but also in universal health contexts that consider the cultural, historical, and sociopolitical variation across nations. It is vital to consider definitions because of the ways the terms **health disparities** and **health inequities** are used, valued, and understood. The concepts encapsulated by these terms have central roles across vast disciplines such as health training, resource allocation, planning, and health promotion [2].

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## 2.2 Defining Health Disparity and Health Inequity

The terms **health disparity** and **health inequity** have become conventional in social science and public health spheres. These terms are often used to inform health policy and guide research that mobilizes health infrastructure [3]. However, global communities evolve as they become more connected. With access to the internet, rapid communication, and technological advances in many societies, the capability of providing and sharing instant information has profound benefits and implications on international visibility and sociopolitical connections [4]. As it relates to healthcare, exposure of the vast health inequities disproportionately experienced by racial and ethnic minorities have taken center stage in the global arena [4]. This renewed and important focus requires prioritizing immediate action to advance health equity with considerable opportunities in medical education [1, 5].

### 2.2.1 Health Disparities

The term **health disparity** generally considers the *differences* in health and health outcomes between *two groups of people* in a population [6]. It is a pervasive term, primarily coined and used within the United States, which denotes an incorporated sense of injustice, often defined by differences in race, ethnicity, and/or socioeconomic status [7].

The United States Department of Health and Human Services (DHHS) Secretary's Advisory Committee (SAC) published a landmark report called *Healthy People 2020* – defining **health disparity** as “a particular type of health *difference* that is closely linked with social, economic, and/or environmental disadvantage [7, 8].” Similarly, the U.S. health protection agency: the Centers for Disease Control and Prevention (CDC), expanded upon this concept of **health disparities** to also be considered as *inequitable* and directly related to the “unequal distribution of social, political, economic and environmental resources,” [9] as well as including “preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that are experienced by socially disadvantaged populations [9].”

Typically, **health disparities** adversely affect groups of people who have “systematically experienced greater obstacles to healthcare based on their racial or ethnic group, sexual orientation, gender identity, geographic location, or other characteristics historically linked to discrimination or exclusion [8].” However, using health disparity as a direct measure of inequality without context risks reductionism and the pathologizing of race [1]. For example, presenting health disparities without context dismisses differences between first-generation and second-generation citizen experiences. Neglecting context disregards biracial and multi-racial nuances, it risks “victim-blaming through constructing the non-reference group [i.e., minority populations] as the problem” while dismissing other possible

complex factors [10]. Such factors include historically discriminatory programs, unequal access to resources and information, prejudiced socioeconomic planning and implementation, and/or other institutional and systemic forms of social and structural violence [1, 9]. As a result, in the United States, the US Office of Disease Prevention and Health Promotion (ODPHP) expanded upon previous definitions of health disparity to emphasize the importance of incorporating **social determinants of health (SDOH)** such as, but not limited to: socioeconomic statuses (SES), geographical locations, and sociopolitical impacts generating health disparities that affect not only one's health, but functioning, opportunity, and quality of life outcomes and risks [8].

Globally, in 2005, the World Health Organization (WHO) established a Commission on Social Determinants of Health that recommended systematically addressing poverty, sanitation, food security, and other SDOH to meet basic human needs and improve health across global populations [11]. Surveys, toolkits, and more resources have been built and allocated to help expand the effort towards changing the healthcare landscape in not only the United States, but world-wide.



For the instructional purposes of this manual, we define racial and ethnic **health disparity** as the disproportional *differences* in health and health outcomes experienced *by racial and ethnically marginalized populations* due to the historical and persistent unequal distribution of social, political, economic, and environmental resources.

## 2.2.2 *Health Inequity and Health Inequality*

Unlike the term **health disparity** which is predominately applied in a U.S. context – **health inequity** is a far more ubiquitous term, with international familiarity and usage. Although seemingly similar at first glance, it is important to differentiate health *inequality* from health *inequity*, as the two terms are not interchangeable.

The WHO, an international public health agency that aspires to shape the global health agenda and norms, defines **health inequity** (*not inequality*) as avoidable “*systemic differences in the health status or in the distribution of health resources between different population groups arising from the social conditions in which people are born, grow, live, work, and age* [12].” Some definitions frame **health inequity** with a moral and social discrepancy – a preventable unjust or unfair difference in health disparity or SDOH rather than a biological difference [13]. For example, the COVID-19 pandemic exposed substantial **health inequities** in the United States for Black, Latinx, and American Indian/Alaskan Native individuals compared to White individuals. The country's historical and institutionalized limitations on financial and educational resources for Black, Latinx, and American Indian/Alaskan Native communities were one of many factors that impacted members within these populations to more likely be employed as essential workers (e.g., grocery store employees, or employees with work that must be performed on-site,

serving the public). Work duties that place employees in close proximity to the public heightened the risk of contracting the virus [13]. In contrast, many non-essential employees were afforded societal protection by being allowed to maintain their earnings while working from home in an effort to reduce the risk of exposure and, therefore, any health complications that might arise from a coronavirus infection.

Another social and structural example of **health inequity** that created an unlevel field of opportunity and access for groups of non-White people is the racially motivated housing policy of **redlining** in the United States [14, 15]. Redlining refers to the U.S. federal government housing program established in the 1930s that provided and secured housing to only White middle and lower-class families by legalizing the exclusion, racial segregation, and discrimination against Black families and other non-White communities [15]. Non-White families were denied access to suburban homes and neighborhoods; many of these non-White families were directed instead towards urban housing projects. State and local maps were physically marked with red lines to denote areas where insurance providers and mortgage lenders could legally restrict any services based on racial demographics. Housing inequity reflects the structural racism reinforced in the disinvestment in communities of color as they faced a disproportionate lack of access to employment and educational opportunities, access to quality grocery stores, transportation, and greater exposure to environmental risks [16]. Investment and loan services could be denied in these redlined areas because they were deemed predominantly Black and as a result, “hazardous” investment risks [16]. Eventually, the Fair Housing Act of 1968 was passed, which legally made redlining less acceptable; however, its legacy gave rise to massive inequitable social outcomes within redlined communities that continue to persist [16]. For instance, studies have found poorer mental health outcomes of historically redlined community members, higher prevalence of chronic injuries and exposure to environmental hazards, marked increases in the incidence of preterm deliveries, as well as premature mortality and decreased longevity [15, 16].

