Primary Care Resident Perceived Preparedness to Deliver Cross-cultural Care: An Examination of Training and Specialty Differences

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OBJECTIVE: Previous research has shown that resident physicians report differences in training across primary care specialties, although limited data exist on education in delivering cross-cultural care. The goals of this study were to identify factors that relate to primary care residents' perceived preparedness to provide cross-cultural care and to explore the extent to which these perceptions vary across primary care specialties.

DESIGN: Cross-sectional, national mail survey of resident physicians in their last year of training.

PARTICIPANTS: Eleven hundred fifty primary care residents specializing in family medicine (27%), internal medicine (23%), pediatrics (26%), and obstetrics/gynecology (OB/GYN) (24%).

RESULTS: Male residents as well as those who reported having graduated from U.S. medical schools, access to role models, and a greater cross-cultural case mix during residency felt more prepared to deliver cross-cultural care. Adjusting for these demographic and clinical factors, family practice residents were significantly more likely to feel prepared to deliver cross-cultural care compared to internal medicine, pediatric, and OB/GYN residents. Yet, when the quantity of instruction residents reported receiving to deliver cross-cultural care was added as a predictor, specialty differences became nonsignificant, suggesting that training opportunities better account for the variability in perceived preparedness than specialty.

CONCLUSIONS: Across primary care specialties, residents reported different perceptions of preparedness to deliver cross-cultural care. However, this variation was more strongly related to training factors, such as the amount of instruction physicians received to deliver such care, rather than specialty affiliation. These findings underscore the importance of formal education to enhance residents' preparedness to provide cross-cultural care.

KEY WORDS: primary care; medical education; cross-cultural care.

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INTRODUCTION

In response to the well-documented racial/ethnic disparities in health care, the Institute of Medicine, the American Medical Association, and the Accreditation Council for Graduate Medical Education (ACGME) have all called for the inclusion of training curricula to improve cultural competence among physicians.¹⁻³ The competencies include skills for providing quality care to diverse populations (cross-cultural care), such as assessing patients' understandings of illness, identifying and addressing mistrust in the clinical encounter, and caring for patients with limited English proficiency. Increasingly, medical residency programs have begun to offer instructional opportunities for providing cross-cultural care,⁴ although training in this area has not been uniform across specialties.

Despite ongoing recommendations and efforts to improve cross-cultural training, a recent national survey of resident physicians revealed that one third to one half of the respondents reported that they received little or no instruction in caring for diverse patient populations.⁵ Common barriers to delivering cross-cultural care cited by resident physicians include caring for patients with limited English proficiency, inadequate time to address cross-cultural issues, limited resources (such as formal teaching or access to interpreters), and lack of supervision or mentorship to support their professional development in this area.⁶⁻⁸ To address the deficits in cross-cultural education, the ACGME has incorporated multiculturalism into the "professionalism" competency requirement for physician training, and medical residency programs have begun to establish formal curricula for teaching residents.⁹⁻¹¹

The preparedness of residents to function at optimal levels in the health care system has received national attention. To improve upon limits in knowledge and skill, residents must be able to recognize and address their deficits. Therefore, in addition to supervisor evaluations, the ACGME promotes the value of self-assessment as a critical component of professionalism.^{12,13} Commonly used to evaluate educational experience, self-assessments are relatively stable and predictive of subsequent performance.¹⁴⁻¹⁶ Researchers have employed such methods to study resident preparedness for clinical practice¹⁷ and caring for low-income populations.¹⁸

Findings from resident self-assessment investigations have also revealed that physicians across primary care specialties report that they are not equally prepared to treat common medical conditions¹⁹ or to provide preventive counseling.²⁰ The study of specialty differences in delivering cross-cultural care,

however, has received little attention from researchers. Historically, the discipline of family medicine has emphasized the biopsychosocial approach and the importance of training physicians to provide quality care to ethnically diverse populations.^{21–23} Consistent with these educational values, empirical findings demonstrate that family practitioners tend to be more patient-centered in their communication style with minority patients when compared to internal medicine physicians.²⁴ Furthermore, family medicine trainees are more likely than internal medicine trainees to rate sociocultural factors as relevant to clinical practice and to perceive themselves as more competent in managing sociocultural issues.²⁵

