

Equity and Distributive Justice
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INTRODUCTION

As during much of the 20th Century, profound demographic shifts continue to impact the population distributions and compositions of countries globally. Population growth continues worldwide and is expected to reach 9.1 billion by 2050 with almost all of this growth occurring in less developed countries. The median age of the world population has risen steadily over the last half of the last century, from a low of about 22 in the 1970s to 28 at the turn of the century. Due to the aging of the world population, the proportion of those aged 60 and older surpasses persons who are under 25 years of age in developed countries and by 2050 it is anticipated that 89 countries worldwide will have a median age of 40 or older.

For all of the 20th Century, the majority of the world's population resided in rural areas with an exponential migration from rural to urban settings during the latter half of the century. Current estimates suggest that the proportion of the world's population residing in urban areas will surpass those living in rural areas this year. Country level migration accelerated during the last half of the 20th Century. During the last decade of the last century, approximately 1.3 million persons per year immigrated to North America, mainly from Asia, Latin America and the Caribbean. [1]. Changes in the size and composition of Aboriginal populations have also taken place over the 20th Century. Substantial increases in the Aboriginal populations, for example in Canada and Australia, have been documented in the latter half of that period [2]

Profound gains in life expectancy were also observed worldwide in the 20th Century; life expectancy went from a low of about 35 years of age in North America and Europe at the end of

the 19th Century to almost 80 at the end of the 20th Century. With the increasing burden of chronic diseases negatively impacting health, the growing health and social inequalities between majority and minority subpopulations in many countries, and the aging of the population, providing adequate health care to maintain high standards of living is a major challenge for the future. The 10th International Medical Workforce Conference is concerned with these issues. This particular background paper on Equity and Distributive Justice will cover the following topics:

How does access to health professionals for racial/ethnic minorities (including indigenous peoples) and the very poor compare to that of the white majority? How do these patterns vary in urban and rural or remote settings?

When studying health and access inequalities, what are appropriate definitions of equity, health inequality, race or ethnicity and disadvantaged group?

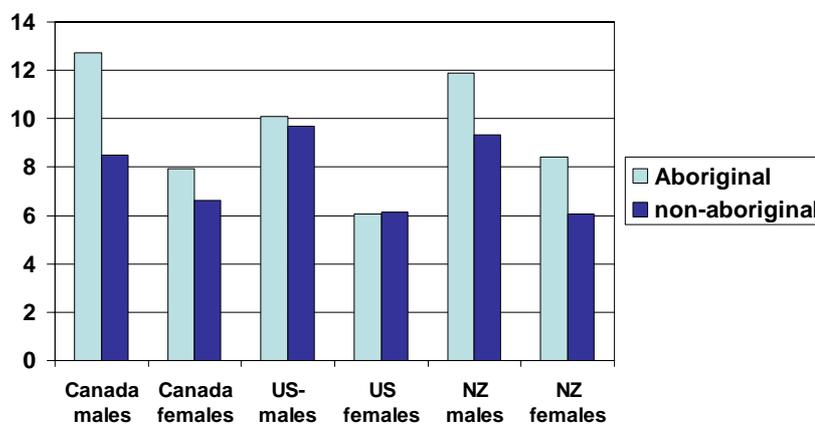
How does participation of disadvantaged peoples (including the very poor) in the health professions compare with those in of the white majority?

DOCUMENTING INEQUALITIES

We begin by reviewing the abundant data documenting longstanding health inequalities and inequalities in access to health care in English-speaking developed countries with a focus on North America. Despite monumental gains observed over the last century in health status, health behaviours and access to health care in developed countries, variability in these outcomes, and in particular, poorer outcomes for ethnic minority compared to the White majority populations, is a consistent and widespread fact that has been well documented [3-7]. Inequalities are documented for numerous preventable and treatable conditions including but not limited to HIV/AIDS, cardiovascular disease, cancer, diabetes and asthma [3, 8]. A few studies will be described as illustration.

