



Race, gender, and language concordance in the primary care setting

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Abstract

Purpose – The purpose of this paper is to examine race, gender and language concordance in terms of importance to primary care.

Design/methodology/approach – The 2003 Medical Expenditure Panel Survey Household Component (MEPS) was used. Four distinguishing primary care attributes and selected measures were operationalized primarily from a sample subset that identified a usual source of care (USC): accessibility to USC; interface between primary care and specialist services; treatment decisions; and preventive services received from the USC. Bivariate and multivariate results are reported.

Findings – Adjusting for covariates, the following items remained statistically significant: race – choosing primary care physician as USC, USC having office hours, and going to USC for new health problems; gender – choosing primary care physician as USC and USC having office hours; and language – lack of difficulty contacting the USC after hours. However, these items appear to be isolated cases rather than indicators that concordance plays a key role in determining primary care quality. Language barriers/communication issues are the only areas where improvement appears warranted.

Research limitations/implications – While the study has strong accessibility and interpersonal relationship measures, service coordination and comprehensiveness indicators are limited. The analyses' cross-sectional nature also poses a problem in drawing causal relationships and conclusive findings. Finally, sample size limitations preclude stratified analyses across racial/ethnic groups, an important consideration as the relationships between concordance and quality may vary across groups.

Practical implications – This study indicates that more research is needed in this area to determine future resource allocation and policy direction.

Originality/value – The unique contribution of the study is to suggest that race and gender concordance may not accurately predict primary health care quality.

Keywords Health services, United States of America, Ethnic minorities, Gender, Disadvantaged groups, Communication

Paper type Research paper



Introduction, background and context

It is well established in the scientific literature that health disparities exist for minority populations and that it is a multifaceted problem. Adopting Braveman's (2006, p. 180) language, we define health disparity or inequality as "a particular type of difference in health . . . in which disadvantaged social groups . . . systematically experience worse health or greater health risks than more advantaged groups". The federal government, through *Healthy People 2010* (USDHHS, 2000) and the US Department of Health and Human Services' five-year strategic plan (USDHHS, 2004), recognized the importance of eliminating health disparities among different segments of the population. Furthermore, according to the 2000 US Census, nearly one-third of the US population has received minority status and this number is projected to approach 50 percent by 2050 (Suh, 2004). Thus, ameliorating minority population disparities and improving their health status are issues of great concern.

Several variables contribute to health disparities. In their Institute of Medicine evaluation report, Betancourt and Maina (2004, p. 315) note that "social determinants such as lower education levels, lower socioeconomic status, inadequate and unsafe housing, racism and living in close proximity to environmental hazards disproportionately impact minority populations and thus contribute to their poorer health outcomes". This and numerous other studies indicate that lack of access to care and insurance coverage issues lead to delayed care seeking, a lack of regular care source and a decrease in overall health. While it is important to understand the relationship between social and access variables to health, it is also important to recognize race, gender and language as possible reasons for a lack of parity in quality health care.

Schulman *et al.* (1999) used actors with scripted dialogues to investigate racial and sexual discrimination among patients referred for cardiac catheterizations. They found that women and Blacks were less likely to be referred than men and Whites, respectively, and that Black women were significantly less likely to be referred than white men. They concluded that patient race and sex independently influence how physicians manage chest pain. DeBocanegra and Gany (2004) reported that different racial, ethnic, linguistic or socioeconomic backgrounds can negatively affect health outcomes. Language congruence between provider and patient was found to directly affect health outcomes.

Other studies associate race, gender and language concordance with provider service satisfaction, mistrust, lack of communication, conscious and unconscious bias and overall patient preference (Saha *et al.*, 2003; Barrett, 2001; Geiger, 2001; Chen *et al.*, 2005; Cooper-Patrick *et al.*, 1999; Rathore *et al.*, 2000; Morales *et al.*, 2001; Saha *et al.*, 1999; Carrasquillo *et al.*, 1999; Saha *et al.*, 2000). Recommendations and policy implications from these findings include increasing caregivers' cultural competence; that is, integrating knowledge about individual and group culture into medical practice to improve outcomes, implementing medical education standards, funding cultural mediators and translators, cultural diversity improving cross-cultural communication, offering linguistically appropriate healthcare services and increasing minority physician supply. These studies imply that race, gender and language's importance cannot be ignored when discussing health disparities; however, there is little empirical evidence to support the relationship between these variables and service quality. For example, Saha *et al.* (2003) did not find an association between race concordance and

