



A new conceptualization of ethnicity for social epidemiologic and health equity research

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ABSTRACT

Although social stratification persists in the US, differentially influencing the well-being of ethnically defined groups, ethnicity concepts and their implications for health disparities remain under-examined. Ethnicity is a complex social construct that influences personal identity and group social relations. Ethnic identity, ethnic classification systems, the groupings that compose each system and the implications of assignment to one or another ethnic category are place-, time- and context-specific. In the US, racial stratification uniquely shapes expressions of and understandings about ethnicity. Ethnicity is typically invoked via the term, 'race/ethnicity'; however, it is unclear whether this heralds a shift away from racialization or merely extends flawed racial taxonomies to populations whose cultural and phenotypic diversity challenge traditional racial classification. We propose that ethnicity be conceptualized as a two-dimensional, context-specific, social construct with an attributional dimension that describes group characteristics (e.g., culture, nativity) and a relational dimension that indexes a group's location within a social hierarchy (e.g., minority vs. majority status). This new conceptualization extends prior definitions in ways that facilitate research on ethnicization, social stratification and health inequities. While federal ethnic and racial categories are useful for administrative purposes such as monitoring the inclusion of minorities in research, and traditional ethnicity concepts (e.g., culture) are useful for developing culturally appropriate interventions, our relational dimension of ethnicity is useful for studying the relationships between societal factors and health inequities. We offer this new conceptualization of ethnicity and outline next steps for employing socially meaningful measures of ethnicity in empirical research. As ethnicity is both increasingly complex and increasingly central to social life, improving its conceptualization and measurement is crucial for advancing research on ethnic health inequities.

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Introduction

Ethnicity is a complex social construct that influences personal identity and group social relations (Ford & Kelly, 2005). Ethnic identity, ethnic classification systems, the groupings that compose each system and the implications of assignment to one or another ethnic category are place-, time- and context-specific (Braun, 2002; Ford & Kelly, 2005). In the United States (US), racial stratification uniquely shapes expressions of and understandings about ethnicity.

Since the 1970's, there have been substantial increases in the numbers of US immigrants from Africa, Asia and Latin America and

this has generated the need to interrogate our norms for classifying diverse groups when studying the social determinants of health disparities. Researchers have responded to the demographic trends in several ways. Increasingly, they use the term ethnicity instead of race (Afshari & Bhopal, 2002). They often do so inconsistently or inappropriately (e.g., only relying on the two official ethnicity designations, Hispanic/Latino and NOT Hispanic/Latino), however. Some use ethnicity as a euphemism for race, but the two constructs are not synonymous. Race, a designation imposed on people, assigns them to one or more of the socially-constructed categories (i.e., races) established hundreds of years ago to divide humans into five major subpopulations (Harawa & Ford, 2009). Racial designations are appropriate when the aims of research are to understand how stratification by race influences health. Ethnicity, on the other hand, encompasses the aspects of social life (e.g., culture) and personal identity that people within some collective (choose to)

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share (Airhienubuwa, 2007). Emerging evidence of health disparities among various ethnically defined groups suggests that improving understandings of ethnicity is fundamental to achieving health equity for all (Afshari & Bhopal, 2010; Ford & Kelly, 2005). Yet, how best to define and measure the ways that ethnicity functions socially in the US remains under-examined in the public health literature.

We propose a new way to conceptualize ethnicity that reflects its social relevance in the US. This conceptualization is intended to inform research on the societal determinants of health inequities. As ethnicity is a broad, multifactorial concept comprising many more narrowly defined ones (e.g., culture, diet), this paper uses the term 'ethnicity' only when referring to the umbrella construct. We use the generic term 'ethnicity concepts' to refer to any of various constructs—including both the umbrella construct (i.e., ethnicity) as well as any more specific ones (e.g., cultural traditions)—used to characterize groups ethnically.

In this paper, we define ethnicity, discuss its relationship to race, highlight socioecologic influences on ethnicity concepts, explore heterogeneity within the official ethnic and racial categories and offer recommendations for advancing research on US societal and health inequities.

What is ethnicity?

Ethnicity has been defined a number of ways (Kagawa-Singer, 2001; Senior & Bhopal, 1994; Yinger, 1985). We define it as a context-specific, multilevel (i.e., group-level, individual-level), multifactorial social construct that is tied to race and used both to distinguish diverse populations and to establish personal or group identity. The societal context in which people live determines whether they are ethnicized and the factors (e.g., numeric minority, religion) reinforcing their ethnicization. Ethnicity is context-specific because while a set of shared sociocultural characteristics may ethnicize residents of one country or region, it may have no influence on similar residents of another.

