

The conceptualization and operationalization of race and ethnicity by health services researchers

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Racial and ethnic variables are routinely used in health services research. However, there is a growing debate within nursing and other disciplines about the usefulness of these variables in research. A qualitative study was undertaken (July 2004 – November 2004) to ascertain how researchers conceptualize and operationalize racial and ethnic data. Data were derived from interviews with 33 participants in academic health centers in differing geographic regions. Content analyses extracted manifest and latent meanings to construct categories depicting respondents' understandings of race and ethnicity in research. Race and ethnicity held several meanings but the subtext was often not clear because these terms were not operationalized. Measuring race and ethnicity quantitatively necessitated uniform classifications thus it was often necessary to impose a single racialized identity. Respondents recognized the problems with racial and ethnic variables but the majority still believed these variables were necessary and useful. Several researchers understood that racial and ethnic variables were used in ways that may stigmatize the populations studied. These respondents collected data on variables other than race and ethnicity to ascertain the causes of health differentials. The policy recommendation calls for a shift in thinking about how to use racial and ethnic variables in research.

Key words: critical race theory, ethnicity, qualitative research, race, theoretical framework.

'Race' and 'ethnicity' are routinely included as demographic variables in health services research. Health services researchers use racial and ethnic identifiers to track and document disparities in health outcomes (LaVeist 1996; Williams 1999), explain treatment variations (Gonzalez-Burchard et al. 2003), describe populations (Hahn 1992; OMB 1997b), denote risk markers for diseases (Waldenstrom 1990; Bhopal and Donaldson 1998), and develop policy (Alland 2002).

Racial and ethnic classifications also function as the language for racial discourse and serve as the 'intellectual products, social markers, and policy tools' for society (Nobles 2000, 1738; Omi and Winant 1994). The concept of categorizing individuals by race and ethnicity, moreover, is

so widely assumed and strongly acknowledged that these variables have become our *normative lens* in which we view the world and *impose discussion about human variation* (Stanfield 1993, 3; Fausto-Sterling 2004).

Racial and ethnic definitions (and connotations) depend on location, class and nationality thus collecting and analyzing racial and ethnic data pose conceptual and practical problems (Goldberg 1992; Zuberi 2001; Marks 2005). Moreover, racial and ethnic categories as used in health services research lack precision, often fail to capture the diverse backgrounds of research subjects (McKenney and Bennett 1994; Culebras 1995; Hahn 1999; Perot and Youdelman 2001; Graves 2001; Buescher, Gizlice and Jones-Vessey 2005), and often function as attributes of socioeconomic status and other proxy variables. Because race and ethnicity are rarely operationalized in research (Schulman et al. 1995; Drevdahl, Phillips and Taylor 2006; Ma et al. 2007), these variables are fraught with contradiction and confusion for

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both the researcher using them and those interpreting the clinical findings and policy recommendations.

Drevdahl, Phillips and Taylor published a feature article in *Nursing Inquiry* about racial and ethnic variables in nursing research. Their article contributed to the growing critique as well as vibrant discussions within nursing (Drevdahl, Phillips and Taylor 2006), epidemiology (Jones, LaVeist and Lillie-Blanton 1991; LaVeist 1996; Cooper, Kaufman and Ward 2003; Krieger 2005), public health (Fullilove 1998; Buehler 1999; Bhopal 2002), medicine (Anderson et al. 2001; Rivara and Finberg 2001; Moscou et al. 2003), health services (Hahn, Mulinare and Teutsch 1992; Williams 1994; Culebras 1995; Bhopal and Rankin 1999; Laws 2001), and journal editors (Kaplan and Bennett 2003; Winker 2006) about the usefulness of racial and ethnic variables in research, the problems engendered by using racial and ethnic variables in research and better ways to utilize race and ethnicity in research.

Although discussion about racial and ethnic variables exists within these disciplines, there has been a scarcity of empirical studies investigating how health services researchers in the USA operationalize and conceptualize race and ethnicity or the researchers' role in advancing the 'production of knowledge and the politics of doing research on race and ethnicity' (Gunarathnam 2003, 3). Examining how researchers and professionals define race and ethnicity has largely been the purview of sociologists and anthropologists. These disciplines have explored concepts of race with professors and scientists and how their definitions may affect ways in which race was taught, written about and perceived by the public.