Formal preparation for providing cross-cultural care among pediatric and obstetrics/gynecology (OB/GYN) residents is more difficult to characterize from previous research. Whereas the American Academy of Pediatrics has issued policy statements for ensuring culturally effective pediatric care^{26,27} and there is an emerging literature on the development of educational programs within this specialty,^{28,29} investigators have not directly compared family medicine and pediatric residents in their training or preparedness to deliver cross-cultural care. In addition, only one empirical study exists to date regarding OB/GYN residency training in such care.⁵

Using a subset of data from the recently published national survey of resident physicians,⁵ we examined the self-perceived preparedness to deliver cross-cultural care among primary care residents, including family practice, internal medicine, pediatrics, and OB/GYN. The goals of the study were to identify independent predictors of residents' preparedness to provide cross-cultural care and to examine whether these perceptions differ across primary care specialties. Based on previous literature, we identified several resident characteristics that may relate to cross-cultural care practices, including physician sex, race, and educational background.^{30,31} In addition, we explored the extent to which various training variables, such as having access to role models and a greater mix of ethnic minority patients, predict preparedness to provide cross-cultural care. Given the emphasis on training in cross-cultural care evident in the family medicine literature, we hypothesized that family medicine residents would be significantly more likely to report feeling prepared to deliver care to diverse populations compared to internal medicine, pediatric, and OB/GYN residents. To help explain any observed specialty differences among the four primary care groups, we also explored whether specialties differed in the quantity of instruction in cross-cultural care and the extent to which variability in resident preparedness was accounted for by such differences in formal training.

METHODS

Sample Selection

The data for the present study were taken from a larger investigation of cross-cultural training among resident physicians, the methods of which have been described in detail elsewhere.⁵ In brief, through a multistage process of identifying academic health centers and hospitals throughout the United States, we selected a stratified random sample of residents from 7 medical specialties completing their training in June 2004, with the aim of enrolling approximately 500 residents per specialty. These recruitment procedures yielded a target sample of 3,500 residents from 563 different residency programs at

149 hospitals. The response rate based on the entire sample of eligible residents was 60%. To test our hypothesis and compare findings with existing scholarly literature on training and preparedness for providing cross-cultural care, we only focused on the primary care specialties ($N=1,150$), including family practice, internal medicine, pediatrics, and OB/GYN, in the present study.

Procedure

The project protocol was approved by both the Massachusetts General Hospital (MGH) and the University of Massachusetts–Boston (UMB) institutional review boards before the initiation of the study. Investigators from the MGH Institute for Health Policy developed the survey; the Center of Survey Research at UMB distributed questionnaires via mail to final year residents during the winter and spring of 2003–2004. The American Medical Association provided the names and program affiliations of residents. Participants' contact information was obtained from either internet searches, Telematch (a database company that matches telephone numbers to names and cities), or the paging services at the study hospitals. Residents provided consent by completing and returning the survey. To assure confidentiality, a sentence appeared on the first page of the questionnaire stating, "Your answers are completely confidential." To increase the response rate, residents received multiple mailings, telephone reminders, and monetary incentives (\$20 for survey completion and a random prize drawing of \$1,000). The Center of Survey Research mailed the money from incentives and the drawing directly to the residents.

Measures

The particular variables of interest for the present study were as follows: resident specialty, demographic characteristics, location of medical school training, access to role models who effectively deliver cross-cultural care, cross-cultural case mix during residency, quantity of instruction received beyond medical school in various aspects of cross-cultural care, and resident perceptions of preparedness to deliver cross-cultural care.

Resident Specialty. We asked residents to confirm the residency program in which they were currently enrolled (emergency medicine, family medicine, internal medicine, OB/GYN, pediatrics, psychiatry, or surgery). Residents from combined training programs, such as internal medicine and pediatrics, were asked to specify one specialty only.

Demographic Characteristics. Residents completed questions about their sex and their race and ethnicity (white, not of Hispanic origin; black, not of Hispanic origin; Asian or Pacific Islander; Native American or Alaskan Native; Hispanic or Latino(a); Other). Because of the small numbers of residents from certain ethnic groups, we collapsed this variable into white, Asian, and underrepresented minorities (black, Hispanic, and Native Americans)

Location of Medical School. We asked residents to indicate if they were graduates of medical schools in the United States or Puerto Rico (Yes/No) and subsequently coded them as either

U.S. medical graduates (USMG) or international medical graduates (IMG).