As we define it, ethnicity comprises two dimensions; the attributional dimension describes the unique sociocultural characteristics (e.g., culture, diet) of groups while the relational dimension captures characteristics of the relationship between an ethnically defined group and the society in which it is situated. This two-dimensional definition contrasts with most social science definitions of ethnicity, which only describe what we refer to as the attributional dimension. They emphasize sociocultural characteristics as the basis for defining groups as ethnically distinct from one another and for establishing personal ethnic identity. The following standard definition of ethnicity reflects what we define as the attributional dimension: "a shared culture and way of life, especially as reflected in language, folkways, religious and other

institutional forms, material culture such as clothing and food, and cultural products such as music, literature, and art" (Johnson, 2000) p. 109. The attributional dimension is useful for understanding personal identity and group sociocultural characteristics; however, alone it explains neither groups' social locations within society nor how societal forces can differentially influence the health of ethnically defined populations.

This paper, therefore, introduces, the relational dimension, which is particularly useful when research aims to understand how social stratification and social exposures (i.e., risk factors such as discrimination that derive from the social context) contribute to ethnic health inequities. Targeting the relational dimension reduces the possibility of inappropriately attributing disparities to ethnic group characteristics (e.g., childrearing practices) instead of to the group's relationship to the broader society (e.g., social isolation from youth development resources). Societies differentially value ethnically defined groups depending on their fit within existing social hierarchies. The relational dimension helps to illuminate these hierarchies and relations. For instance, a group's relative skin shade (lighter vs. darker) is an example of a relational aspect of ethnicity because, as we discuss later with regards to Puerto Ricans, lighter skin is privileged over darker skin in the US. Skin shade may be of little import to a group culturally, but play an important role in shaping the group's social exposures and corresponding health outcomes. Conceptualizing skin shade as a relational dimension of ethnicity therefore can facilitate research on the social relevance of color to ethnic health inequities.

As the meanings of ethnicity change in myriad ways across contexts, determining how best to measure it can be challenging. Concepts salient in one study may not be important in another (Kagawa-Singer, 2001). One way to address this is to use study-specific definitions of ethnicity that draw on the broader concept and explicate the salience of the measured concepts.

Some ethnicity concepts (e.g., minority status) only have meanings within the relational dimension. As Table 1 shows, however, others can be used either attributionally or relationally. Attributional uses tend to be more practical (e.g., identifying persons), whereas relational uses target the system of social stratification that orders populations.

Although ethnicity as we define it encompasses social dimensions of life (e.g., culture) more fully than race does, research on ethnicization and health lags behind research on racialization as a social determinant of health.

Race and ethnicity: distinct yet related concepts

The nation's increasing ethnic diversity complicates racial thinking; however, it does not undermine it (Ahmad & Bradby, 2007; Bobo, 2004; Winant, 2004). Arguably the dominant axis of

Table 1
Selected attributional and relational uses of ethnicity concepts.

Ethnicity concept	Attributional use	Relational USE BY SH* and RQ
Self-reported ethnicity	To understand respondents' sociocultural norms	SH: <i>Ethnicity</i> – non-Latino privileged RQ: Do rates of discrimination differ by ethnicity?
Phenotype (e.g., skin color)	To describe enrollees on program-related ID card	SH: <i>Skin Color</i> – White skin privileged RQ: Do darker skinned groups experience more discrimination?
Surname	To use directory listings to increase sample size of targeted groups	SH: <i>Ancestry</i> – European privileged RQ: Are patients with Arab surnames triaged differently than others?
Immigrant status	To assess patient eligibility for services	SH: <i>Immigration</i> – non-immigrants privileged RQ: In what ways do experiences with law enforcement vary for immigrants relative to non-immigrants?
Religion	To identify congregations with whom to co-sponsor health fairs	SH: <i>Religion</i> – Christianity privileged RQ: What kinds of discriminatory treatment do religious minorities experience?