**Health inequity** can also be exemplified across multiple continents, for example, in India, there is a difference in mortality burden across the life course that falls disproportionately on historically disenfranchised lower caste groups. These communities previously experienced legal and social discrimination, which resulted in economic disadvantages and inequity impacting health status and outcomes as well as healthcare access [17, 18].

A study conducted by Arcaya and Arcaya [13] also demonstrated the widespread effects of **health inequities**. This study reported that the direct economic cost of racial and ethnic health inequities in the United States was estimated at \$230 billion [13]. The economic burden was further estimated at \$1.24 trillion when considering the indirect costs of inequities [13]. Taken together, these examples provide economic, ethical, and cultural perspectives that reinforce the critical need for understanding and addressing health inequities and disparities.

**Health inequality** refers to measurable aspects of unequal, unjust, and sometimes unavoidable differences in health that vary across individuals or groups [19]. Some health inequalities are unavoidable because not all individuals or groups have equal health statuses [20]. For example, Braveman et al., demonstrate an unequal comparison of generally faster and healthier recovery outcomes in young adults post-injury versus the relatively lesser, and poorer recovery outcomes of much older aged adults experiencing the same injury [19]. Essentially, the difference in morbidity and mortality between those in their 20th decade of life to those in their 80th decade of life is an example of health inequality – unequal outcomes, but this is not the same as inequity. Another example of inequality is the difference in the incidence of Sjögren syndrome between biological men and women. Women are 16 times more likely to obtain a diagnosis of the autoimmune disorder that is Sjögren syndrome than men. This is an example of inequality, an unequal outcome that is not systemically avoidable or socially preventable [21].

In 2011, the University Medical Center Rotterdam in the Netherlands' Public Health Department investigated the economic costs of health inequities in the European Union (EU). The report found that individuals with lower educational statuses suffered greater health complications, which the study determined accounted for 20% of the EU's total healthcare costs and for 15% of social security benefit payments. Additionally, the lost opportunity cost and loss of productivity that resulted from unmet health inequities summed to 1.4% of the Netherlands' annual GDP [22]. This study, however, utilized the term “inequalities” when describing the disproportionate difference in health due to systemic and socioeconomic differences, which we have delineated in this chapter to be better defined as inequity rather than inequality. This highlights the importance of current and future discourse when collaborating academically or globally to pay close attention to the evolution of key term definitions and if they are actionable or not.

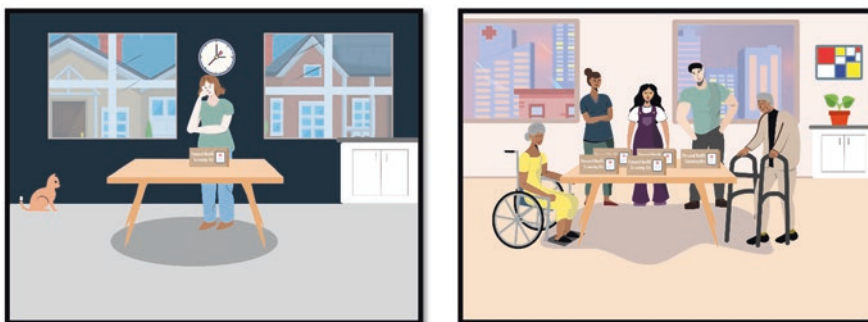
To effectively prepare medical educators to recognize and understand health disparities and inequities, we have provided pairs of cartoon illustrations that clearly demonstrate the differences between **equality** (Image 2.1) and **equity** (Image 2.2). These images may facilitate class discussions by providing a starting point that will allow students to expand into firmly understanding the difference between *in-equality* versus *in-equity*.



Classrooms are encouraged to create their own illustrations that will reflect the context, culture, environment, and characters of their society and communities served



**Image 2.1 Equality scenario in context** depicts two different households quarantining during a pandemic similar to the global COVID-19 pandemic. Both households have received the *same* and *equal* resources and/or opportunities (i.e., four personal health screening kits per household). In the left picture, a single-occupant, spacious household is in a new suburban neighborhood and receives four health screening kits despite only needing one. The scenario on the right illustrates an apartment household shared between five individuals with differing health statuses and needs in an urban city that historically grew in response to redlining policies. Image Source: Aragon, Kristoff. March 31, 2022. “Equality Scenarios in Context.”



**Image 2.2 Equity scenarios in context** depicts the same two households from Image 2.1 quarantining during a global pandemic similar to that of COVID-19. However, resources and opportunity allocation are differentiated by considering the systemic, social, economic differences and conditions that may disproportionately impact health status and outcomes (i.e., one health screening kit for the single-occupant household and five health screening kits for occupants of the apartment). Image Source: Aragon, Kristoff. March 31, 2022. “Equality Scenarios in Context.”



Take time to challenge educators and students to recognize and assess the differences that arise in each illustration. Foster critical thinking and empathy by considering the context of scenarios that impact health and its relationship with different races and diverse ethnicities (e.g., history, policy, environment, demographics, race/ethnicity, socioeconomic factors, etc.)

By demonstrating accurate utilization of important definitions such as health equality/inequality vs. health equity/inequity – medical students can then connect how individuals, communities, and systems are impacted and where actionable solutions can arise.