Morning explored the definitions and meanings of race with biology professors, anthropology professors and college students (Morning 2004). Lieberman, Hampton, Littlefield and Hallead asked anthropology and biology professors to define race (Lieberman et al. 1992). Ellison and Outram interviewed geneticists and editors of genetic journals about the social and scientific meanings of race as well as the reliability and validity of these classifications in research (Outram and Ellison 2005). To date, no such inquiry within the health services research sector exists in the USA.

Knowing the meaning(s) researchers ascribe to race and ethnicity is essential because science establishes the salience of these concepts (Omi and Winant 1994; Alland 2002). Furthermore, how researchers construct and operationalize race and ethnicity (biological vs cultural vs social) reveal the questions they pose in their hypothesis, their research design, the data they collect (or do not collect), their analysis of the data, and their interpretation of racial and ethnic health differentials. How researchers interpret these

differences guide their suggested clinical interventions (individual patient behavior vs neighborhood's ability to promote health) and health policy initiatives (genetic screening vs. wealth redistribution).

This study describes how health services researchers in the USA conceptualize and operationalize race and ethnicity. The theoretical frameworks that guided this study were sociology of knowledge and critical race theory. Sociology of knowledge informs the production of knowledge within health services research, its outward transmission (policy and clinical journals) and its reception by non-researchers. Critical race theory informs the discourse around race and ethnicity providing insights into racial and ethnic metaphors used to explain disparities.

STUDY METHODS AND ANALYSIS

A qualitative study was undertaken (July 2004 through November 2004) to ascertain how health services researchers conceptualize and operationalize race and ethnicity. Data were derived from semistructured interviews with 33 researchers affiliated with urban academic health centres in southern, western and north-eastern USA. Several non-probabilistic sampling strategies were used to determine the sample size and the selection criteria for researchers.

Quota sampling was used to establish the sample size and purposeful and reputational sampling strategies were used to select respondents. These strategies ensured that the sample was representative of the population studied, that the sample was consistently drawn from the population of interest, and that study participants were capable of providing information about racial and ethnic data collection practices in health services research (Henry 1990; Bernard 2000).

Establishing the minimum sample size for health services researchers was carried out by quota sampling. Quota sampling is used by anthropologists to choose 'key informants' who are knowledgeable about specific 'domains of life' in a culture (Trost 1986; Bernard 2000, 176). Using this sampling design maximized the selection of key informants who represented the research environment as well as characterizing variations among researchers and the research culture.

Quota sampling determined that a minimum sample size of 30 health services researchers was needed to ensure that the open-ended interviews would produce relevant data. The principal independent variables used to stratify the sample were two genders (male and female) and 15 variable strata consisting of age (five category ranges), discipline (clinical, non-clinical), diversity (person of colour, white), region (east, west, south), and research level (junior, mid-level, senior). Multiplying the number of genders by

15 variable strata equalled interviewing a minimum of 30 health services researchers.

Once the necessary sample size was established, study participants were chosen using purposeful and reputational sampling methods. Health services study respondents were identified by several means: (i) poster presentations viewed by this author at the 2003 Academy Health Services conference in San Diego (abstracts were available in the programme); (ii) *Health Services Research Projects in Progress* (online database of nationally funded projects) provided information about funded research projects at academic health centres in selected city interview sites; and (iii) recommendations of researchers currently interviewed and previously interviewed in a pilot study carried out in 2002 and 2003.

Health services researchers considered for participation in this study were the principal investigator (PI) or one of the PIs on a research project and worked at an academic health centre in an urban setting. Prospective researcher-subjects were contacted in person (Academy Health conference), by e-mail, or by telephone and asked to participate in the study. Respondents who agreed to be interviewed were included in this study.

Choosing health services respondents affiliated with urban academic health centres allowed the recruitment of researchers with diverse educational backgrounds and research topics. Furthermore, the chosen geographical areas were heavily saturated with academic health centres and provided an excellent opportunity to find out if racial and ethnic classifications differed by region.

Researchers were interviewed in person at their offices. Each audiotaped interview was approximately 30–60 minutes long. The audiotaped interviews were transcribed verbatim into Microsoft Word and then entered as electronic documents into ATLAS.TI version 5, a qualitative data management software program.

Transcripts were reviewed, coded and then evaluated by a set of categories that emerged from the data. Descriptive statistics were acquired from several 'yes/no' responses to questions. Univariate data were generated in SPSS version 11.5.

Content analyses extracted manifest and latent meanings to create a category system capable of depicting respondents' conceptualization and operationalization of race and ethnicity in research designs.

ASSURING DATA QUALITY

Assuring the quality of the data entailed developing a codebook to check for intercoder reliability. A sociologist

and journal editor were given the coding instructions, the unit of analysis and the codebook that defined the thematic categories. Each worked independently applying codes to the same three transcripts.