*SH = axis on which societal hierarchy is based and the social category to whom privilege accrues; RQ = research question based on relational use of ethnicity.

social stratification, racialization fundamentally shapes social exposures, life chances and health outcomes (Winant, 2004). It also drives understandings about socially-constructed difference. We define race as a social construct linked to phenotype and/or ancestry that indexes one's location on the US social hierarchy of socially-constructed, groupings (i.e., races) that has been based primarily on skin color (i.e., white, black, red, yellow) and used for more than 200 years in the US (Harawa & Ford, 2009; Smedley, 1993). The current racial framework was derived from an array of possible categories. Adherence to this framework persists as evident from both the categories designated by the US Office of Management and Budget (OMB), which establishes federal race and ethnicity standards, as well as social norms for grouping people. Races are inherently hierarchical in nature; unearned advantages accrue to groups high on the hierarchy while unearned penalties/disadvantages accrue to those lower on it. The US racial hierarchy continues to disproportionately privilege people racially classified as white (Oliver & Shapiro, 1997). Although this system of racial hierarchies has adapted over time to accommodate greater ethnic diversity and multiracial identity, it has done so largely by squeezing new immigrant communities into existing categories (Bonilla-Silva & Glover, 2004).

Distinguishing 'ethnicity' from 'race'

To study ethnicity in the US, one must grapple with the concept of race. Elsewhere we provide a detailed discussion of the historical significance of race in the US and the implications for epidemiologic research (Harawa & Ford, 2009). Here we discuss race only as it pertains to the social functioning of ethnicity. Until recently, race was considered an immutable characteristic of individuals and used to organize the human population according to purported genetically-determined, intellectual and other capacities. Social scientists have debunked the notion of race as a biologic construct, showing that racial ideology and racial categories are born of social and political interests (Guillaumin, 1980). Nevertheless, racial stratification persists.

A growing body of work on race as a social, not biologic, construct is strengthening the validity with which investigators examine racism's effects on population health (Jones, 2001; LaVeist, 1996). Race defines, separates and limits access based on phenotype, the law and folk perceptions of "blood/purity". Although some practices and prejudices have faded, racialization continues to influence groups above and beyond ethnicization. For instance, racial profiling by police and racially disparate treatment by clinicians routinely occur without any consideration of ethnic identity. Race is useful for specifying populations at risk for social exposures (e.g., discrimination) that vary by socially-constructed race (Jones, 2001; Jones, Truman, et al., 2008); however, race encompasses information that is different from ethnicity.

In the US, ethnicity typically is invoked via the term 'race/ethnicity', which connotes the division of a population into some combination of racial and/or ethnic groupings. What distinguishes racial groupings from ethnic ones is not always clear (Bhopal, 2004). The compound nature of the term and the order that each word appears within it (i.e., 'race/ethnicity' rarely 'ethnicity/race') underscore the primacy of race. Studies indexed in Medline also increasingly use the term 'ethnicity' or 'race/ethnicity' instead of 'race' (Afshari & Bhopal, 2010). This trend could herald a shift away from racialization; however, so long as these terms are used synonymously with 'race' they do little more than extend flawed, racial taxonomies to populations such as Hispanics whose cultural and phenotypic diversity defy traditional racial categorization (Bhopal, 2007; Drevdahl, Taylor, et al., 2001).

Interaction between race and ethnicity

The relationship between ethnicity and race is intersectional. Racial diversity occurs within ethnically defined groups; ethnic diversity occurs within racial and ethnic groups; moreover, social forces differentially affect groups based on the interactions of race and ethnicity. As Massey and Denton observed, "Among Hispanics, only Puerto Ricans...were highly segregated; and this high degree of segregation is directly attributable to the fact that a large proportion of Puerto Ricans are of African origin" (Massey & Denton, 1993: p. 12). Further, Puerto Ricans with darker skin tend to live in predominately black/non-Hispanic areas, whereas those with lighter skin tend to live in predominately white/non-Hispanic areas (Massey & Denton, 1993).

Interactions between race and ethnicity may influence health. The reported AIDS rates among US Hispanic Caribbean populations, which include large numbers of people with African origins, is similar to that of non-immigrant blacks while the AIDS rates among US Mexican and Mexican American populations who are frequently categorized as white is similar to that of non-Hispanic whites (Selik, Castro, et al., 1989).

Race and ethnicity are important axes of American social stratification. Despite increasing use of the term ethnicity, racialization fundamentally influences the social and public health implications of ethnicity. Race is not the only factor influencing the understandings and health implications of ethnicity, however; factors operating at each level of the socioecologic framework inform expressions of and knowledge about ethnicity.

Socioecologic considerations

Macrolevel, regional, ethnic group-level and individual-level factors determine groups' exposures to hazards (e.g., discrimination) or resources (e.g., social support). They also shape understandings about ethnically defined populations and health disparities.