quality of provider interactions, satisfaction with health care services, or health service use. Contrary to their hypothesis, “racial disparities in healthcare use were not attributable to the quality of the patient-physician relationship” (Saha *et al.*, 2003, p. 1718). Therefore, it may be that policy decisions are adopted and resources allocated without fully exploring the relationship of concordance to quality health care. Our aim, therefore, is to examine the relationship between race, gender and language concordance and quality primary care self-reported measures. Utilizing 2003 Medical Expenditure Panel Survey (MEPS) data, we extracted variables that measure attributes or domains of primary care as proxies for quality care. Our findings may have significant policy implications by providing empirical data to evaluate current activities.

Methods

The 2003 MEPS is a nationally representative assessment of US civilian, non-institutionalized population co-sponsored by several governmental agencies. It uses an overlapping panel design in which data are collected through a preliminary contact with a random sample of households drawn from the National Health Interview Survey sampling frame, followed by a series of interviews. Detailed discussion of MEPS complex design has been published elsewhere (Cohen, 1997a, b). Specifically, the MEPS Household Component (HC) collects detailed data on demographic characteristics, health conditions, health status, health service use, charges and payments, access to primary care, satisfaction with care, health insurance coverage, income and employment (Cohen, 1997b). We used primary care attributes (dependent variables), concordance attributes (main independent variables) and individual characteristics (covariates) measures that have potentially confounding effects on primary care experience. The final sample included 20,052 subjects less than 65 years followed over two rounds.

Primary care attributes

Following previous work by Starfield and others (Safran *et al.*, 1998; Starfield, 1992; Starfield, 1998; Flocke *et al.*, 1998; Newacheck *et al.*, 1998; Starfield *et al.*, 1998), we operationalized four distinguishing primary care attributes or domains (i.e. first contact, coordination, longitudinality and comprehensiveness) based on MEPS questions. Since, conceptually, the primary care attributes are related to those who already have a usual source of care (USC), we selected our measures primarily from a sample subset that identified a USC. All questions related to children were answered by their parents who presumably took their children to their USC and were in a good position to provide reasonably accurate proxy reports. The final sets of measures were also based on the comments and suggestions made by numerous reviewers. In first contact, we obtained four questions (see Tables I and II) that address accessibility to the USC (Starfield, 1998; Starfield *et al.*, 1998). These questions describe the type of USC in terms of the extent of primary care orientation. Primary care and health services researchers alike frequently rely on “having a USC” as both access and a determinant of access measures (Lambrew *et al.*, 1996; Hayward *et al.*, 1991; Aday *et al.*, 1983; Aday *et al.*, 1980; Aday *et al.*, 1984). Aday and Andersen (1978) used USC as a healthcare system structural component that reflects an individual’s entry into the system. We found two questions that address the interface between primary care and specialist