Aboriginals across multiple countries according to historical and contemporary data show consistently poorer health than non-Aboriginal populations [9-12]. While there is considerable diversity among Aboriginal populations both within and across countries, all share similar historical elements, including colonization, continued discrimination, and economic and social marginalization. Consequently, Aboriginal populations typically have the poorest health status when compared to immigrant or majority groups such as Whites. Trovato, used national data to analyze mortality among Aboriginal and non-Aboriginal populations in Canada, the United States and New Zealand during two time periods, 1981 and 1991.

Figure 1. Aboriginal versus non-aboriginal age standardized mortality, 1991

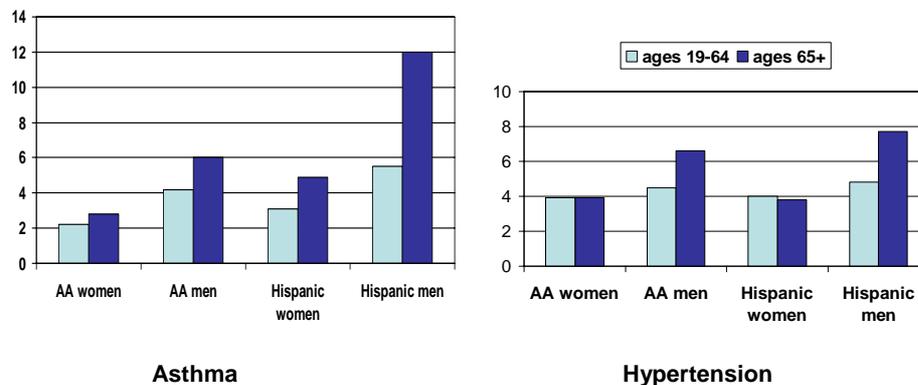


The study faced a number of methodological challenges, including death record undercounts for Aboriginals and absence of comprehensive definitions of “Aboriginals” in national data sets. Nevertheless, Trovato reported elevated age standardized mortality rates among Aboriginals compared to non-Aboriginals across all three countries for both time periods. Figure 1 shows the

1991 age-standardized mortality rates for Aboriginals versus non-Aboriginals reported by Trovato [9]. Health care utilization has also been examined for Aboriginal populations. Sin et al., using data from the Alberta Health Care Insurance Plan (AHCIP) in Canada, sought to determine whether Aboriginals residing in Alberta experienced higher rates of asthma and chronic obstructive pulmonary disease (COPD) emergency and office visits than non-Aboriginals. Findings indicate that Aboriginal residents were 2.1 times more likely to have an emergency visit for asthma or COPD after controlling for age and gender. However, Aboriginal residents were 55% less likely to see a specialist and 66% less likely to undergo a spirometry, suggesting that barriers to accessing appropriate care do exist [13].

Health disparities with regard to health status and health outcomes have been well documented for other ethnic minority groups compared to Whites. African Americans in the US have consistently shown poorer health compared to other ethnic minority groups as well as the White majority, in large part due to historical circumstances such as slavery and legal and illegal discrimination[8]. Laditka and Laditka (2006), using data from the 1997 Nationwide Inpatient Sample, the 1997 Current Population Survey and the 1997 National Health Interview Survey, examined age adjusted conditions related to preventable hospitalizations among African Americans, Hispanics and Whites in the US. The authors examined six specific conditions representing preventable hospitalizations—angina, asthma, COPD, congestive heart

Figure 2. Ratio of preventable hospitalizations for African Americans (AA) versus Whites & Hispanics versus Whites, USA, 1997.



failure, diabetes and hypertension. Compared to Whites, African Americans and Hispanics had adjusted relative population-based hospitalization rates ranging from a low of 1.0 for conditions such as COPD to a high of 8.3 for diabetes with complications. These relative rates remained high even after adjusting for the prevalence of these conditions in the population. Figure 2 presents data for men and women ages 19-64 and 65 or older for two conditions: asthma and hypertension. African Americans and Hispanics of both genders and all ages had at least two times or more the disease prevalence hospital admission rates (Figure 2)[4].