Macrolevel forces operate at the highest level of the socioecologic framework and influence health outcomes more fundamentally than do factors operating at any other level (Link & Phelan, 1995). Power hierarchies, migration patterns and territoriality dictate the groups to whom minority versus majority status is assigned (Bhopal, 2007; Chin & Kameoka, 2006; Sack, 1986). Federal regulations drive immigration policy, which determines the nation's ethnic composition. Federal data collection guidelines dictate the procedures and categories to use when collecting ethnicity data. Labor policies and practices influence the socio-economic profiles that come to be associated with specific ethnic groups, the potential for competition between groups in the labor market and tensions between groups vying for political power (Farley, 2004). Our national identity and our country's relationships with other nations (e.g., open versus closed borders) influence how US residents with origins in one or another region of the world are treated. For instance, for some immigrant communities perceived discrimination increases the longer they reside in the US. These increases are associated with poorer physical and mental health (Dominguez, Strong, et al., 2009; Gee, Ryan, et al., 2006).

Regional forces shaping ethnicity include the domestic migration and settlement patterns that lead to regional differences in population composition and that sometimes contribute to tensions between already present and newly arriving groups. Historical factors shape perceptions about which groups belong or do not belong in a region and may help to explain contemporary disease distributions (Sack, 1986). New immigrants tend to settle in areas with higher concentrations of residents from their native lands (Grieco, 2001; Hernandez & Rivera-Batiz, 2003). Those who live in

low concentration areas differ from those in high concentration areas in their patterns of ethnicity-related social exposures (e.g., decreased social support). When ethnic groups are concentrated within a geographic area, however, focusing on ethnicity's contribution to disparities can obscure the contribution of place factors. For instance, dietary assessments may capture access to, not affinity for, traditional foods. Further, how specific ethnicity concepts are salient to a group may differ depending on where they reside.

Although the ethnicity categories used in regional data collection systems reflect the size and composition of local populations, over-emphasizing local data needs can limit the comparability of data across regions. In New England, for instance, some health-related databases classify whites by nationality (e.g., German) or by other geography-based categories (e.g., western European) (Laws & Heckscher, 2002). Twenty-one databases include a Cape Verdean category, 16 a Brazilian category and 13 various sub-classifications for blacks (e.g., African immigrant, Nigerian, North African or African American). Although the variations in categories meaningfully capture local ethnic diversity, they exacerbate efforts to compare data across databases (e.g., disease registries) or regions (Laws & Heckscher, 2002).

Group-specific factors influence personal identity, ethnic expression and group-level exposures. Cultural norms fundamentally shape group members' knowledge, attitudes and behaviors (Airhihenbuwa, DiClemente, et al., 1992; Wyatt, 1991). Groups perceived as very different from the mainstream may experience higher rates of preventable disease, lower socioeconomic status (SES) or limited access to care due in part to increased social distance from the majority. Standard prevention efforts may be ineffectual among these groups necessitating targeted prevention (Fadiman, 1998).

The social construction of ethnic categories influences identity formation as well as personal and social understandings about group differences and similarities (Park, 2008). Collective identity helps to preserve group interests, but how groups define themselves may be contested among group members. Leaders may claim one factor (e.g., religion) is what distinguishes the group ethnically, while others see something else (e.g., culture) playing that role. Intra-ethnic power dynamics may contribute to social status differentials among group members (e.g., men vs. women). Teasing apart major areas of intra-group contestation can illuminate within-group hierarchies and help to identify vulnerable subpopulations.

Personal identity is the most important individual level influence on ethnicity. Ethnic identity formation is a developmental process that is shaped by the social context(s) in which it occurs and that differs for minority versus majority group members (Chin & Kameoka, 2006). Ethnic identities are fluid, changing across the life course. One may have no sense of ethnic identity during childhood; assume Chicana identity as a young adult and Hispanic identity later in life. Each shift may correspond with changes in cultural expression, behavior or health outcomes (e.g., stress coping). Identity also varies across contexts (Ford & Kelly, 2005; Zambrana & Carter-Pokras, 2001). One may identify as Hispanic at work, Latino within her civic organizations, Mexican at home and American when visiting Mexico (Harris & Sim, 2002). To accommodate this fluidity, researchers can ask respondents about prior as well as current identity, and ask whether their identity changes depending on the setting (e.g., at home vs. at work).