Understanding concepts at the individual level makes way for subsequent actionable steps. Reducing health disparities involves professional awareness and public advocacy aimed at eliminating the unjust disparities that arise from racial and ethnic inequities [23]. The Robert Wood Johnson Foundation, the largest U.S.-based philanthropy group focused solely on health, defines **health equity** as people having a *fair and just opportunity* to be as healthy as possible, which requires “removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness, lack of access to better working conditions with fair pay, quality education and housing, safe environments, and affordable health care [14].”



For the instructional purposes of this manual, our definition of **health inequity** emphasizes the systemic and social conditions impacting health status, healthcare distribution, access, and outcomes – which aligns with the descriptions provided by both the WHO and Robert Wood Johnson Foundation.

### 2.2.3 *Methodology and Measuring Health Disparity and Health Inequity*

Currently, there is no globally standardized or systemically accepted approach to measuring health disparities and their subsequent effects. Studies investigating REHD often depend on self-identification by respondents in surveys often limited to socially arbitrary categories. White et al., conducted a scoping review on socially assigned race in the literature across the United States, Canada, New Zealand, and Latin America as well as its connection to health outcomes. The review found that while many surveys are unable to fully capture the multidimensional nuances or contextual aspects of individual and structural lived experiences, they did provide insight and reveal patterns when comparing health outcomes by one’s self-identified race and ethnicity [24]. Utilizing creative methods despite limitations have so far been the foundation of literature on REHD.

Researchers have devised specific albeit non-standardized metrics to empirically capture disparity, as related to race and ethnicity, and its outcomes. Data on the subject matter helps expose lapses in healthcare and opportunity for improvement. Data further elucidates differences in health risk factors, rates of disease progression, prognoses, healthcare access, and utilization. Methods vary according to the goals and design of each study which include quantitative, qualitative, or mixed methods approaches. Commonly, data sources are drawn from demographic information captured by national health surveys (e.g., New Zealand Health Survey, Ministry of Health surveys, National Longitudinal Study of Adolescent Health to Adults, Project on Ethnicity and Race in Latin America (PERLA)) [24]. Moreover, qualitative reports often rely on self-reported health outcomes from in-depth interviews and surveys to capture REHD. Interviews and self-reported health ratings are valuable measurements that help reflect attitudes about disease, lived experiences,



perceptions, cultural nuances, differing risk factors, unequal experiences, quality, and access to care [25].

Some quantitative measurements of health disparity are often reported as pairwise comparisons between different groups of people which yield a ratio of two rates such as hazard ratios or relative risks [26]. However, as with all research efforts, critical appraisal of a study's methods helps highlight strengths and limitations. For example, by attempting to capture health disparities by using pairwise comparisons, the multifaceted and multivariate nature of these situations may be inaccurately captured or completely missed. This approach can risk being too reductionist which can be supplemented by higher-powered studies that investigate multiple relationships. Nevertheless, captured data still provides direction and can reflect differences in health utilization, health outcomes, and self-rated health statuses [24]. Another example of a quantitative metric that has been used in reports such as *Healthy People 2020* is the Index of Disparity (ID). ID is a modified coefficient of variation defined as the "average of the absolute difference between rates for specific groups within a population and the overall population rate, divided by the rate for the overall population and expressed as a percentage [26]." *Healthy People 2020* employed this statistical method to inform the public on the status of health disparities and SDOH, in order to establish goals and a method to monitor and evaluate progress.

A Chilean study measured health disparities experienced by the Mapuche population via Geographic Information Systems (GIS) mapping in combination with hospital discharge records to see differences in health access, utilization, and outcomes between population groups [27]. Government agencies also tend to identify a specific disease and either follow the disease to compare the incidence rates in various geographic, racial, and SES groups, or alternatively, follow the disease in a longitudinal study. For example, the *American Journal of Epidemiology* in 2008 published a study that utilized the trends in U.S. lung cancer incidence by geographical SES position and race-ethnicity health disparities. The data indicated that measurement of longitudinal changes in health disparities is subjective to how they are measured and the authors recommend utilization of multiple indicators [28]. This can further guide investigation into a more targeted scope.

Furthermore, the government of Taiwan performed a longitudinal study to observe changes in health improvements and health disparity before and after the institution of a national health insurance system in 1995. The researchers followed these metrics over 10 years to compare "life expectancy, reductions in death from cardiovascular diseases, infectious diseases, and accidents [29]." One of their findings showed that after introducing national healthcare, there was an increase in life expectancy in the group that previously had high mortality rates from cardiovascular diseases, infections, and accidents. Systems such as these can help governments to apply these methods for targeted change towards addressing REHD. In Lebanon, a study looking at the health disparities experienced by refugees used demographics from cross-sectional surveys and logistical regressions on five measures of SES to



capture inequity (e.g., educational attainment, wealth index, crowding, severe food insecurity, and water leakages in homes) [30].

**Maternal near misses (MNM)** is another example of racial health disparity in the U.K. as it occurs “twice as often for women of African and Afro-Caribbean descent in the U.K [31].” The WHO defines incidences of MNM as “a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy [32].” Having this clear and measured racial disparity within the U.K.’s health system led to another policy reform: establishing the United Kingdom Obstetric Surveillance System (UKOSS). UKOSS investigates MNM morbidities amongst different races. Being able to document this racial health disparity resulted in the reorganization of maternity services which successfully reduced the maternal mortality ratio for African women in the U.K. from 72/100,000 live births to 28/100,000 from 2000 to 2013 [31]. Being aware of the many diverse methods available for capturing and reporting of health disparities may not only foster a greater appreciation for this topic’s complexity but also signify its urgent need for prioritization [24].