Access to Role Models. To assess the availability of mentorship, we asked residents to indicate if, at any time during their residency, they had a role model or mentor who they thought was good at providing cross-cultural care (Yes/No).

Cross-cultural Case Mix During Residency. Residents completed three questions about their degree of contact with patients from diverse cultural backgrounds during residency: (1) "About what percentage of your patients were from racial and ethnic minorities, including black/African American, Hispanic/Latino, Asian/Pacific Islander, Native American/Alaskan native?"; (2) About what percentage of your patients had limited English proficiency?"; and (3) About what percentage of your patients were from a culture different from your own?" These 3 items demonstrated acceptable reliability, with a Cronbach's alpha of 0.64. We averaged these 3 percentages to create a composite score, yielding a mean value for cross-cultural case mix during residency.

Resident-reported Instruction in Cross-cultural Care. To evaluate the quantity of training received in cross-cultural care, we asked the residents 10 questions about how much additional instruction, beyond what they learned in medical school, was devoted to teaching them the following aspects of cross-cultural care: determining how a patient wants to be addressed, taking a social history, assessing the patient's understanding of the cause of illness, identifying whether a patient is mistrustful of the health care system, negotiating key aspects of the treatment plan, identifying how well a patient can read or write, identifying religious beliefs that might affect clinical care, identifying cultural customs that might affect clinical care, identifying how a patient makes decisions with other family members, and delivering services effectively through a medical interpreter. The response options for these questions were: "1 = none," "2 = very little," "3 = some," and "4 = a lot." The 10 items were subsequently summed and averaged for each participant to create a total score ranging from 1 to 4, with higher scores indicating more training in the various aspects of cross-cultural care. Previous research has demonstrated the validity and reliability of combining the items as a scale, with strong internal consistency (Cronbach's alpha=0.92).³²

Table 1. Characteristics of Participants in Total Sample and by Resident Specialty

Characteristic	All residents		Family practice		Internal medicine		Pediatrics		OB/GYN		P value*
	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	N (%)	M (SD)	
Total	1,150		307 (27)		271 (23)		294 (26)		278 (24)		
Demographic variables											
Sex											
Male	433 (38)		133 (43)		157 (58)		81 (28)		62 (22)		
Female	717 (62)		174 (57)		114 (42)		213 (72)		216 (78)		<.001
Race/Ethnicity											
White	664 (59)		167 (56)		128 (48)		182 (63)		187 (68)		
Asian	236 (21)		64 (21)		79 (30)		56 (19)		37 (13)		
URM†	225 (20)		67 (23)		57 (22)		50 (17)		51 (19)		<.001
Training variables											
Location of medical school‡											
USMG	853 (75)		205 (68)		181 (67)		226 (77)		241 (87)		
IMG	288 (25)		97 (32)		89 (33)		66 (23)		36 (13)		<.001
Access to role model in cross-cultural care											
Yes	799 (70)		231 (76)		174 (64)		223 (76)		171 (62)		
No	346 (30)		72 (24)		96 (36)		71 (24)		107 (38)		<.001
Mean % for cross-cultural case mix during residency§		51.39 (19.23)		48.15 (20.96)		50.31 (17.97)		53.61 (17.99)		53.67 (19.21)	.001
Mean resident-reported instruction in cross-cultural care		2.66 (0.63)		2.91 (0.57)		2.57 (0.60)		2.66 (0.61)		2.46 (0.67)	<.001

*P values from chi-square analyses and ANOVA comparing family practice, internal medicine, pediatric, and OB/GYN residents

†URM = Underrepresented minorities (African Americans, Hispanics, Native Americans)

‡USMG = U.S. medical graduate, IMG = International medical graduate

§Mean percentages ranged from 2.0% to 99.3%, with higher scores indicating greater cross-cultural case mix during residency.