Many researchers consider self-report the best measure of ethnicity; however, as Airhihenbuwa explains, "The meanings that are ascribed to one's group identity...have strong historical and social meanings that go beyond individual choice" (Airhihenbuwa, 2007) p. 6. Strong ethnic identity can help to buffer ethnic minorities from the effects of discrimination; however, ethnicity is not

the only aspect of identity and it may be less salient than other aspects such as gender or sexuality (Fribley, 1997).

Factors operating at every level of the socioecologic framework determine the social exposures ethnicized groups experience and shape understandings about the social causes of ethnic health disparities. Race also informs understandings about difference and health disparities, largely by masking intraracial heterogeneity. In the following section, we explore ethnic heterogeneity within the official US ethnic and racial categories.

Limitations of the federally recognized ethnicity categories

This paper's emphasis on the social constructedness of ethnicity contrasts with the OMB designations "developed...for the collection and use of compatible, nonduplicated, exchangeable racial and ethnic data by Federal agencies" (Office of Management and Budget, 1997). Although the OMB designations further administrative objectives such as monitoring the inclusion of minorities in research, they are less useful for investigating how social mechanisms contribute to disease. We discuss the OMB categories here because sometimes the data available for studying the social determinants of ethnic health inequities are based on these categories. It is important to understand and account for their limitations.

The OMB specifies two ethnicity (Hispanic/Latino and NOT Hispanic/Latino) and five racial (white; black/African American; American Indian/Alaska Native; Asian; and Hawaiian or Pacific Islander) categories. Ethnic classification occurs independently from racial classification. All persons are classified using one ethnicity category and one or more racial categories; for example, non-Hispanic (i.e., ethnic classification) white (i.e., racial classification). Hispanic/Latino connotes "a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race" (Office of Management and Budget, 1997). Hispanic is a governmental designation whereas Latino is a socio-political identity that people use to mark themselves as US residents with origins in Latin America. Failure to include both terms can result in underestimation of populations as people who identify as Hispanic may not identify as Latino and vice versa (Williams, 1999).

The OMB ethnicity categories originated with efforts surrounding the 1970 decennial census to document the numbers of US residents with Latin American heritage (Farley, 2004). Under President Nixon, the Census Bureau revised a version of the census to include an item assessing whether respondents had Mexican, Puerto Rican, Cuban, Central American, South American or other Spanish ancestry and distributed it to a 5% sample. This was the first time the Census bureau had enumerated non-European groups ethnically (Farley, 2004). Subsequent efforts under President Carter led to the drafting of Directive 15, which was the first set of federal guidelines to standardize the categories federal agencies must use when collecting race and ethnicity data (Farley, 2004).

Limitations of the OMB's binary ethnic classification system (i.e., Hispanic vs. not Hispanic) include that it ignores other ethnically distinct populations (e.g., Creoles, Hmong, Jews, Amish) and sociocultural variability within the two broad categories. Because the categories are mutually exclusive, for people who have both Latino and non-Latino backgrounds it is unclear what prompts their selection of one or the other category. People routinely conflate racial and ethnic categories and the census questions may exacerbate this (Grieco & Cassidy, 2001; Lee, 1993). For instance, the 2000 Census allowed individuals to write in race based on country of origin, ancestral country of origin or any unlisted race; however, these designations overlap with ethnicity concepts.

Ethnicity-related diversity among Latinos

Hispanics have varying genetic and cultural mixes, reflecting intermixing primarily between European, African and indigenous ancestors. They have vastly different modes of incorporation into the US society (Bonilla-Silva & Glover, 2004). According to Hayes-Bautista, “the major trait shared by all Latin American countries is not language, race, or culture, but is political” (Hayes-Bautista & Chapa, 1987, p. 77). Specifically, the Monroe Doctrine between European nations and the US privileged US domination of the Americas and, in so doing, fundamentally shaped relations between the US and each country to its south.

Careful consideration must be given to the criteria used to specify Latin Americans because implications exist for data quality. Geography, i.e., Latin America, is a primary basis for defining groups as Hispanic/Latino; however, ambiguity exists about the countries or subpopulations this includes. Using Spanish language to designate Hispanic/Latino ethnicity can lead to miscategorization. Latin America contains a number of non-Spanish speaking countries (e.g., Brazil). Some Spanish-speaking countries like Guatemala have large, non-Spanish speaking indigenous populations. Persons who do not trace their Latin American ancestry to colonial periods also reside in these countries. For example, Brazil and Peru have large population of persons with Japanese ancestry. Finally, although Spaniards (i.e., people from Spain) are included in the Hispanic/Latino category, they are rarely the population of interest to US disparities research.