## ***2.2.4 Using Historical Lenses to Describe Health Disparities Around the World***

Understanding history’s impact on a community, such as the history of slavery in many countries (a few select countries will be discussed in this section), has had a pervasive influence on the inequitable social conditions and public policies where disparity persists. For centuries, enslaved African individuals, who were needlessly targeted in large part by differences in physical appearance and lifestyle, were forced into slavery by White countrymen who legally oversaw the dehumanization of Black Africans. Enslaved African men, women, and children were rendered property of enslavers and subsequently denied all civil rights. These prolonged atrocities devalued and prohibited life opportunities that denied access to health care, societal functioning, and a just quality of life. As far back as the sixteenth to nineteenth centuries, countries such as Brazil (under Portuguese occupation), the United Kingdom, the United States, and the Netherlands exemplified the historical harm caused by the unjust damage resulting from the transportation and dislocation of over 12.5 million African individuals across the Atlantic Ocean [33, 34].

The trans-Atlantic slave trade was a systematically organized human-trafficking raid on African territory by European countries and the United States during the 16th to 19th centuries. For hundreds of years, African individuals were captured, imprisoned, and transported out of their continental homelands to be enslaved, mistreated, dehumanized, and traded as laborers for predominately White enslavers. At the end of the nineteenth century, social and civil reform eventually led to the end of the inhumane slave trade; however, the countries that engaged in the trans-Atlantic

slave trades failed to reverse or halt the catastrophic and continual colonial brutality against the now marginalized, large groups of displaced Black people.

By the late eighteenth century, Great Britain dominated the slave trade and was transporting 40% of all trans-Atlantic enslaved people until the abolition of slavery in 1807 [33]. As time progressed, so did social change where several European countries such as present-day Great Britain and France were motivated to establish new civil laws and entered a period of political reform. During this civil revamping, the foundation of nation-sponsored universal public healthcare plans came to fruition [33]. White individuals were the prioritized racial group who mostly benefited from public services, civilian life, and societal opportunities. A century later, in 1948, the U.K.'s National Health Service (NHS) was officially established, providing universal healthcare to all U.K. citizens. Despite efforts to make healthcare accessible to all individuals, health disparities amongst different races continue to remain today. Recent NHS research found that there exists a “greater than 5-fold increased risk [of maternal mortality] for Black women [as compared to White women] in the UK [31]”.

Across the Atlantic Ocean in South America, Brazil was colonized by Portugal during the fifteenth century. Portuguese colonizers exploited indigenous communities for slave labor as well as capturing and importing millions of enslaved Africans for their slave labor in sugar production, mining, and cattle ranching [34]. In Brazil, even hundreds of years post-slavery, racial discrepancies persist in part from the historical disenfranchisement of Black populations. In 1988, despite Brazil implementing universal healthcare for all citizens under *Sistema Unico de Saude*, racial health disparities did not disappear [34]. One glaring example of this is in Brazil's maternal mortality rates. Eleven years *after* universal healthcare was implemented, Black women suffered significantly higher maternal deaths at 240.4/100,000 compared to 49.3/100,000 for White women [31]. There is a great need to address and understand the different life experiences, unnecessary suffering, and loss of lives due to racial disparities. Yet again, historical context provides an important piece of the puzzle when assessing and understanding health inequities and disparities.

The United States' direct engagement in the trans-Atlantic slave trade possibly accounts for the capture, trade, and enslavement of over 305,326 individuals between the years of 1626 to 1875. According to the Slave Voyages Consortium, hundreds of thousands of individuals were displaced in the United States, captured from the African continent and Latin America, particularly Brazil [35]. Owens et al., discuss the legacy and role of physicians during this time. Historically, U.S. physicians served the interest of White enslavers and used Black bodies as “medical material” in medical schools for White men [36]. Black women were violated at an enslaver's discretion, impregnated, and expected to care for their children under violent circumstances [36]. Knowing the history that has contributed to the insidious persistence of racism, prejudices, implicit biases, and discrimination

can help provide a more complete understanding of how and why disparities endure in healthcare today. From 2005 to 2014, the overall U.S. maternal mortality was 17.2/100,000. However, when observing maternal mortality statistics stratified by racial and ethnic groups, Black women had 3.6 times higher maternal mortality than White women and nearly four times higher than Asian women [31]. Native American/Alaskan Natives also had 1.7 times higher maternal mortality rate than White women and 2.4 times higher rate than Asian women [31]. MNM risks were also approximately two to five times higher in Black women than White women in the United States. It is imperative that glaring racial disparities such as these are known and acted upon by medical students, current and future providers, future field leaders, and innovators.

The historical background of the Netherlands is slightly different. Although the Dutch slave trade mainly occurred in Asia, the Netherlands was instrumental during the infancy of the Atlantic slave trade through the commercial workings of the Dutch West India Company. Here, enslaved people were “almost exclusively delivered to foreign planters and colonists [37].” In some part, for this reason, the racial composition of the Netherlands is dissimilar to that of other colonial slave-trading countries. Their racial diversity is a result of more recent immigration [38]. According to the *CIA Factbook*, the Netherlands is ethnically comprised of the majority Dutch (76.9%), with the largest minority groups being Moroccan (2.3%) and Indonesian (2.1%) [39]. Despite universal health coverage under the Dutch HealthCare Authority, racial discrimination against migrant populations continues to be rampant, causing these communities to suffer a disproportionate risk of hazards and poor health [31]. “Non-western immigrant women demonstrated a 1.3-fold risk (95% CI: 1.2-1.5) of developing a severe morbidity while Saharan African women [in the Netherlands] demonstrated a 3.5-fold (95% CI: 2.8-4.3) increased risk for severe morbidity when compared to native Dutch women [31].” Acknowledgement of these glaring racial and ethnic discrepancies has given rise to recent improvements in Dutch healthcare delivery.

The undercurrents of present-day racial prejudice, discrimination, and systemic injustices, whether explicit or implicit, continue to negatively impact the health and well-being of people of color, especially of Black communities when compared to the health experiences and outcomes of White communities [33]. Understanding health disparities by considering the historical context helps to ground a societies’ experience with different races while providing a perspective on persistent deficits and inequities in health. Taking some time to investigate the roots of implicit or explicit biases that impact healthcare outcomes is a step that should not be overlooked.