Significant racial disparities in access to health care have also been widely documented [3, 6, 8, 14-18]. Lasser and colleague, using national data from Canada and the US, conducted a study to examine utilization of medical services in the United States and Canada and compared disparities according to race, income, and immigrant status. Controlling for income, age and gender, and immigrant status, non-Whites compared to Whites had higher odds of experiencing unmet needs

in the US (OR 1.45, 95% CI 1.12, 1.88), higher odds of needing but could not being able to afford medicines in the US (OR 1.54, 95% CI 1.19, 1.98), lower odds of perceiving excellent health care in the US (OR 0.70, 95% CI 0.55, 0.84), and in both Canada and the US, lower odds of being satisfied with the health care they received US (OR 0.75, 95% CI 0.62, 0.89) and Canada (OR 0.75, 95% CI 0.59, 0.96). Immigrants had worse access to and experiences with health care compared to non-immigrants for almost all outcomes in the US but for many outcomes in Canada as well [17].

The US Institute of Medicine's (IOM) report aptly titled, "Unequal Treatment, confronting the racial and ethnic inequalities in health care" summarizes the vast literature concerning the experiences of ethnic minorities compared to the White majority when it comes to access to and quality of health care[3]. The IOM committee, comprised of experts from multiple disciplines, sought to summarize the existing data on "the extent of racial/ethnic differences in health care that are not otherwise attributable to known factors such as access to care (e.g., ability to pay or insurance coverage)" and to "evaluate potential sources of racial and ethnic disparities in health care, including the role of bias, discrimination, and stereotyping at the individual (provider and patient), institutional and health systems levels." [3, 19]. Significantly, this report was commissioned by the US Congress - a point that will be returned to later in the paper. The report confirmed the existence and unacceptability of racial and ethnic disparities in health care. Moreover, persistent and ethnic discrimination fuelled by the historical and contemporary social and economic environments are responsible for these health care disparities. Such discrimination and other contributing factors operate at multiple levels—health systems, health

care providers, patients, and health care staff. Among providers in particular, bias, stereotyping, prejudice and clinical uncertainty all contribute to the racial and ethnic disparities in care [3, 19].

While many previous studies have documented inequalities between minority and majority groups, few have the data to be able to document the reasons for the inequalities. The IOM report goes further to investigate the sources of inequalities. Some of their findings include the subjective nature of clinical decision which has resulted in different treatment options being offered to different race and ethnic groups. A study by Schulman and colleagues that used vignettes of “patients” (actually actors with identically scripted presentations) differing only in gender, age and race found that the Black versus White patients were 0.60 (95% CI 0.40, 0.90) times less likely to be referred for cardiac catheterization. Black women had the lowest referral odds ratio, 0.40 (95% CI, 0.20, 0.70). The design of the study, which controlled for many potentially confounding factors such as social class and clinical presentation, strongly support racial (and gender) discrimination (conscious or subconscious) on the part of providers.

The IOM report also noted that language barriers between providers and patients can affect all aspects of clinical care from quality to treatment compliance. Cultural competence can be thought of as providers being sensitive and responsive to cultural differences by being aware of the impact of culture and able to respond appropriately to the patient’s unique culture [20].

Whether this culture is derived from their race, ethnicity, national origin, religion, age, gender, sexual orientation, among other factors, cultural competence is lacking in many medical settings as is a lack of proportional representation of ethnic minorities within the health professions[21-23]. These two issues exacerbate the racial stereotyping that has been shown to affect clinical

decision-making, creates a lack of awareness among providers about the cultural factors that may impact the quality of health care and treatment, and limits the diversity of providers from which patients can choose to provide their care. These issues will be discussed further in a later section of the paper.

Geographical considerations also inform the discussion of inequalities in health care [15, 16, 24]. While the population of all countries is becoming increasingly urban, significant rural communities and presence remain. In the US, toward the end of the 20th Century, approximately 25% of the population remains rural and a slightly higher proportion, 30%, is observed in Canada [25, 26]. Some of the specific challenges facing rural populations are obvious such as needing to go further distances to obtain care and difficulty accessing specialists. Yet, the needs of rural populations may differ from that of urban populations due to the nature of rural versus urban life. Some studies suggest that health behaviors may differ across settings, in part due to demographic differences (e.g., rural populations are older). Some evidence also suggests that treatment may vary in rural settings and that preventive interventions may be less likely to be offered to rural compared to urban populations [16].