Ethnic heterogeneity within racial categories

Although ethnic heterogeneity exists within each of the federally recognized racial categories (Braun, 2002; Williams & Jackson, 2000), studies routinely compare racial groups without assessing intraracial ethnic heterogeneity. This limits our ability to identify and understand the sociocultural (i.e., ethnic) determinants of health disparities (Bhopal, 2007). A basic assumption for most statistical analysis is that the groups being compared are internally homogenous; that is, in comparisons of apples and oranges, the apple category only contains apples and the orange category only oranges (Rothman & Greenland, 1998). This assumption is routinely violated, however, when racially-defined groups are compared. Below we outline salient ways that heterogeneity within OMB-designated racial categories can impede research on health inequities. The criteria defining each category are available from the Census (United States Census Bureau, 2001).

Ethnic heterogeneity among blacks

Regardless of phenotype (e.g., skin color), persons whom society defines as black may instead consider themselves members of specific cultural, immigrant, national, tribal or religious communities (Arthur & Katkin, 2006). High rates of immigration from Africa and the Caribbean have led some to begin disaggregating foreign- from native-born blacks. Still, this does not accommodate the vast sociocultural differences between, for instance, orthodox Ethiopians, Islamic Senegalese, rural Nigerians, mixed-race Europeans, Puerto Ricans, Haitians, black-identified Brazilians, diverse tribal or clan groups, and culturally dissimilar non-immigrant blacks.

US black subpopulations differ from one another in their experiences of racial subordination or privilege (Morin, Pickle, et al., 1984), their internalization of American racial ideology, and the health implications of exposure to discrimination (Arthur & Katkin, 2006). For example, a Dominican American woman perceived as black may not identify as such, which reduces her risk

for the psychological stressors associated with perceiving racial bias.

Ethnic heterogeneity among Asians and Native Hawaiians or other Pacific Islanders

The OMB established the racial categories (1) Asian and (2) Native Hawaiian or other Pacific Islander from the former, Asian or Pacific Islander, in 1997 as a result of lobbying by subpopulations who believed the former category overrepresented persons with ancestry in east Asia (i.e., Chinese, Japanese, etc.). Although SES, cultures, health behaviors and risks vary immensely within each category, distinctions between the groups are not always recognized (Srinivasan & Guillermo, 2000).

Asian populations frequently are ethnicized according to national origin (i.e., birth nation) or ancestral national origin; however, the lines between national origin, family ancestry and personal identity can be somewhat arbitrary. For instance, segments of the Chinese American population have long histories in the US predating those of most European-descendant Americans. Grouping solely by national origin or ancestral origin therefore can lead to misestimation of social or cultural exposures between these Americans and recent Chinese immigrants (Bhopal, 2006). As recent evidence shows, differences exist among Asian subpopulations in both the levels of discrimination they experience, an exposure tied to the US context, and in the associations between discrimination and cardiovascular outcomes (Gee, Spencer, et al., 2007).

Ethnic heterogeneity among American Indians and Alaska natives

American Indians and Alaska Natives are among the least numerous of the five groups classified as races by the OMB. A single designation, American Indian/Alaska Native, defines this diverse population (Office of Management and Budget, 1997). The category includes indigenous persons not only from the US but also from throughout the Americas. The criteria for establishing individuals' identities as American Indian, Native American or Alaska Native vary among individuals, tribes, states and the federal government. One's personal identity as Indian is not synonymous with membership in a tribe and federal recognition of a tribe may or may not influence individuals' self-reported identities. Regardless of tribal affiliations, some people identify (rightfully or wrongfully) as Native American. Officially recognized tribes are sovereign nations and each has its own criteria for determining tribal membership. The criteria vary from so-called blood quantum to social participation to lineage (Williams, 1999).

Tribal affiliation could be used to classify Indians ethnically (Roubideaux, 2008). Tribes fundamentally shape the social, cultural and physical contexts in which individual members live (Novins, Beals, et al., 2004). Research suggests health disparities between tribes stem in part from differences in sociocultural and environmental exposures (Nez Henderson, Jacobsen, et al., 2005; Novins, Beals, et al., 2004; O'Connell, Novins, et al., 2005). This knowledge could inform the development of culturally appropriate interventions (Novins, Beals, et al., 2004).