### 2.2.5 *Modern-Day Health Disparity in the Global Sphere*

In addition to having a historical context, knowledge of current societal and structural health inequities experienced by diverse racial and ethnic communities that future medical students will serve is essential. After defining and understanding what health disparities mean, it is of equal importance to avoid inferring that race and ethnicity result in universally homogenous experiences or that such experiences are fixed and easily determined [40]. Careful consideration must be taken to avoid stereotyping and racial tropes. Moreover, as formative as historical context is to social disparities, so is acknowledging the progression of region-specific differences in the way race and ethnicity are conceptualized, described, and investigated [38].

Table 2.1. provides a snap-shot template of current and evolving contextualized examples of *internationally* region-specific REHD. The table serves as a guide in framing and presenting disparities that acknowledge the context in which race and ethnicity correlate to factors such as historical, structural, and SDOH. It illustrates how these factors drive inequitable and disproportionate differences in health outcomes, including life expectancy, the burden of disease, unequal treatment, and other risk factors. Although Table 2.1 contextualizes health disparities from a racial and ethnic perspective, it does not capture the diversity of additional and critically important disparities that may arise from differences in gender, age, religion, socioeconomic statuses, sexual orientation, and other inequities that may impact health, functionality, and lived experiences. It is imperative to understand that individuals may be subject to multiple and interconnected inequities that overlap or compound, which can change one's experiences with disadvantages and outcomes.



Understanding intersectionality as it often applies to under- and mal-served populations will equip individuals with the ability to better comprehend, interpret, and address the interdependent social and structural systems of disadvantages across communities and, on a larger scale, across countries.

Table 2.1. attempts to employ a more holistic lens to understanding why and how REHD exist and persist in different parts of the world. Table 2.1 is in no means comprehensive or conclusive but should encourage the reader to understand the complexities necessary to fully begin understanding how to conceptualize, interpret, teach, and address REHD.

**Table 2.1** International examples of contextualized racial and ethnic health disparities

Country	Racial and Ethnic Health Disparities <sup>a</sup>	Context Examples
Lebanon [41]	<p><b>Palestinian refugees</b> have higher rates of multi-morbidities in comparison to <b>Lebanese citizens</b></p> <p>Palestinian refugees disproportionately experience:</p> <ul style="list-style-type: none"> <li>• ↓ functional statuses</li> <li>• ↑ mortality rates</li> <li>• ↑ need for complex health care services</li> </ul>	<p><b>HISTORICAL:</b> Palestinian refugees were displaced (since 1948) and remain politically and socially marginalized.</p> <p><b>STRUCTURAL:</b> This group is denied access to the Lebanese healthcare system, are ineligible for governmental social services, experience economic marginalization (employment restrictions, poor wages), live in areas of poor water quality that lack sanitation and waste management. In addition, refugees experience inadequate electricity access, uncontrolled pest infestation, crowding, and food insecurity.</p> <p><b>SOCIAL:</b> This group reports social exclusion, lack of educational opportunities, exposure to recurrent episodes of violence, and xenophobic discrimination.</p>
Australia [42–44]	<p><b>Indigenous aboriginal Australians</b> in comparison to <b>nonindigenous Australians</b> experience:</p> <ul style="list-style-type: none"> <li>• ↓ life expectancies</li> <li>• ↓ general health</li> <li>• ↓ health outcomes</li> <li>• 5X ↑ youth suicide rate</li> <li>• ↑ levels of psychological distress</li> </ul>	<p><b>HISTORICAL:</b> Indigenous populations were established 65,000 years before European colonization, now comprising 3.3% of the total Australian population; excluded from census until 1967 with the ‘White Australia’ policy ending in 1973. Additional historical government policies on land parceling and cultural genocide disproportionately targeted this group of people (i.e., forced relocation to church-run missions, removal of children, systemic custom, and language assimilation).</p> <p><b>STRUCTURAL:</b> Inequitable access to hospital procedures, cancer diagnostics and treatments, kidney transplants, and coronary procedures were based on indigenous status. This status also limited access to homeownership, unequal labor, and educational opportunities.</p> <p><b>SOCIAL:</b> Social disparity for this group illustrated via over-representation in substance-use disorders and incarceration demographics, low educational attainment, residence in geographically remote and rural areas, systemic prejudice and institutional racism, the legacy of colonialism, and intergenerational trauma with reports of isolation and difficulty building supported ethnic communities and social groups.</p>

(continued)

**Table 2.1** (continued)

Country	Racial and Ethnic Health Disparities <sup>a</sup>	Context Examples
New Zealand (NZ) [45, 46]	<p><b>Indigenous Māori</b> population in comparison to <b>European New Zealanders</b> have:</p> <ul style="list-style-type: none"> <li>• Substantially ↓↓ life expectancy by 8–9 years</li> <li>• ↑ risk for mental health disorders</li> <li>• ↑ incidence of cardiovascular disease</li> </ul>	<p><b>HISTORICAL:</b> NZ was colonized by Europeans in the nineteenth century leading to rapid urbanization, land alienation, loss, and dispossession, leading to strategic discrimination by concentrating indigenous Māori people in the most deprived areas of the country.</p> <p><b>STRUCTURAL:</b> Māori account for 15% of NZ population but more than half of Māori live in deprived areas of the country despite land being a major source of cultural and political identity. As a result, this group systemically reports lower incomes/life-time earnings and less access to housing and education.</p> <p><b>SOCIAL:</b> This group experiences a legacy of colonialism and intergenerational trauma. They are 10X more likely to experience racial discrimination resulting in verbal and physical attacks, and have a higher risk for mental health disorders and substance-use disorders. Implicit bias from physicians results in Māori patients being placed on dialysis rather than the kidney transplant list and are prescribed outdated antidepressants.</p>
Chile [27, 47]	<p>Indigenous communities (i.e., <b>Mapuche people</b>) in comparison to <b>non-Mapuche</b> experience:</p> <ul style="list-style-type: none"> <li>• ↑↑ mortality rates across all age groups</li> <li>• ↑ morbidity rates in ages &lt;5 y/o and from age range 15–44 y/o</li> </ul>	<p><b>HISTORICAL:</b> Despite being the largest indigenous group in Chile, Mapuche communities were pushed into remote areas due to “conflict with colonization, globalization, and disrupted ties to land and culture.” During the nineteenth century, Mapuches were subject to “civilizing missions” based on the ethnic bias that Mapuches were “brutal barbarians.”</p> <p><b>STRUCTURAL:</b> Mapuche people struggled under previous military dictatorship being prosecuted as terrorists and denied civil rights. The forest industry created disruptive competition from foreign interests that further displaced the population so that Mapuche people live in regions with the lowest Gini coefficient (0.58) and experience the greatest gap in income inequity.</p> <p><b>SOCIAL:</b> Many Mapuche seek national liberation from the Chilean government as Chileans perpetuate prejudiced caricatures, such as people with low income, alcohol use disorder, and laziness.</p>