While this very brief review of the abundant data on inequalities cannot begin to be comprehensive, continuing to add evidence will not alter the ultimate conclusion that racial and ethnic minorities, including Aboriginal populations and immigrants, do experience greater problems in access to, and quality of, health care compared to the White majority, non-Aboriginals or non-immigrants. The goal of documenting such disparities is not to merely identify the existence of a gap but to inform a discussion of appropriately addressing the issue.

DEFINITION AND MEASUREMENT

Health inequalities. Defining health inequalities or disparities in health goes beyond merely describing a gap in one or another health outcome between groups. Recently, Braveman (2006) and colleagues have provided an comprehensive definition:

A health disparity/inequality is a particular type of difference in health or in the most important influences on health that could potentially be shaped by policies; it is a difference in which disadvantaged social groups (such as the poor, racial/ethnic minorities, women, or other groups that have persistently experienced social disadvantage or discrimination) systematically experience worse health or greater health risks than more advantaged groups[27].

This definition gives important guidance on which groups to focus on with regard to the disparities—deprived groups who have experienced persistent social and economic disadvantage or discrimination who systematically experience worse health compared to privileged groups. Health disparities applies not only to comparisons of the most privileged to those at the very bottom of the disadvantage scale, but documents the gradient of differences across the whole distribution of social or economic disadvantage.

Social privilege and advantage are often measured by hierarchical rankings of wealth, power, or prestige which are not inherent features of individuals or groups but are brought about through larger powerful social and economic societal level determinants. In contemporary society, these determinants include policies related to poverty (e.g., low minimum wages) or wealth retention (e.g., low capital gains taxes or tax cuts for the wealthy) or, historically, by colonization or slavery or social and economic policies and practices targeting immigrants. Contemporary and historical determinants of health have brought about both accumulated wealth and high status for

the privileged and profound negative impacts upon the economic and social well-being of those affected by the practices and policies [8, 28-31]. It is crucial to note then that while we are concerned here with the reduction of inequalities in the area of health status and health care access and quality, it will likely require coordination with other societal efforts (e.g., employment, housing, education) to address the root causes of social and economic inequalities. Given that social and economic inequalities, in almost every way that they are measured, between racial and ethnic minorities compared to Whites or Aboriginal groups and immigrants compared to non-Aboriginal or non-immigrant groups, are longstanding, multiple effective and intensive efforts to ameliorate these gaps are long overdue.

Measurement. Measurement issues are relevant in consideration of health inequalities. Choice of who is ‘privileged’ versus ‘disadvantaged’ when documenting a health disparity is critical. One component of this activity is identifying or defining the “disadvantaged social groups (such as the poor, racial/ethnic minorities, women, or other groups that have persistently experienced social disadvantage or discrimination).” The second component of this activity is choosing the reference and comparison groups to document the health disparity (e.g., Whites versus non-Whites, men versus women, immigrants versus non-immigrants, etc). These will be briefly discussed in order below.

The terms ‘race’ and ‘ethnicity’ are commonly used in the health literature, and within the health disparities literature in particular, often without being defined. Because of the pervasiveness of reporting on racial disparities, at least in the US, a specific focus on this example is warranted. There is substantial disagreement within the health fields regarding the definition and even the

importance and utility of the concept of “race”[32-37] The concept of race assumes that humans descended from different geographic locales and are identifiable through distinct physical traits (e.g., skin color, hair texture, facial features). Furthermore, these ideas frequently carry with them the notion that these physical or other distinguishing traits have a basis in a homogeneous set of genes that differentiate races from one another. For example, Statistics Canada defines race as "the genetically imparted physiognomical features of a person." [38] Yet, scientists from disciplines as diverse as sociology and genetics now agree that there are no distinct human races. [34, 37 , 39].