The mean intercoder reliability for thematic classifications was 61%. Agreement in the individual thematic categories ranged from 50–100%. Coding disagreements may have occurred because the thematic classifications were similar and had overlapping meanings and coding three transcripts was not enough for each coder to synthesize the concepts.

STUDY FINDINGS

We inherit a methodology — we don't get to make one up. So, for example in the United States most hospitals use discharge data to collect data on race. Very few, not very few, none — collect data on some form of socioeconomic class position. So, we are always confounding and confusing race variables [that are] hard for us disentangle. That makes us over emphasize certain aspects of the minority experience and not understand well, the experience of poverty. MD, California.

Self-reported demographic characteristics of the study sample are found in Table 1. Respondents were asked to identify their research level (senior, mid-level and junior) but one respondent commented she was 'brilliant.'

Respondents were asked if they always included racial and ethnic variables, sometimes included these variables, or never collected data on race and ethnicity. Participants were also asked if they considered race and ethnicity as separate entities (Table 2).

The majority of respondents (82%) always included racial and ethnic variables in their research designs. A sociologist in Oregon commented:

[I use race] 100% of the time. I don't think I've ever done a [research] project where we didn't collect data [on race]. In fact, I turned away [several] projects recently because it was one of those white, non-white [classifications]. [Also] there were so few minorities included [in the project] there [would be] no way to analyze the data by using race and ethnicity. Also, I thought, journals and funding agencies [would] say, 'Forget it' [and not publish or fund the project]. But, also [I rejected this project] because I always want to ask about [race and ethnicity] as part of the questions I ask. [Without racial data] — it, would limit the value of the data — to me.

Eighteen per cent of researchers indicated they 'sometimes' included racial and ethnic variables. A physician from Birmingham, Alabama, noted that racial and ethnic variables were only included when they were available. However, this physician also noted, 'The IRB requires, in our reports (the) expected racial breakdown (of study participants) for the initial approval (of the research project).'

Table 1 Health services researchers self-reported descriptive data ($N = 33$)

Gender		Percentage		Region		Percentage	
Male	15	45%	East	11	33%		
Female	18	55%	South	11	33%		
			West	11	33%		
Age				Research year			
25–29	1	3%	0–10	12	36%		
30–39	9	27%	11–20	12	36%		
40–49	10	30%	21–35	9	27%		
50–59	10	30%					
60–65	3	9%	Mean year	14			
Education				Research level			
Master's	1	3%	Junior	10	30%		
PhD	16	48%	Mid-level	6	18%		
EdD	1	3%	Senior	16	48%		
DrPH	1	3%	Brilliant	1	3%		
MD/PhD	3	9%					
MD/MPH	5	15%					
MD	6	18%					

Table 2 Race/ethnicity in research ($N = 33$)

	N	Percentage
Race/ethnicity use		
Always	27	82%
Sometimes	6	18%
Race/ethnicity distinct		
Yes	20	61%
No	13	39%

When asked if race and ethnicity were treated as distinct concepts or entities, 61% indicated 'yes' and 39% indicated race and ethnicity were treated as the same entity. A physician in New York remarked:

I don't like separating the two of them. I like thinking of [race and ethnicity] as one [variable]. [Further] I think it is hard to separate [these terms] like we do [and at times], I do. But, I just don't like [the separation because] it doesn't feel right.

However, this same physician indicated that even though participants were permitted to select a race or an ethnicity, these identifications were 'lumped' together when analyzing the data. The researcher reasoned, 'I think that [race and ethnicity] should be lumped [because] they are not separate issues. I think they are one big issue.'

Many researchers combined the terms race and ethnicity and created the variable *race/ethnicity*. One researcher (MD

Table 3 Essentialist conceptualization ($N = 33$)

	N	Percentage
Race is biological		
Yes	12	36%
No	13	39%
Yes/no	5	15%
Open question	1	3%
Struggling	1	3%
Maybe	1	3%
Ethnicity is biological		
Yes	4	12%
No	25	76%
Yes/no	3	9%
NA (choice)	1	3%

in Alabama) reported, 'I try to always use the term race/ethnicity because I think they are so intermingled.'

Researchers were asked whether they believed that race and ethnicity were a biological construct, a cultural construct, social construct and a political construct (Table 3). The theme essentialism was identified to denote those researchers that held a biological or genetic understanding of race and ethnicity. The essentialist definition of race was held by 36% of the respondents.