(continued)

**Table 2.1** (continued)

Country	Racial and Ethnic Health Disparities <sup>a</sup>	Context Examples
<p><b>India</b> [17, 18]</p>	<p>India's rigid caste system of social hierarchy creates <b>lower caste</b> groups who, in comparison with <b>higher castes</b>, experience:</p> <ul style="list-style-type: none"> <li>• ↑ excess burden of morbidity</li> <li>• ↑ burden of mortality</li> <li>• ↑ rates of hypertension</li> <li>• ↑ levels of disability</li> <li>• ↓ self-health ratings</li> </ul>	<p><b>HISTORICAL:</b> The predominant religion in India is Hinduism which historically has established the social stratification of castes. Higher castes access greater privilege and mobility, whereas lower castes are sanctioned with inherited repression and limited access to resources or upward mobility.</p> <p><b>STRUCTURAL:</b> The government previously reinforced different resources, infrastructure, and facility allocation based on caste-level neighborhoods. Lower caste neighborhoods see fewer medical facilities as well as less sanitation and hygiene infrastructure.</p> <p><b>SOCIAL:</b> The practice of untouchability, implicit and explicit biases, and lifetime poverty further restricts healthcare, education, and social services to lower caste communities.</p>
<p><b>USA</b> [48–54]</p>	<p>Other racial and ethnic groups not included in the <b>non-Hispanic White group</b> show different health experiences and outcomes such as but not limited to:</p> <ul style="list-style-type: none"> <li>• ↑↑ death rates from COVID-19 in <b>Black, Native American/ American Indian (AI) /Alaskan Native (AN), and Latinx/Hispanic</b> communities</li> <li>• <b>Black</b> and <b>Hispanic</b> populations receive ↓↓ analgesia for acute pain in emergency departments</li> <li>• ↑↑ maternal deaths among <b>Black</b> women per 100,000 births</li> <li>• ↓ quality of care and outcomes in <b>Black, Asian, and Hispanic</b> adult patients with diabetes</li> <li>• <b>AI/AN</b> have ↓↓ life expectancy (–5 yrs. compared to general population)</li> </ul>	<p><b>HISTORICAL:</b> Indigenous populations of the United States, i.e., American Indians/Native Americans/Alaskan Natives, were subject to New World pathogens while historically and repeatedly being displaced, relocated, disenfranchised, and suffering periods of forced sterilization; furthermore, the enslavement of individuals of African descent and the many decades of legalized post-slavery segregation established a history of medical experimentation, distrust, inequities, and de-prioritization of Black communities (e.g. redlining).</p> <p><b>STRUCTURAL:</b> Non-White racial and ethnic groups experience hardships resultant from political racialization, income disparities, limited resource allocation, environmental injustice, disproportionate incarcerations, and limited employment opportunities. Moreover, there is an inequitable ratio of non-White medical providers in concordance with population-level statistics which perpetuates inequitable racial and ethnic representation and health inequity.</p> <p><b>SOCIAL:</b> Latinx and Asian populations encompass significant heterogeneity and immigration statuses which can confer language disparities as well as earlier and prolonged allostatic loads, lower incomes, and educational statuses. Media propaganda also perpetuate harmful stereotypes and limit equitable treatment or prioritization for non-White communities.</p>

<sup>a</sup>**bold** typeface in Table 2.1, column 2, represents comparison populations for health disparities



## 2.3 Conclusion

This chapter has provided a comprehensive definition of key terms, including health disparities, health inequity, and SDOH, as they relate to the construct of race and ethnicity. By highlighting the significance of historical, structural, and social contexts, healthcare providers can feel better equipped to address health disparities in a meaningful way. Furthermore, instructors can leverage the foundational concepts, global examples, and thought exercises presented in this chapter to promote more equitable health experiences and outcomes.