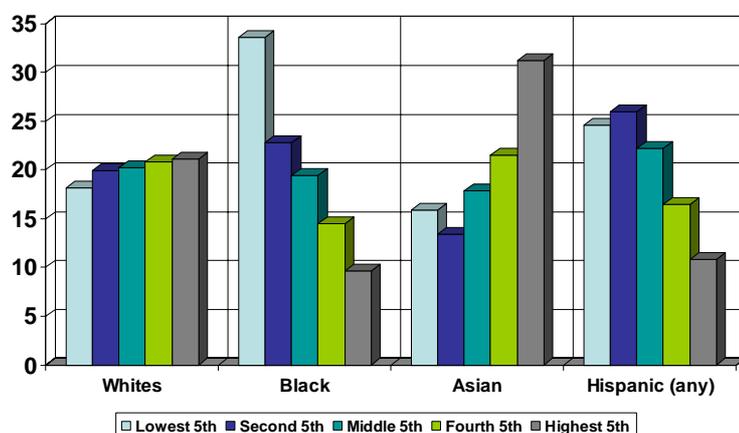
The US Office of Management and Budget (OMB), in setting standards for the use of racial and ethnic categories, recognizes that "race" and "ethnicity" represent a “sociopolitical construct” and “are not anthropologically or scientifically based.” Statistics Canada notes that ethnicity includes "subtle dimensions such as culture, the arts, customs and beliefs and even practices such as dress and food preparation. It is also dynamic and in a constant state of flux. It will change as a result of new immigration flows, blending and intermarriage, and new identities may be formed." [2, 40]. This conceptualization suggests that ethnicity may fluctuate and vary in response to multiple demographic or social factors. A proper exploration of appropriate definitions of race and ethnicity (e.g., is ethnicity the same as race? How many races are there?) is beyond the scope of this paper. However, the use of ‘race’ and ‘ethnicity’ in this discussion adopts the view that race or ethnicity are *socially* determined characteristics and do not represent biological differences. This point is particularly important for the study of health disparities as genetic hypotheses about race suggest that these inequalities are due to inherent biological or genetic differences and may not respond to programs intended to improve the well-being of the

less advantaged racial group.

Thus far we have discussed the problems with defining race and ethnicity but have not mentioned other populations such as immigrants or Aboriginal populations. In depth discussions of appropriate definitions of Aboriginal (or First Nations, or “Indian” or “Native American”) and immigrant cannot take place in this paper but it should be noted that similar challenges are encountered when seeking out appropriate definitions for these groups.

The choice of subgroupings to be used for comparisons when examining health inequalities is a second issue to be explored. In the US, it is common practice to compare men versus women, or in the case of race, to compare Whites versus non-Whites or Whites versus African Americans, Hispanics, Asians, and possibly other racial or ethnic groups. Invariably these comparisons yield a gap between Whites, who typically have the best health standing, and the other groupings who have worse health outcomes or health care as described in the previous section above. What is less clear is whether Whites, “other”, men or women comprise homogeneous groupings. In the case of race, a few researchers might argue that ‘race’ is a proxy for socioeconomic position. Yet, data suggest the contrary. Data from the US Census (taken from the 2006 Current Population Survey) on income quintiles by race/ethnicity are presented in Figure 3. We can see from the figure that while each group has representation in each of the income quintiles, the distribution of income does vary by race with Blacks and Hispanics having a greater share of their populations in the lowest income quintiles compared to Whites or Asians.

Figure 3. US household income, 2006.
Income quintiles by race.



U.S. Census Bureau, Current Population Survey, 2006 Annual Social and Economic Supplement

These data point to the need to consider the homogeneity of the groups being compared as very heterogeneous groupings can obscure important pockets of inequality that may require the greatest attention. While Whites tend to be wealthier than non-Whites (refs), there is still quite a bit of economic heterogeneity within these groupings of race and adjustment for socioeconomic position is important when making comparisons across race. The choice of variable representing socioeconomic position is a critical decision. Many researchers will adjust for socioeconomic position by using educational attainment. But education only partially accounts for socioeconomic differences between races. Studies have shown that adjustment using education result in low to severe levels of residual confounding (that is, education alone is unable to account for all the socioeconomic differences between racial groups)[41]. While full treatment of this issue is also beyond the scope of this paper, indicators such as wealth have been argued to

serve as an ideal adjustment factor when examining racial disparities in health when trying to minimize residual confounding [42, 43].