Respondents equating race with biology accepted that race approximated the genetic make-up in groups

Table 4 Constructionist conceptualizations of race and ethnicity ($N = 33$)

	Yes	Percentage	No	Percentage	Yes/No	Percentage	DK/NA	Percentage
Race								
Cultural	26	79%	6	18%	0	0%	1	3%
Social	30	91%	2	6%	0	0%	1	3%
Political	28	85%	3	9%	0	0%	2	6%
Ethnicity								
Cultural	31	94%	1	3%	0	0%	1	3%
Social	32	97%	0	0%	0	0%	1	3%
Political	18	55%	14	42%	0	0%	1	3%

identified as black, white, Hispanic, Asian, Native American and so forth. A physician in Atlanta observed that race is biology, if you understand that race represents 'how one looks':

Race in its purest form is a biological construct because you know people are phenotypically different. So, if you base [race] on phenotype [then race] is a biological construct. But, I think how [race is] used [in research] has a lot of social overlay.

On the other hand, 15% believed that race had both biological and social meanings, thus answered 'yes' and 'no' to the question 'is race biological'. Another group of researchers (9%) gave comments such as 'I'm struggling with this concept', 'It's still an open question', and 'Maybe.'

The researcher 'struggling' remarked:

I think the definitions of race sit on the fact that [race is] a social and political construct [and not] a biological construct. [But] I have to be honest, I struggle with [this] a little bit because I think that the Human Genome Project and some of the [research] we are doing [and are part of] is a hotly contested debate. Does race have biological markers that are important for the development of medications, responses to medications, and development of diseases? I think right now, we [can] say, 'No. Race is a social construct.' I think that's fair. I just say this is something that I'm struggling with personally in my mind.

Ethnicity was not seen as biological (76%) but seven researchers (21%) indicated that ethnicity had biological components. One researcher chose not to answer.

The theme constructionism was identified to explain the non-biological meanings ascribed to race and ethnicity. Respondents were asked if they considered race and ethnicity a cultural construct, a social construct and a political construct (Table 4). A cultural construct was operationalized as shared characteristics (e.g. diet and cultural practices) attributed to specific racial and ethnic groups whereas a social construct was defined as society's role in the naming and assigning of racial and ethnic categories.

Most researchers considered race to be culturally constructed (79%), most thought race was socially constructed (91%), and most felt that race had political implications (85%). Similarly, most respondents considered ethnicity to be a cultural construct (94%), most saw ethnicity as a social construct (97%) and most found that ethnicity had political aspects (55%). A physician in Atlanta chose not to answer the questions of whether race and ethnicity are social, cultural and political constructs because 'I think that's a question that doctors aren't well set up to answer.'

The cultural and social meanings ascribed to race and ethnicity by study participants provided a glimpse into what they believed their research was examining. A psychologist in Tampa, Florida explained:

I'm looking at [race] as a social/cultural concept. I also have a measure of discrimination in the study. I think that's how I approached [race]. The differences [noted] could be coping [strategies] between the two groups [because] they have different life histories, different perceptions of people in their communities and outside of [their communities]. So, I think, I really was conceptualizing [race] as social/cultural variable.

Respondents used standardized racial and ethnic categories in their research designs in order to generalize their findings and compare health outcomes between or among racial and ethnic groups. Most of the respondents used some form of the standardized racial and ethnic classifications promulgated by the Office of Management and Budget (OMB). The Office of Management and Budget Directive 15 specifies five minimum racial categories (black or African-American, white, Hawaiian or Other Pacific Islander, American Indian or Alaska Native, Asian) and two ethnic categories, Hispanic or Latino and Not Hispanic or Latino (OMB 1997a).

Imposing uniform racial and ethnic classifications illustrated the acceptance of these racial and ethnic groupings as well as the malleability of these classifications.

When a respondent's study participant reported a racial or ethnic identity outside of the standardized classifications, these participants were asked (when possible) to select a racial or ethnic identity that conformed to a list of standardized classifications.

Study participants indicating multiple racial and ethnic identities (e.g. white and black, Puerto Rican and black, Asian and white) were asked (when possible) to choose a race or ethnicity they identified with most thus negating a part of their identity. If study participants did not or could not choose another racial or ethnic identity, researchers' either excluded these participants from the study or, in some cases, the principal investigator or project statistician assigned a racial or ethnic identity. A researcher in Seattle remarked:

when I get my surveys back, I look at the data. For those who check off more than one [racial or ethnic identity], we have group discussions in the research team. I say, 'Okay, how do we categorize this person?'