Studies exploring tribal and Indian health disparities are needed; however, the research must be undertaken with caution. Considerable social distance separates most researchers from Indian communities and disrespectful treatment by the public health sector promotes mistrust (Weiser, 2008). Whenever undertaking research in Indian communities, investigators must proactively and explicitly address power differentials and mistrust (LaVeist, 2005; Weiser, 2008).

Ethnic heterogeneity among whites

Membership in the white racial category has always been contested (Ignatiev, 1995). That ethnic identities remain salient to whites is evidenced by their participation in ethnic festivals, visits to ancestral homelands and interest in family genealogies. Data from the National Health and Nutrition Examination Survey (NHANES) indicate that most whites can identify some national ancestry even though inconsistency over time in the choice of ethnicity has also been noted (Hahn, Truman, et al., 1996). Historically, groups such as Irish and Jewish Americans were differentiated from other whites and subjected to discrimination. Contemporary global conflicts and geopolitical shifts (e.g., dissolution of the former Soviet Union) suggest the ethnic composition of the US' white population will continue to evolve. Social determinants of ethnic health inequities among US whites have received limited attention.

This section outlined sources of heterogeneity within and across racially and ethnically designated groups. This information can guide researchers in understanding the constraints of OMB data for research on the social determinants of US ethnic health disparities. The remainder of the paper discusses the public health relevance of the considerations raised thus far.

Public health relevance

Increasingly, research aims to explain how socio-contextual factors contribute to health inequities. To operationalize variables or identify causal pathways linking social context and disease distributions in diverse populations, however, requires solid understandings of how ethnicity functions socially. We define ethnicity as comprising both attributional and relational dimensions because, as previously explained, the concept may refer to group attributes (e.g., culture) or to groups' relative social locations (e.g., minority vs. majority) in a diverse society. Although epidemiologic categories derived from ethnicity inherently include social meanings, it is unclear that conventional methods for categorizing populations fully account for those meanings.

Counterfactual approaches to comparing groups assume that each group is internally homogenous and that the groups are similar except in their levels of some exposure. These assumptions may not be met, however, when simplistic criteria are used to compare ethnically defined populations. As has been shown with racially-defined groups, it is difficult to set the counterfactual conditions in which socially-constructed groups are identical except for specified social exposure(s) (Kaufman & Cooper, 2001). SES may help to explain ethnic disparities, but the meanings of specific SES measures vary across groups, potentially influencing effect estimates. For instance, occupation may poorly capture the SES of people who are highly educated in their home countries but have low status occupations in the US. This is particularly true if the reasons for the discrepancy stem from ethnically relevant social factors.

Although it is important to be able to discern when ethnicity matters, it is equally important not to automatically frame health disparities as evidence of ethnic differences. Such assumptions may be incorrect or reinforce ethnic prejudices. For instance, Brandt-Rauf has argued that research on genetic predispositions for breast cancer among Ashkenazi Jews too often ignores underlying assumptions that the population is ethnically or genetically distinct (Brandt-Rauf, Raveis, et al., 2006).

Assets-based approaches are especially important for developing appropriate interventions for ethnically diverse populations. The field's emphasis on disease (not health) and the tendency to perceive minority groups as disadvantaged only obscure minority communities' many strengths. Research can counter these

tendencies by describing populations more comprehensively and drawing on communities' assets.

Recommendations

The recommendations outlined here (Table 2) and elsewhere (Arthur & Katkin, 2006; Bhopal, 2004, 2007; Griffith, Moy, et al., 2006; LaVeist, 1994) are intended to improve the ways that ethnicity-related concepts are used to study the social determinants of health inequities. They are relevant when planning the research, conducting the research and reporting findings.

When planning research, begin by building relationships with the communities of interest. Involving ethnic communities in all phases of research can enhance its relevance, inform study design, and improve the community's receptivity to interventions (Ford, Miller, et al., 2007). When collecting data on race or ethnicity, obtain information on ethnic subpopulations. Subpopulation data help investigators to more accurately specify higher and lower risk groups. Studies routinely examine how groups' sociocultural characteristics influence health. We recommend greater use of the relational dimension of ethnicity to examine how groups' relative social positions influence health inequities. Well-conceptualized theory should guide all research on social determinants of health. The conceptual model should explain how both attributional and relational dimensions of ethnicity are relevant.