Figure 4. Average earnings of men compared to women, 1993-1998

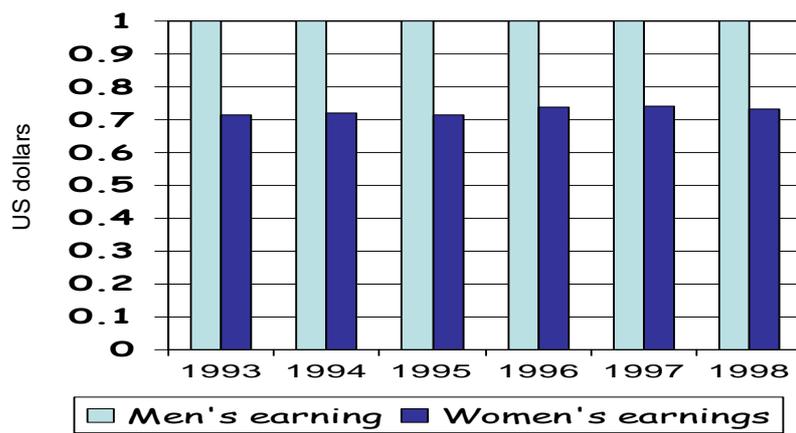
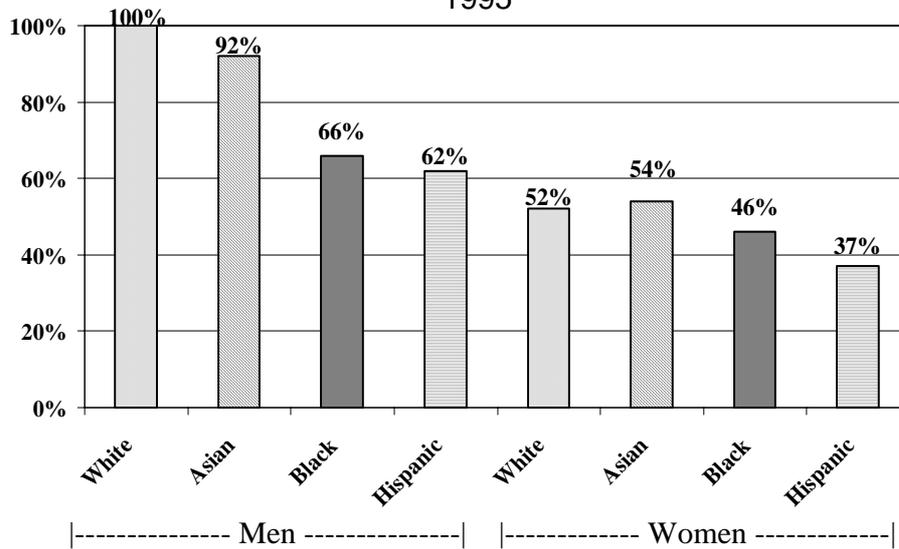


Figure 5. All workers' income as a proportion of White men's, 1995



Adapted from Bianchi et al., 1996

One final comment about comparisons when studying health inequalities. The choice of the privileged or the disadvantaged subgroup can reveal or obscure important pockets of risk to focus upon. A non-health example will be used to illustrate this point. We often hear a statistic describing how many fewer cents a woman earns for every dollar a man earns, and in the mid to late 1990s in the US, that figure was around 27 cents (see Figure 4). Stated another way, for every dollar a man earns, a woman earned 73 cents. [44]. However, if we further divide men and women by race and ethnicity, then we see a different picture (Figure 5, adapted from [45]). Compared to the most privileged groups, White men, all other men earned less with Black and Hispanic men only earning 66% and 62% of what White men earned. Similarly, all women earned far less than White men, with the two highest paid groups earning about 50% of what white men earned and the worst off group, Hispanic women, earning 37% of what White men earned. Such differences in the pay between men and women of different race and ethnic groups also remain once we account for levels of education. This exercise is not primarily intended to illustrate different ways of stratifying data but rather reflects the need to examine data in a way that leads to the appropriate policy—in this case, the need to eliminate gender and race discrimination in pay.