Preparedness to Deliver Cross-cultural Care. The primary outcome for the present study was residents' perceived preparedness to deliver cross-cultural care. Specifically, residents were asked on a Likert-type scale from "1 = very unprepared" to "5 = very well-prepared," to rate how prepared they felt to care for patients who are from cultures different from their own, have health beliefs or practices at odds with Western medicine, have a distrust of the U.S. health care system, have limited English proficiency, are immigrants, use alternative or complementary medicines, are members of racial and ethnic minorities, and have religious beliefs that affect treatment. These items were also summed and averaged to retain the original 1 to 5 scale, with higher scores indicating residents feeling more prepared to deliver cross-cultural care. To aid in the interpretation of the outcome variable, the preparedness scale scores were then dichotomized at a value of 3 (delineating between reports of feeling "unprepared" vs "well-prepared" on the 5-point scale). The preparedness scale possessed strong psychometric properties (Cronbach's alpha of 0.89).³²

We chose self-perceived preparedness to deliver cross-cultural care as the primary outcome variable based on previous qualitative findings from focus groups and interviews with resident physicians demonstrating that trainees feel insufficiently prepared to deliver such care because of the lack of formal educational opportunities.⁷ In addition, self-assessed preparedness does not require residents to be critical of their current functioning or skills, which physicians tend to overestimate,³³ but rather allows them to reflect on the level of training they received.

Statistical Methods

Using standard statistical software for the social sciences (SPSS, version 14.0), the means, standard deviations, and frequencies for the study variables were first calculated. Chi-square tests, bivariate logistic regression analyses, and ANOVA with post hoc pairwise comparisons were then performed to investigate primary care specialty differences in the resident demographic and training variables as well as to examine the relationships between the predictor variables and primary outcome. Lastly, two multivariate logistic regression models were used to identify independent predictors of resident preparedness to deliver cross-cultural care. In model 1, we examined specialty differences in preparedness, adjusting for several factors related to residents' demographic and clinical characteristics. However, differences among specialties may also be affected by the tendency of individuals with a heightened awareness or interest in cross-cultural care to select into certain specialties. To address this possibility, we created model 2, which contained the same variables as model 1, with the addition of the quantity of instruction residents reported receiving in cross-cultural care during residency.

RESULTS

Sample Characteristics

The characteristics of the sample are displayed in Table 1. Respondents included 1,150 physician residents completing

Table 2. Bivariate Associations Between Resident Factors and Self-reports of Preparedness to Provide Cross-cultural Care

Predictor	Unprepared to provide cross-cultural care		Prepared to provide cross-cultural care		P value*
	N (%)	M (SD)	N (%)	M (SD)	
Total	463 (41)		672 (59%)		
Demographic variables					
Sex					
Male	157 (34)		272 (40)		.03
Female	306 (66)		400 (60)		
Race/Ethnicity					
White	279 (61)		379 (58)		.38
Asian	94 (21)		137 (21)		
URM†	82 (18)		139 (21)		
Training variables					
Location of medical school‡					
USMG	334 (73)		510 (77)		.13
IMG	126 (27)		156 (23)		
Access to role model in cross-cultural care					
Yes	269 (58)		521 (78)		<.001
No	192 (42)		149 (22)		
Specialty					
Family medicine	103 (22)		201 (30)		.04
Internal medicine	114 (25)		151 (22)		
Pediatrics	124 (27)		167 (25)		
OB/GYN	122 (26)		153 (23)		
Mean percent for cross-cultural case mix during residency§		48.36 (19.71)		53.46 (18.65)	<.001
Quantity of resident-reported instruction in cross-cultural care		2.37 (0.57)		2.85 (0.60)	<.001

*P values from chi-square and bivariate logistic regression analyses

†URM = Underrepresented minorities (African Americans, Hispanics, Native Americans)

‡USMG = U.S. medical graduate, IMG = International medical graduate

§Mean percentages ranged from 2.0% to 99.3%, with higher scores indicating greater cross-cultural case mix during residency.

their final year of training in the following primary care specialties: family practice (27%, $n=307$), internal medicine (23%, $n=271$), pediatrics (26%, $n=294$), and OB/GYN (24%, $n=278$). Sixty-two percent of the respondents were female. Participants' racial and ethnic backgrounds varied as follows: 59% were white, 21% Asian, and 20% from underrepresented minorities. The majority of the sample had graduated from a U.S. medical school (75%) and had access to role models in cross-cultural care during residency (70%). Chi-square analyses revealed that more women, but fewer IMG, received training in pediatric and OB/GYN residencies, compared to internal medicine and family practice residencies ($P<0.001$).