Some researchers rejected dual racial and ethnic identities. These researchers either forced their study participants to decide on a single racial or ethnic identity or, again, made the choice for them. A researcher in Portland commented:

We assume that people who identify with any kind of minority background — let's say somebody [self-reports] as both African American and white or Latino and white — we will assume that being part of a minority group will have some impact on their [health] experiences. We will put [those people] in that [minority] group [because we] assume that the part identifying with the minority group will impact their experiences [in the health care system].

An epidemiologist in Atlanta provided a rationale for how this practice originated:

What we've done, what our data person has done — per my instructions — for those individuals who classify themselves as Black [and something else], then they're [classified as] Black. I pretty much use White and Black as [the] predominant races with Black being the most predominant. So, that took a slavery mentality an ounce of Black you're Black.

Quantitative methods predominated (67%) in both medical and non-medical disciplines. Quantitative methodology, in particular, requires that category cell sizes are large enough to generalize about the studied populations, thus, race or ethnicity become a categorical variable in which binary relationships exist (e.g. black/white, Hispanic/Non-Hispanic, white/non-white). A researcher in Nashville stated:

I'm a sociologist ... I really believe [that] sociologists like behavioral scientists get [race and ethnicity in a broader context] but MDs and epidemiologists do not. They understand black = 0 and white = 1. I hate that. That is not race. That's a binary variable.

Quantitative methodology also requires selecting a reference group in order to make comparisons between or among racial and ethnic groups. The reference group most used by researchers was white (45%). A physician from Boston provided this rationale:

I think the nature of disparities research, for better or for worse, the white population [is used] as the reference group. There are plenty of reasons why you could debate [this practice] and people have argued this in a variety of ways. I think there are significant sociologic and historical reasons why, in this country, we use 'white' as the reference group. Issues related to [the] history of our nation [including] power and privilege [of a particular group]. [There are] a whole set of things even socioeconomic class and the over-representation of certain groups in certain socio-economic levels that allow us, at a rough cut, to look at the white population as a benchmark

Although many respondents used 'white' as the reference group, a physician in San Francisco never considered selecting a different referent group:

Good question. We see [white as] the larger sample. I think [this practice] probably reflects a convention that has its own value and assumptions that [white] is a majority population. [This is] a provocative question. [This practice] is like these things we make assumptions about [but do not] think [about] the vis-à-vis standard to which you are comparing other things.

The majority of researchers (64%) stated that race and ethnicity served as a proxy for other variables of interest such as socioeconomic status, discrimination, marginalization and social stratification. Other respondents (36%) indicated they had never used racial and ethnic variables to suggest other concepts. Race and ethnicity, most commonly, served as markers for culture and socioeconomic factors such as poverty and class. Race and ethnicity were accepted as legitimate variables to convey socioeconomic status information when that information was not available.

For those acknowledging that race and ethnicity were proxy variables, social and cultural meanings were attributed to them. A sociologist in Los Angeles stated that race and ethnicity are 'sometimes a proxy for culture and sometimes a proxy for social stratification.' A physician in San Francisco declared, 'I think [race] is measuring a status in society that is defined by one's culture, one's language, one's skin color, one's social network.'

Of note, 12 respondents stated that race and ethnicity were not being used as proxy variables. However, reasons given for racial and ethnic differences revealed that race and ethnicity functioned as surrogate markers for social variables (e.g. prejudice) or cultural variables (e.g. diet). Additionally, there was a presumption of cultural homogeneity among racial and ethnic groups thus race and ethnicity did serve as

a proxy for a shared experience. A researcher in Seattle did not believe that race and ethnicity were acting as proxy variables but when asked what race and ethnicity measured this respondent disclosed: 'I think [race] is measuring social justice. I think [race] is measuring how we feel about each other, how we have treated each other, and the impact of our actions towards each other'.

Researchers may hold assumptions about a particular racial and ethnic group based on their previous research or from other studies. Presumptions about racial and ethnic groups (language, insurance status, socioeconomic status characteristics, biological and physical traits) might be carried into newer research projects even though the new participants may be vastly different from previous study participants.

A researcher in the northeast presupposed that study participants who self-identified as Hispanic or Latino would require bilingual services because the researcher's previous study participants were older diabetic patients who either only spoke Spanish or felt more comfortable communicating in Spanish.

The study participants in this respondent's current research project were members of a hospital union. The respondent remarked, 'I have my bilingual staff lined up and ready to go. But, we're just not finding the Spanish speakers.' This researcher's supposition, however, ignored that English is required in most employment settings and that Hispanic or Latino study populations might be quite different.