The two ways of examining ‘earning power’ by gender illustrate the importance of carefully identifying those with privilege and those who are disadvantaged. When we examine health data, by race or immigrant and Aboriginal status or gender, we should also stratify our data by socioeconomic position, using the best adjustment factors such as wealth when possible. This

will allow us to identify the most vulnerable subgroups that may require the greatest resources in order to remedy the inequality.

ADDRESSING HEALTH CARE INEQUALITIES IN ACCESS AND QUALITY

The reasons for the seemingly intransigent health status and health care inequalities are complex and are not fully understood. In fact, the research agenda on documenting and understanding health care inequalities is far from being complete. The available space in this paper precludes a comprehensive discussion of the means of addressing the health care inequalities. Moreover, what we know today about potential solutions may change drastically once higher quality research on this topic is undertaken. Nevertheless, we can begin to talk about solutions as well as important factors that influence action toward addressing inequalities in health.

The purpose of documenting health inequalities is not merely about demonstrating gaps between different subpopulations. Because our definition of “health inequalities” provided above is based upon concepts put forth by Rawls (distributive justice) and the field of human rights, the definition can provide further guidance on where resources should be targeted once inequalities are documented—toward ameliorating the inequalities of the groups who are most socially and economically deprived within a society. And while the definition identifies those who should be targeted with resources and subsequent action—the most vulnerable subpopulations-- important decisions remain regarding the specific courses of action to follow to eliminate the documented gaps, the level of resources to be devoted to the various efforts and the intensity of actions.

Given the (over)emphasis in the current literature on documenting the existence of inequalities with far less emphasis on uncovering the causes of those disparities, knowledge about the types of programs, policies and practices that could be changed to begin to reduce inequalities is limited. Totally absent from the research agenda on disparities are strong evaluations of effective programs proven to help us achieve our goals of eliminating racial and ethnic disparities. Therefore, while several recommendations have been proposed, it is not clear whether these are the only nor the best approaches to reducing the longstanding inequalities.

Examples of interventions: Table 1 presents recommendations made by various researchers and reports regarding potential actions that can be taken to reduce inequalities in health. The evidence for the potential or actual success of these efforts is mixed and mostly non-existent. Moreover, while many of them have been provided by their original authors in the form of recommendations, there is also a large gap in the area of specifics regarding the implementation of the recommendations. Nevertheless, this is a selected presentation of the types of recommendations that are being touted to address health inequalities.

The recommendations are a selection to illustrate the range of potential programs from reducing discriminatory provider practices to organizational changes. With regard to the under-representation of minority providers within health care settings, data from the US indicate that while under-represented minorities comprise 26% of the US population, in 2005 only 5.8% of health professionals in medicine, and 7.4% of health professionals in nursing were under-represented minorities. This does not bode well for ability to have greater representation in the future as it is projected that under-represented minorities will comprise 41% of the population in 40 or so years [46]. These programs and recommendations in Table 1 are but examples of the

types of interventions that may begin to address the disparities discussed above. Certainly, implementation of only one or two is not likely to make a significant dent. Rather, widespread implementation of multiple interventions and changes will be the only way to see substantial changes in reducing inequalities.