Specialty Differences in Residency Training Variables

Also noted in Table 1, several residency training variables differed across primary care specialties. Specifically, post hoc pairwise comparisons demonstrated that family practice residents indicated having a significantly lower cross-cultural case mix during their training ($M=48.15\%$) in comparison to pediatric ($M=53.61\%$, $SE=1.57$, $P<0.001$) and OB/GYN residents ($M=53.67\%$, $SE=1.59$, $P<0.001$). However, despite having the lowest percentage of contact with patients of diverse cultural backgrounds, family practice residents reported receiving significantly more instruction and training in the cross-cultural aspects of medical care ($M=2.91$) than internal medicine ($M=2.57$, $SE=0.05$, $P<0.001$), pediatric ($M=2.66$, $SE=0.05$, $P<0.001$), and OB/GYN residents ($M=2.46$, $SE=0.05$, $P<0.001$).

Analyses of Preparedness to Deliver Cross-cultural Care

Table 2 displays the results from bivariate analyses between the predictor variables and primary outcome. Residents who reported feeling prepared to provide cross cultural care were more likely to be male, to have access to role models in delivering cross-cultural care, to be from family medicine residencies, to have a greater cross-cultural case mix, and to

have more opportunities for formal instruction in delivering such care during their training.

Simultaneous, multivariate logistic regression analyses were subsequently conducted to examine primary care specialty differences in preparedness to deliver cross-cultural care, after adjusting for sex, race/ethnicity, location of training, access to role models in cross-cultural care, and cross-cultural case mix during residency (see Table 3). According to model 1, male physicians and USMG were more likely to feel prepared to deliver cross-cultural care. In addition, residents who had access to role models in delivering cross-cultural care and who had the greatest cross-cultural case mix during residency reported higher preparedness scores. Controlling for these demographic and clinical factors, family practice residents were significantly more likely to report feeling prepared to deliver cross-cultural care in comparison to the internal medicine, pediatric, and OB/GYN residents.

When the resident-reported quantity of instruction in delivering cross-cultural care was added as a predictor for model 2, all specialty differences became nonsignificant. According to model 2, significant predictors of feeling prepared to deliver cross-cultural care included being male, graduating from a U.S. medical school, having a role model, and having a greater cross-cultural case mix during residency. Yet, among the strongest predictors of preparedness was the amount of training and instruction residents reported receiving to deliver such care.

DISCUSSION

The findings from this study confirm that, among primary care trainees, several demographic and medical training variables relate to self-perceived preparedness to provide cross-cultural care. Male residents rated themselves as more prepared to deliver cross-cultural care, despite prior research suggesting that female primary care physicians (PCPs) are more patient-centered and psychosocially oriented in their communication style, as well as more participatory in their treatment decision making with patients.^{30,34} In addition, whereas investigators have shown that IMG are more likely to care for minority and

Table 3. Multivariate Regression Summaries for Residents' Reports of Preparedness to Provide Cross-cultural Care

Predictor	Model 1: residency training not included			Model 2: residency training included		
	OR	95% CI	P value	OR	95% CI	P value
Demographic variables						
Male sex	1.52	1.15–2.00	.003	1.65	1.23–2.21	.001
Race/Ethnicity						
Asian	0.96	0.68–1.37	.84	0.89	0.61–1.28	.52
URM	1.25	0.89–1.76	.20	1.31	0.91–1.88	.15
Training variables						
U.S. medical school graduate	1.53	1.12–2.11	.008	1.79	1.27–2.52	.001
Access to role model in cross-cultural care	2.41	1.83–3.18	<.001	1.60	1.19–2.16	.002
Mean % for cross-cultural case mix during residency	6.42	3.13–13.17	<.001	5.71	2.68–12.18	<.001
Specialty						
Internal medicine	0.59	0.41–0.86	.005	0.82	0.56–1.22	.34
Pediatrics	0.58	0.41–0.84	.003	0.77	0.52–1.13	.17
OB/GYN	0.59	0.41–0.87	.007	0.93	0.62–1.40	.73
Quantity of resident-reported instruction in cross-cultural care	–	–	–	3.67	2.85–4.73	<.001

Comparison categories for the race and specialty variables are white and family practice.

underserved populations,³¹ the USMG in our sample perceived themselves as more prepared to deliver cross-cultural care. Further research is needed to understand the factors that mediate these relationships.