Standardized racial and ethnic classifications signify an internal sameness of culture, biology and behaviour within the group identified with that label. Racial and ethnic labelling thus permits assumptions about the prevalence of particular diseases in specific racial and ethnic groups. A physician in San Francisco conveyed:

When I'm teaching (medical residents) and a student presents a case (of) a 50-year-old African-American with hypertension and whatever — I say, 'We better check for diabetes because those tend to go hand in hand. And, in African-American populations there is a high prevalence.'

This same physician further noted: 'Understanding comorbidity is [an] important cognitive shorthand that is important to teach. [But] on the other hand, it essentializes race by saying that — this is something I'm struggling with a lot in my teaching'. This physician believed that linking hypertension to other comorbid diseases is a necessary lesson for medical residents but also recognized there was a problem with equating a racial identity with a particular disease. This conflation often leads to generalizations and

unwarranted assumptions about genetic backgrounds and disease processes within a specific racial or ethnic group.

Multiple studies have shown that racial and ethnic data in administrative databases are not reliable particularly for non-white individuals and repeatedly fail to capture the full range of ways in which people self-identify (Hahn, Mulinare and Teutsch 1992; Pan et al. 1999; Baumeister et al. 2000; Boehmer et al. 2002; Moscou et al. 2003; Blustein 2005). Although most respondents acknowledged the problems of using secondary data, several indicated that there were observable physical characteristics and cultural indicators such as language that could lead someone to select the correct or appropriate racial or ethnic identity. A sociologist in Oregon observed:

Administrative data collected by the Medicaid program in Oregon is collected by the caseworker simply selecting a race. Who knows what they put [down]? I think, they ask sometimes but I don't think they always do. Sometimes [the person's race and ethnicity] might be really obvious [to the clerk]. If you know someone speaks Spanish and moved from Mexico about 2 months ago, sure, that is easy. But, I think there are other cases when it's not [obvious]. In particular, Native Americans or one of those groups that don't always appear ethnic.

A physician in Birmingham, Alabama also conceded that the accuracy of racial and ethnic identities was questionable but accepted that classifications of African-American were likely accurate:

We are not entirely sure how accurate (administrative data) is (in their racial and ethnic classifications). Although for African-American, for example, I work with a lot of Medicare claims data and the validity of African-American (classification) is pretty high. But, the validity for Hispanic or Native American is not high at all ... we do the best we can.

All of the respondents believed that examining racial and ethnic differences was important; therefore, collecting racial and ethnic data were necessary. Still, some researchers questioned the traditional ways that race or ethnicity is conceptualized and interpreted in health services research. These respondents acknowledged that their research findings might play a role in racial and ethnic stereotyping. A medical anthropologist in Arkansas noted:

I worry about [how my research is interpreted]. In fact, I'm afraid [that] I'm stereotyping. I'm afraid people will sometimes interpret, for example, if I say African-Americans [did this] or in this study [African-Americans] were this then everybody says, 'Oh, all African-American women are like this.' Even in the South with the populations that we have, I can't really generalize. I can't say all African-Americans in East Arkansas are poor even though a good proportion of

them are either poor or live in a poor culture. I do worry that folks are being stereotyped and that [my findings] lead to these stereotypes. I really try to provide a cultural variable [to explain the disparity] rather than the ethnic variable because a lot of this stuff is particular to the South.

Rather than routinely include race and ethnicity in research designs, some respondents attempted to tease out other variables that might be responsible for the disparity. These researchers used alternative variables to examine the studied problem, thus, eliminating race or ethnicity as the explanatory variable. A researcher in Santa Monica, California was able to tease out a physical trait that contributed to birth outcome differentials. The researcher commented that using the variable 'stature' instead of race did not perpetuate unwarranted presumptions about a particular racial group. 'We actually had a different way of being able to look at the mom's stature, which was the thing we were trying to control for instead of assuming that all Asians were small'.

A researcher in New York City recognized the secondary consequences of using racial and ethnic variables in ways that reinforce assumptions and stereotypes about communities of colour. When race and ethnicity are 'in the equation', minorities are often viewed in unflattering ways and the social analysis of why the disparity exists or persists is frequently missing.