## References

1. Amutah C, Greenidge K, Mante A, et al. Misrepresenting race—the role of medical schools in propagating physician bias. *N Engl J Med*. 2021;384(9):872–8. <https://doi.org/10.1056/nejmms2025768>
2. McCartney G, Popham F, McMaster R, Cumbers A. Defining health and health inequalities. *Public Health*. 2019;172:22–30. <https://doi.org/10.1016/j.puhe.2019.03.023>.
3. Nichter M. *Global health: why cultural perceptions, social representations, and biopolitics matter*. University of Arizona Press; 2008.
4. Friedman EA, Gostin LO. From local adaptation to activism and global solidarity: framing a research and innovation agenda towards true health equity. *Int J Equity Health*. 2017;16(1):18 <https://doi.org/10.1186/s12939-016-0492-8>.
5. Voelker R. Decades of work to reduce disparities in health care produce limited success. *JAMA*. 2008;299(12):1411–3. <https://doi.org/10.1001/JAMA.299.12.1411>.
6. Pearcy JN, Keppel KG. A summary measure of health disparity. *Public Health Reports*. 2002;117(3):273–80. <https://doi.org/10.1093/phr/117.3.273>.
7. Braveman PA, Kumanyika S, Fielding J, et al. Health disparities and health equity: the issue is justice. *Am J Public Health*. 2011;101(Suppl 1):S149–55. <https://doi.org/10.2105/AJPH.2010.300062>.
8. Disparities | Healthy People 2020. Accessed 4 Feb 2022. <https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities>
9. Centers for Disease Control and Prevention. Health Disparities. <https://www.cdc.gov/healthyouth/disparities/index.htm>.
10. Carter-Pokras O, Baquet C. What is a “health disparity”? *Public Health Rep*. 2002;117(5):426–34. <https://doi.org/10.1093/PHR/117.5.426>.
11. Marmot M. Social determinants of health inequalities. *Lancet*. 2005;365(9464):1099–104. [https://doi.org/10.1016/S0140-6736\(05\)71146-6](https://doi.org/10.1016/S0140-6736(05)71146-6).
12. World Health Organization. Health inequities and their causes. Accessed 4 Feb 2022. <https://www.who.int/news-room/facts-in-pictures/detail/health-inequities-and-their-causes>
13. Arcaya MC, Arcaya AL, Subramanian SV. Inequalities in health: definitions, concepts, and theories. *Glob Health Action*. 2015;8(1):27106. <https://doi.org/10.3402/GHA.V8.27106>.
14. Health Equity: Why It Matters, and How To Take Action – RWJF. Accessed 4 Feb 2022. <https://www.rwjf.org/en/library/features/achieving-health-equity.html>
15. Krieger N, Van Wye G, Huynh M, et al. Structural racism, historical redlining, and risk of preterm birth in new York City, 2013–2017. *Am J Public Health*. 2020;110:1046–53. <https://doi.org/10.2105/AJPH.2020.305656>.
16. Lynch EE, Malcoe LH, Laurent SE, Richardson J, Mitchell BC, Meier HCS. The legacy of structural racism: associations between historic redlining, current mortgage lending, and health. *SSM – Popul Health*. 2021;14:100793. <https://doi.org/10.1016/J.SSMPH.2021.100793>.

17. Uddin J, Acharya S, Valles J, Baker EH, Keith VM. Caste differences in hypertension among women in India: diminishing health returns to socioeconomic status for lower caste groups. *J Racial Ethn Health Disparities*. 2020;7(5):987–95. <https://doi.org/10.1007/S40615-020-00723-9>.
18. Bawaskar HS, Bawaskar PH, Bawaskar PH. Health and the Indian caste system. *Lancet*. 2015;385(9966):416. [https://doi.org/10.1016/S0140-6736\(15\)60149-0](https://doi.org/10.1016/S0140-6736(15)60149-0).
19. Braveman P, Krieger N, Lynch J. Health inequalities and social inequalities in health. *Bull World Health Organization*. 2000;78(2):232–4. <https://pubmed.ncbi.nlm.nih.gov/10743295/>
20. Reidpath DD, Allotey P. Measuring global health inequity. *Int J Equity Health*. 2007;6:16. <https://doi.org/10.1186/1475-9276-6-16>.
21. Brandt JE, Priori R, Valesini G, Fairweather D. Sex differences in Sjögren’s syndrome: a comprehensive review of immune mechanisms. *Biol Sex Differ*. 2015;6:19. <https://doi.org/10.1186/s13293-015-0037-7>.
22. Mackenbach JP, Meerding WJ, Kunst AE. Economic costs of health inequalities in the European Union. *J Epidemiol Community Health*. 2011;65(5):412–9. <https://doi.org/10.1136/JECH.2010.112680>.
23. Nelson A. Unequal treatment: confronting racial and ethnic disparities in health care. *J Natl Med Assoc*. 2002;94(8):666–8.
24. White K, Lawrence JA, Tchangalova N, Huang SJ, Cummings JL. Socially-assigned race and health: a scoping review with global implications for population health equity. *Int J Equity Health*. 2020;19(1):25. <https://doi.org/10.1186/s12939-020-1137-5>.
25. Ramírez M, Ford ME, Stewart AL, Teresi JA. Measurement issues in health disparities research. *Health Serv Res*. 2005;40(5 Pt 2):1640–57. <https://doi.org/10.1111/J.1475-6773.2005.00450.X>.
26. Pearcy JN, Keppelle KG. A summary measure of health disparity. *Public Health Reports*. 2002;117(3):273–80. <https://doi.org/10.1093/phr/117.3.273>.
27. Rojas F. Poverty determinants of acute respiratory infections among Mapuche indigenous peoples in Chile’s ninth region of Araucania, using GIS and spatial statistics to identify health disparities. *Int J Health Geogr*. 2007;6(1):26. <https://doi.org/10.1186/1476-072x-6-26>.
28. Harper S, Lynch J, Meersman SC, Breen N, Davis WW. An overview of methods for monitoring social disparities in cancer with an example using trends in lung cancer incidence by area-socioeconomic position and race-ethnicity, 1992–2004. *Am J Epidemiol*. 2008;167(8):889–99. <https://doi.org/10.1093/aje/kwn016>.
29. Wen CP, Tsai SP, Chung W-SI. A 10-year experience with universal health insurance in Taiwan: measuring changes in health and health disparity. *Ann Intern Med*. 2008;148(4):258–67. <https://doi.org/10.7326/0003-4819-148-4-200802190-00004>.
30. Habib RR, Hojeij S, Elzein K, Chaaban J, Seyfert K. Associations between life conditions and multi-morbidity in marginalized populations: the case of Palestinian refugees. *Eur J Public Health*. 2014;24(5):727–33. <https://doi.org/10.1093/EURPUB/CKU089>.
31. Small MJ, Allen TK, Brown HL. Global disparities in maternal morbidity and mortality. *Semin Perinatol*. 2017;41(5):318–22. <https://doi.org/10.1053/J.SEMPERI.2017.04.009>.
32. World Health Organization. Evaluating the quality of care for severe pregnancy complications: the WHO near-miss approach for maternal health. World Health Organization; 2011. Accessed 4 Feb 2022. <https://apps.who.int/iris/handle/10665/44692>
33. Pearson R, Richardson D. Insuring the transatlantic slave trade. *J Econ Hist*. 2019;79(2):417–46. <https://doi.org/10.1017/S0022050719000068>.
34. Hawthorne W. *From Africa to Brazil: culture, identity, and an Atlantic slave trade, 1600–1830*. Cambridge University Press; 2010. <https://doi.org/10.1017/CBO9780511779176>.
35. *Slave Voyages. Estimates*. Accessed 4 Feb 2022. <https://www.slavevoyages.org/assessment/estimates>
36. Owens DC, Fett SM. Black maternal and infant health: historical legacies of slavery. *Am J Public Health*. 2019;109(10):1342–5. <https://doi.org/10.2105/AJPH.2019.305243>.