Among the strongest predictors of preparedness were the training characteristics, including having role models, a greater cross-cultural case mix during residency, and receiving more instructional opportunities for learning cross-cultural care. These quantitative findings confirm previous qualitative work, suggesting that resident physicians' preparedness increases as a result of mentorship, clinical experiences, and the integration of formal teaching into clinical practice.⁷ In addition, as predicted, family medicine residents were significantly more likely to rate themselves well-prepared to provide cross-cultural care in comparison to the other primary care specialist. The results are consistent with findings from a small survey conducted by Shapiro et al.,²⁵ showing that family medicine residents consider themselves more competent to deal with various sociocultural issues than do internal medicine residents.

Yet, the differences in preparedness to deliver cross-cultural care among the primary care specialties were nearly all explained by the quantity of instruction the residents reported receiving during their years of graduate medical education. Specifically, despite having the lowest cross-cultural case mix during residency, family medicine residents reported receiving the greatest amount of education in delivering cross-cultural care and indicated the highest ratings of preparedness. These results provide further support for the emphasis on cross-cultural training evident in the family practice literature.²¹⁻²³ The diversity of trainees' case mix during residency is likely related to local patient demographic factors and clearly plays an important role in perceived preparedness to deliver cross-cultural care. However, preparedness also appears to be independently linked to the availability of educational opportunities during residency, suggesting that a self-selection bias in choosing a medical specialty does not sufficiently explain the observed between-group differences in preparedness. Education and practical training appear to be stronger determinants of physician readiness and competence to deliver cross-cultural care than demographic characteristics or specialty affiliation.

Some notable limitations of the study deserve mention. First, the 60% response rate, although similar to rates from other recently published national resident surveys,³⁵⁻³⁷ may limit the generalizability of findings to the larger resident physician population. Second, residents were asked to estimate quantitative values, such as the percentage of ethnic minority patients treated during residency, without verification through more objective measurement, such as chart review. Collecting panel data directly from residency program directors to verify physician trainee reports would strengthen the design of future studies. In addition, residents were asked about their *perceptions* of preparedness to provide quality care to culturally diverse populations, which may not accurately reflect their true preparedness or their knowledge or skill level for delivering such care. Few data exist on actual cross-cultural clinical practices of family medicine residents or attending practitioners compared to other physicians. To obtain a more objective measurement, some researchers have audiotaped clinical interactions of PCPs and minority patients,²⁴ whereas others have surveyed patients directly via telephone regarding

perceptions of bias and cultural competence among PCPs.³⁸ Observational assessments, such as audio recordings, and secondary evaluations from patients and/or resident supervisors would help to reduce self-reported biases.

Finally, longitudinal investigations are needed to examine the extent to which perceptions of preparedness are indicative of actual physician skill level in cross-cultural care during clinical encounters. Several reviews of the literature suggest that cross-cultural training can enhance the knowledge, attitudes, and skills of physicians, as well as patient satisfaction.³⁹⁻⁴¹ However, whether such competence translates into increased patient adherence or equal medical care across racial and ethnic groups remains uncertain. Researchers must begin to link preparedness and skillfulness to meaningful improvements in health outcomes to determine the best strategies for enhancing cross-cultural competency and reducing health care disparities.⁴²

CONCLUSIONS

Despite dramatic advances in medical science, notable disparities in health and health care persist. One component of this inequity stems from sociocultural differences and racial and ethnic bias in the clinical encounter.^{43,44} Primary care residents dedicate enormous time and energy learning about the symptoms, pathophysiology, and treatment of innumerable medical conditions, yet such knowledge becomes truly useful only when physicians are capable of establishing effective interpersonal and working relationships with patients of diverse cultural backgrounds. To prepare physicians to provide effective care to all patients, this study underscores the importance of residency programs providing effective cross-cultural training experiences. Ideally, such training would involve dedicated teaching on cross-cultural care for both residents and faculty, recruitment and promotion of minority faculty, and clinical experiences for residents in minority and underserved communities. Developing a PCP workforce that is better prepared to provide care to culturally diverse patients is an important step toward the elimination of racial and ethnic disparities in health care.

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