Key determinant of success: political will. Evidence alone, even the best evidence, cannot guarantee that action will be taken toward ameliorating a problem (e.g., [47]). A good case in point is the US Unequal Treatment IOM report that was discussed earlier. While this report was commissioned by Congress, the political environment surrounding its release has likely dampened the potential impact that the report may have had on action toward reducing inequalities. Gamble and Stone (2006), in their excellent article, present the study of racial inequalities of health in a historical context and demonstrate with multiple historical examples that “progress in addressing racial disparities has resulted from the interplay of research and political action” [7]. In using the Unequal Treatment IOM report as part of a series of case studies, they demonstrate that the report was received in a political environment where the emphasis was on reversing gains in remedial racial policies (e.g., reversal of affirmative action policies). In fact, a subsequent report issued on the topic by the Health and Human Services Secretary Tommy Thompson entitled the National Health Care Disparities Report (2003) was later found to be severely altered by the US government from its original form to downplay the notion of inequities in health and health care. The evidence documenting the revisions was unquestionable (the original version of the report was leaked and circulated) and opposition regarding the revisions were so severe that Secretary Thompson was later forced to admit the error in altering the report. While the details of this historical example are worth examining in

detail (i.e., read this very interesting article), the fact that three major national US reports were released around the same time --the third report was issued in 1999 by the US Commission on Civil Rights entitled “The Health Care Challenge: Acknowledging Disparity, Confronting Discrimination and Ensuring Equality,” --all documenting extensive racial inequalities in health, and two identifying solutions for reversing the inequalities but that no significant governmental or high level activities have been taken toward addressing the problems reflects the importance of the political environment and the role of political will in translating evidence into action[7]. Thus, a necessary, but not sufficient, factor required to ensure that solutions are implemented is political will. Influencing political will, therefore, should be the first priority of those who are concerned with changing the status quo.

Table 1. Examples of recommendations, programs and policies for inequalities in health care and access to care.		
Area or Issue	Program or policy type	Comments
Eliminate discriminatory practices	Promote and ensure the use of clinical guidelines. Systematic application of clinical guidelines may minimize biased subjective clinical decision-making that contributes to health disparities.	Clinical guidelines exist for many prevalent health conditions such as cancer screening and management, HIV/AIDS to name a few. Yet, for a variety of reasons, providers are not consistent in applying the guidelines[8, 14, 19].
	Increase provider self-awareness of biased and discriminatory practices through education and training. Training of health professionals should educate how preconceptions or stereotypes of race, ethnicity and culture may affect clinical decision making. This may reduce discriminatory practices.	Given the pervasiveness of discriminatory practices in society as a whole, it is easy to see how such practices may carry over in all work settings including the provision of health care. While “anti-racism” and other cultural sensitive trainings are being proposed, it is not clear that these have demonstrated long term effectiveness for addressing the problem [48, 49].
Eliminate language barriers and promote cultural competence	Provide language interpretation services within clinical settings.	Language barriers, especially but not exclusively among immigrants, may contribute to poor care and poor compliance with treatment. Translators within clinical settings who are accessible after appointments to ensure treatment adherence may reduce these barriers to effective diagnosis and treatment.[19]
	Increase the numbers of providers from the populations most impacted by health inequalities. Academic Health Centres must commit to recruiting, retaining and training greater numbers of providers from diverse backgrounds.	Current statistics indicate that providers from minority populations are underrepresented , in the US for example, minority physicians [14]
	Promote cultural competence among providers by integrating cross-cultural education into the training of health professionals.	Educating providers about whether and how sociocultural differences between provider and patients can affect multiple aspects of care such as communication and adherence is the goal of such activities[21, 22].

Table 1. Examples of recommendations, programs and policies for inequalities in health care and access to care.		
Area or Issue	Program or policy type	Comments
Eliminate organizational barriers to equity in health care	Ensure greater leadership –including faculty at medical and nursing schools or health officers in governmental agencies--from under-represented minority groups.	Organizations might better serve diverse populations if leadership had a greater awareness of their particular needs. [14, 16]
Eliminate the urban/rural disparity	Ensure greater numbers of physicians and other health care providers in rural settings.	While approximately 20% of the population is rural in developed North America, a far lower proportion of the total number of providers are located there (in the US, only 9% of physician practices are in rural settings)[24]
	Ensure greater representation of and access to all clinical specialties in rural settings through better recruitment and training and use of other means such as telemedicine.	Telemedicine has been shown to be a cost effective option for a variety of conditions ranging from dermatology to ICU care[16].

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