When another researcher re-analyzed this respondent's data from an earlier study, this respondent found the re-analysis more informative and instructive. The respondent remarked:

The damage that had been done by identifying the problem with [a specific] racial/ethnic group was bad enough. We wrote pretty much the following [after the study appeared]: good research and regret the fallout that it caused. [We] feel that [the reanalysis of our study] published in this issue of [journal X] does a much better job of moving the analysis forward because it takes race/ethnicity out of the equation and focuses much more on neighborhood dynamics, which is at this point in our research efforts, we feel is really going on [and causing the differentials seen in disease prevalence].

DISCUSSION

The goal of this descriptive study was to ascertain how health services researchers conceptualize and operationalize race and ethnicity. The broad findings showed that race and ethnicity held several meanings for respondents but the subtext of race and ethnicity (biological, social, cultural or political) was often unclear because race and ethnicity were seldom operationalized in the original research design.

The interviews illustrated that respondents believed that race and ethnicity held biological and social meanings.

Although one-third of the respondents stated that race was biological, eight respondents acknowledged dual definitions of race (biological and social). Ethnicity, on the other hand, was overwhelmingly accepted as non-biological and was seen to represent the cultural aspects of specific racial and ethnic groups. Most of the respondents indicated that ethnicity held cultural, social and political meanings.

The large number of respondents who believed that racial and ethnic variables denoted biological and genetic properties was surprising and such views contribute to the often unwavering belief that race and ethnicity (particularly in clinical medicine) are useful in treatment regimens and necessary variables in health services and clinical research.

Racial and ethnic labelling did carry assumptions about the groups studied because these classifications implied a commonality within a given group in terms of culture, cultural practices and biology. Additionally, biased beliefs or assumptions about racial and ethnic groups were embedded, often uncritically, in the limited number of racial and ethnic labels used, the analytical framework used (quantitative or qualitative), and the educational discipline of the researcher (clinician or non-clinician).

Researchers' tendency to imbue race and ethnicity with social or biological characteristics depended on the researcher's discipline, whether or not they were clinicians, and their areas of interest. Non-clinicians, for example, were much clearer that race signified culture whereas clinical researchers, for the most part, appeared reluctant to dismiss that race captured on some level meaningful biological differences (this belief might grow stronger as funding increases for pharmacogenomic research).

The majority of respondents were cognizant that quantitative methods identified the problem but not why it exists (or persists). As one respondent noted, if class, neighbourhood characteristics or other social variables were examined instead of racial and ethnic variables, explanations for racial and ethnic differences in health outcomes would become clearer. Additionally, health policies would begin to correct the identified social problem (e.g. housing, education, transportation, clinical facilities and economic deprivation) often responsible for the reported disparity.

Race and ethnicity, although this was not always recognized, did serve as proxy measurements for such powerful social variables as discrimination, marginalization and economic resources. Moreover, race and ethnicity were often used to convey class factors (income groupings), social behaviours (risk factors), and social conditions (advantages and disadvantages).

Race and ethnicity for many respondents were substitutes for social standing (e.g. lower income, upper income and educated), residential locations (poor or wealthy communities), markers for different life experiences, access and barriers to health-care and treatment, and social stratification (economic advantages or disadvantages). Because race and ethnicity have become synonymous with socioeconomic factors, health services researchers accepted that racial and ethnic variables, although imperfect, could stand-in for class or socioeconomic status. However, social variables (often unstudied but speculated about) were driving many of the racial and ethnic health disparities noted.

Measuring race and ethnicity quantitatively imposed racial and ethnic stratification thus reinforced the belief that groups assigned a racialized identity were different. Enforcing a standardized racial and ethnic identity obliged the researchers' study participants to conform to classification schemes that rendered some racialized identities invisible, negated some racialized identities or excluded some racialized identities from the research project.

Negating, changing or removing study participants' racialized identities skews research findings towards a homogenous and false conclusion. Moreover, this practice maintains the hegemony of the researcher to ignore how study participants conceptualize race and ethnicity and the importance or non-importance of racial and ethnic identities for these participants.

Quantitative methods required choosing a referent group to make comparisons between or among racial and ethnic groups. The reference group most often used by researchers in this study was white. Reasons given for using this group were (i) whites were more likely to be insured, (ii) whites were more likely to have access to health-care, (iii) whites were less likely to encounter access barriers, and (iv) whites as the comparison group are standard research practice.

Whereas this is often true for well-insured white study participants, it does not necessarily hold for uninsured or underinsured whites who are more likely to have health outcomes similar to others in their class. By ignoring poor or lower-income whites, researchers often rendered this group invisible in health services studies. Furthermore, defining and accepting a particular class of whites as the default referent group maintains the structural hierarchy of the dominant class, subordinates minority group members, and constructs a framework that obscures the reality that poor whites have similar health outcomes to poor non-whites.