37. Emmer PC. The Dutch slave trade, 1500–1850. Berghahn Books; 2006:166. Accessed 4 Feb 2022. [https://books.google.com/books/about/The\\_Dutch\\_Slave\\_Trade\\_1500\\_1850.html?id=xDO0BAAAQBAJ](https://books.google.com/books/about/The_Dutch_Slave_Trade_1500_1850.html?id=xDO0BAAAQBAJ)
38. Kešić J, Duyvendak JW. The nation under threat: secularist, racial and populist nativism in the Netherlands. *Patterns of Prejudice*. 2019;53(5):441–63. <https://doi.org/10.1080/00031322X.2019.1656886>.
39. U.S. Central Intelligence Agency. Netherlands – The World Factbook. Accessed 4 Feb 2022. <https://www.cia.gov/the-world-factbook/countries/netherlands/>
40. Kaplan JB, Bennett T. Use of race and ethnicity in biomedical publication. *JAMA*. 2003;289(20):2709–16. <https://doi.org/10.1001/jama.289.20.2709>.
41. United Nations Relief and Works Agency. Health in Lebanon. UNRWA. <https://www.unrwa.org/activity/health-lebanon>. Accessed August 20, 2021.
42. Hedges J, Haag D, Paradies Y, Jamieson L. Racism and oral health inequities among indigenous Australians. *Community Dent Health*. 2021;38(2):150–5. [https://doi.org/10.1922/CDH\\_IADRHEDES06](https://doi.org/10.1922/CDH_IADRHEDES06).
43. Cunningham J. Diagnostic and therapeutic procedures among Australian hospital patients identified as indigenous. *Med J Aust*. 2002;176(2):58–62. <https://doi.org/10.5694/J.1326-5377.2002.TB04284.X>.
44. Thompson G, Talley NJ, Kong KM. The health of indigenous Australians. *Med J Aust*. 2017;207(1):19–20. <https://doi.org/10.5694/MJA17.00381>.
45. Huria T, Palmer S, Beckert L, Williman J, Pitama S. Inequity in dialysis related practices and outcomes in Aotearoa/New Zealand: a Kaupapa Māori analysis. *Int J Equity Health*. 2018;17(1):27. <https://doi.org/10.1186/s12939-018-0737-9>.
46. Hikaka J, Jones R, Hughes C, Connolly MJ, Martini N. Ethnic variations in the quality use of medicines in older adults: Māori and non-Māori in Aotearoa New Zealand. *Drugs Aging*. 2021;38(3):205–17. <https://doi.org/10.1007/S40266-020-00828-0>.
47. Navarrete MA, Silva JR, van Ijzendoorn MH, Cárcamo RA. Physical and psychosocial development of Mapuche and nonindigenous Chilean toddlers: a modest role of ethnicity. *Dev Psychopathol*. 2018;30(5):1959–76. <https://doi.org/10.1017/S0954579418001281>.
48. Tai DBG, Shah A, Doubeni CA, Sia IG, Wieland ML. The disproportionate impact of COVID-19 on racial and ethnic minorities in the United States. *Clin Infect Dis*. 2021;72(4):703–6. <https://doi.org/10.1093/CID/CIAA815>.
49. Lee P, le Saux M, Siegel R, et al. Racial and ethnic disparities in the management of acute pain in US emergency departments: meta-analysis and systematic review. *Am J Emerg Med*. 2019;37(9):1770–7. <https://doi.org/10.1016/J.AJEM.2019.06.014>.
50. Canedo JR, Miller ST, Schlundt D, Fadden MK, Sanderson M. Racial/ethnic disparities in diabetes quality of care: the role of healthcare access and socioeconomic status. *J Racial Ethn Health Disparities*. 2018;5(1):7–14. <https://doi.org/10.1007/S40615-016-0335-8>.
51. Patel P. Forced sterilization of women as discrimination. *Public Health Rev*. 2017;38(1):15. <https://doi.org/10.1186/s40985-017-0060-9>.
52. Khetpal V, Roosevelt J, Adashi EY. A federal Indian health insurance plan: fulfilling a solemn obligation to American Indians and Alaska Natives in the United States. *Prev Med Rep*. 2022;25:101669. <https://doi.org/10.1016/J.PMEDR.2021.101669>.
53. Association of American Medical Colleges. Diversity in Medicine: Facts and Figures 2019. Figure 18. Percentage of all active physicians by race/ethnicity, 2018. Accessed 13 Feb 2022. <https://www.aamc.org/data-reports/workforce/interactive-data/figure-18-percentage-all-active-physicians-race/ethnicity-2018>
54. Vega WA, Rodriguez MA, Gruskin E. Health disparities in the Latino population. *Epidemiol Rev*. 2009;31(1):99–112. <https://doi.org/10.1093/EPIREV/MXP008>.