If data are collected using the OMB's ethnicity categories, explain the limitations associated with using those categories to study social mechanisms. For instance, describe the heterogeneity within categories and the constraints on measuring intra-group or social causes of ethnic differences based on these categories. This improves the usefulness of the data (Agyemang, Bhopal, et al., 2005; Arthur & Katkin, 2006; Griffith, Moy, et al., 2006). Identifying causal mechanisms is a main objective of research; therefore, studies should limit proxy uses of the OMB's administrative

Table 2

Recommendations for conducting research using ethnicity concepts.^a

PLANNING RESEARCH
Actively involve community members in all aspects of research
Establish a protocol to monitor and address potential problems stemming from the research (e.g., stigmatization of communities)
Develop and use culturally appropriate instruments
Critically evaluate, explain and attempt to address investigators' social distance from and assumptions about target group(s)
Where necessary and culturally appropriate, obtain consent or buy-in, from persons other than individual respondents (e.g., tribal elders)
Test ethnicity-related measures in diverse segments of the population
CONDUCTING RESEARCH
Do not limit ethnicity measures to the OMB categories; include additional subpopulation- or region-specific measures
Explain how the measured variables relate to the underlying concepts
When possible, assess the true factors of interest rather than ethnicity-related proxies
Do not exclude eligible groups from participation for non-scientific reasons (e.g., inconvenience)
In publications and presentations, describe the social and cultural context(s) in which the research was conducted
REPORTING FINDINGS
Share findings with community members; involve them in interpreting and disseminating findings
Carefully and fully explain the reasons for observed differences between ethnic groups
Avoid speculation beyond what the data support (e.g., do not suggest genetic links if relevant measures were not obtained)
Consider alternative explanations for unexpected findings
Describe implications for public health practice and policy

^a Adapted from (Bhopal, 2007; Ford & Kelly, 2005; Griffith, Moy, et al., 2006; Warren, Hahn, et al., 1994).

categories. Instead, directly assess the more important underlying constructs. If this is not possible, explain how the proxies relate to the underlying concept(s). For example, if respondents report Japanese ethnicity, clarify whether this represents national origin, cultural affinity, ancestral origin, native language, etc.

Finally, to improve understandings of study findings and facilitate dissemination of results beyond the scientific community, involve community stakeholders. Ethnicity is a complex concept and working with community can help researchers to anticipate possible misinterpretations of ethnicity-related findings. Avoid making assertions unsupported by the data.

Future research

This paper contributes new approaches for conceptualizing and measuring ethnicity concepts when studying the social determinants of ethnic health inequities. Increases in ethnic diversity and mounting critiques of race make better understanding ethnicity crucial. Misclassification of exposure and misestimation of effects may occur if ethnicity is poorly defined. We propose using context-specific definitions, accounting for the intersections between ethnicity and race, and clarifying whether attributional and/or relational dimensions are the focus some variables can be used to assess either depending on the operationalization (Table 1).

Race is salient to US studies of ethnic health inequities; however, race and ethnicity are not synonymous. The increasingly popular use of ethnic labels (e.g., African American or European American) as euphemisms for racial categories (e.g., black or white) obfuscates the potential utility of racial (i.e., pertaining to racism and socially-constructed racial hierarchies) versus ethnic (i.e., pertaining to group sociocultural characteristics and/or relations in a diverse society) measures (Bhopal & Donaldson, 1998; Drevdahl, Taylor, et al., 2001).

Needed are empirical studies that build on the conceptualization presented here. Factor analyses can promote the development of validated, socially meaningful measures of ethnicity. Future research should compare traditional one-item measures to those operationalized based on our definition and assess potential differences in point estimates and precision. Research is needed to identify the relational dimension ethnicity concepts that are most relevant when studying specific populations, geographic regions, kinds of inequities or health outcomes. Finally, we conceptualize ethnicity as more fluid and encourage operationalizations that reflect changes across time or settings and that incorporate multiple ethnicity concepts. To do so, however, necessitates the development of more flexible analytic techniques that can accommodate these complexities.

In conclusion, ethnicity is a context-specific, multilevel, multifactorial social construct. In the US, racialization undergirds ethnicity-related social exposures and mechanisms. We introduce the relational dimension of ethnicity to shift the field away from attributing health inequities to sociocultural characteristics while encouraging more rigorous study of the relations between societal factors, ethnicization and health inequities. This is important because social stratification persists in the US, differentially influencing the well-being of ethnically defined groups. Ethnicity is both increasingly complex and increasingly central to social life; therefore, improving its conceptualization and measurement is crucial for advancing research on the social determinants of health inequities.

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