Respondents did recognize the inherent problems with racial and ethnic variables (measurement concerns, imprecision, misclassifications and narrow racial and ethnic

categories) but the majority still believed these variables were necessary and therefore useful to their research. There was an a priori assumption that racial and ethnic variables could discern the reasons for health disparities. This belief reinforced the conviction that racial and ethnic variables had explanatory power despite the reality that race and ethnicity often served as proxies for social factors such as inequality and marginalization and socioeconomic factors such as poverty and class.

Several researchers understood that racial and ethnic variables were often used in ways that contributed to reductive and flawed interpretations of racial and ethnic differences. These respondents noted that racial and ethnic variables often engendered simplistic comparisons, ignored the vast differences within the populations studied, and did not address the social problems responsible for many disparities in health outcomes.

These researchers by using other variables of interest had begun to think about factors other than race and ethnicity that might create differentials in health outcomes. Additionally, shifting the analysis beyond racial and ethnic labelling held the possibility that policy solutions and clinical interventions would be addressed within the broader societal milieu rather than in the realm of the 'problematic' individual racial or ethnic group.

The findings demonstrated that a better paradigm is needed to recognize how a racialized identity may or may not contribute to health disparities. The existing paradigms that race and ethnicity equal biology or race and ethnicity equal culture and lifestyle is incapable of advancing knowledge about the nature of racial and ethnic disparities because the effect of social stratification is missed in these models.

CONCLUSION

Racial classifications have a long history of negative social consequences for those identified as non-white (segregation, economic deprivation, racism and inequality), are without biological merit and provide inconsequential information. Little is accomplished by using these classifications other than legitimizing unscientific categories 'full of evil social import'; therefore, some have suggested it is time to abandon racial variables (Fullilove 1998, 1297; Buehler 1999; Cooper, Kaufman and Ward 2003).

Given that the collection of racial and ethnic data will continue, a paradigmatic shift in the knowledge production of race and ethnicity is needed. Additionally, learning the consequences of racialization (identity assignment) calls for a theoretical framework that deconstructs (and

reconstructs) the mechanisms, practices and social relations responsible for producing and reproducing racial and ethnic inequalities in health outcomes.

Critical race theory (CRT) offers a conceptual framework in which to examine the social relations of race and ethnicity and their effects on health outcomes seen in groups assigned a particular racial or ethnic identity. CRT identifies the interplay (or hidden correlation) of race and ethnicity in relation to one's economic status, living conditions (e.g. neighbourhood characteristics) and social status (e.g. educational level).

CRT emerged from legal studies as an approach to examine race within the economic, social and political dimensions of the legal system (Ladson-Billings 1998). Using the lens of *perspectivism* (contextualization of oppression for a particular person at a particular time and place), critical race theorists analyze the myths, presuppositions and conventional wisdom about race by collecting stories and narratives of those with limited power and privilege (Matsuda 1992; Delgado and Stefanic 2001).

CRT moves the prevailing scientific paradigm of studying (and controlling for) phenotypic characteristics (racial categories) and the dominant methodological lens (quantitative) towards a scientific paradigm that can analyze the structural dimensions (racism, classism and sexism) that are contributory factors in racial and ethnic disparities in health.

CRT shifts the existing scientific paradigm (predictive explanation models) by applying a qualitative methodological lens that can bring about a contextualized understanding of the interplay of race and health or ethnicity and health that is currently missing from disparity research.

Integrating CRT into the study of racial and ethnic disparities provides a rigorous conceptual framework that will allow health services researchers to investigate the effects of a racially stratified society (socially structural arrangements) on an individual, particular racial or ethnic group, or a community's health. Furthermore, applying a critical race theoretical framework when investigating racial and ethnic disparities encourages the researcher to consider the scientific, clinical, social and ethical ramifications inherent in the design and implementation of race-based research.

Race and ethnicity have a role in health services research because as long as racial inequality exists, the research community is obligated to bear witness to and redress health disparities. However, by ignoring the complicated relationship between race and health or ethnicity and health, we continue with a one-dimensional analysis that limits our knowledge about the existence and persistence

of disparities in health outcomes. Without contextualizing research participants' racialized identities, race and ethnicity continue to be proxies for biological or cultural variations.

Examining the *effect(s) of race or ethnicity* on health within a critical race theoretical framework broadens our analysis (as well our discussion) of racial and ethnic disparities beyond biological and cultural reductionism.

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