Primary care attribute	Race		Gender		Language	
	Yes	No	Yes	No	Yes	No
<i>Primary care: first contact</i>						
Provider specialty of USC						
Specialists	0.0415	0.0512	0.0354	0.0559	0.0518	0.0426
Other (PCP)	0.9585	0.9488	0.9646	0.9441	0.9482	0.9574
CHISQ	2.81		17.83		0.11	
<i>p</i> -value	>0.05		<0.001		>0.05	
How difficult to contact USC by phone						
Difficult	0.1682	0.1482	0.1608	0.1612	0.1915	0.3072
Not difficult	0.8318	0.8518	0.8392	0.8388	0.8085	0.6928
CHISQ	3.25		0		3.27	
<i>p</i> -value	>0.05		>0.05		<0.05	
USC has office hours						
Yes	0.3392	0.3173	0.3245	0.3419	0.3755	0.4234
No	0.6608	0.6827	0.6755	0.6581	0.6245	0.5766
CHISQ	1.67		4.27		0.42	
<i>p</i> -value	>0.05		<0.05		>0.05	
How difficult to contact USC after hours						
Difficult	0.2573	0.2499	0.2563	0.2539	0.4198	0.5469
Not difficult	0.7427	0.7501	0.7437	0.7461	0.5802	0.4531
CHISQ	0.21		0.07		2.62	
<i>p</i> -value	>0.05		>0.05		>0.05	
<i>Primary care: coordination</i>						
Go to USC for referrals						
Yes	0.9804	0.9779	0.9813	0.9779	0.9642	0.9752
No	0.0196	0.0221	0.0187	0.0221	0.0358	0.0248
CHISQ	0.46		1.16		0.45	
<i>p</i> -value	>0.05		>0.05		>0.05	
Go to USC for new health problems						
Yes	0.988	0.978	0.9868	0.9835	0.9752	0.9656
No	0.012	0.022	0.0132	0.0165	0.0248	0.0344
CHISQ	5.33		1.8		0.32	
<i>p</i> -value	<0.05		>0.05		>0.05	
<i>Primary care: longitudinality</i>						
USC providers ask about other treatment						
Yes	0.7615	0.7668	0.7644	0.7615	0.7801	0.606
No	0.2385	0.2332	0.2356	0.2385	0.2199	0.394
CHISQ	0.13		0.14		5.1	
<i>p</i> -value	>0.05		>0.05		<0.05	
Go to USC for ongoing health problems						
Yes	0.9811	0.9827	0.9827	0.9799	0.982	0.9726
No	0.0189	0.0173	0.0173	0.0201	0.018	0.0274
CHISQ	0.19		1.21		0.36	
<i>p</i> -value	>0.05		>0.05		>0.05	
USC providers shows respect for treatments						
Never/sometimes	0.0971	0.096	0.1	0.0951	0.1754	0.2163
Usually/always	0.9029	0.904	0.9	0.9049	0.8246	0.7837
CHISQ	0.02		0.65		0.49	
<i>p</i> -value	>0.05		>0.05		>0.05	

(continued)

Table I.
Racial, gender, language
concordance and primary
care experience:
frequency distributions

Primary care attribute	Race		Gender		Language	
	Yes	No	Yes	No	Yes	No
USC providers asks person to help decide						
Never/sometimes	0.1584	0.1868	0.1664	0.1671	0.295	0.3231
Usually/always	0.8416	0.8132	0.8336	0.8329	0.705	0.6769
CHISQ	5.74		0.01		0.17	
<i>p</i> -value	< 0.05		> 0.05		> 0.05	
USC providers explains options to person						
Yes	0.9511	0.9472	0.9541	0.9469	0.8908	0.8095
No	0.0489	0.0528	0.0459	0.0531	0.1092	0.1905
CHISQ	0.32		2.93		3.15	
<i>p</i> -value	> 0.05		> 0.05		> 0.05	
<i>Primary care: comprehensiveness</i>						
Go to USC for preventive health problems						
Yes	0.9821	0.9796	0.9821	0.9808	0.9742	0.9797
No	0.0179	0.0204	0.0179	0.0192	0.0258	0.0203
CHISQ	0.55		0.22		0.18	
<i>p</i> -value	> 0.05		> 0.05		> 0.05	

Note: USC = usual source of care. All results are significant at $p < 0.05$ after Bonferroni adjustments for multiple comparisons within each primary care domain

Table I.

services (Starfield, 1998; Starfield *et al.*, 1998) and new problems. In longitudinality, we identified five questions (see Tables I and II) that reflect treatment decisions (Flocke *et al.*, 1998). Finally, in comprehensiveness, we used one question to reflect preventive services received from the primary care source (Safran *et al.*, 1998; Starfield *et al.*, 1998).

Concordance attributes

Race, gender and language concordance was ascertained using three questions. If the respondent and USC have the same racial/ethnic background then the racial concordance measure is “yes”; if a different background then the measure is “no”. If respondent and USC have the same gender then the gender concordance measure is “yes”; if different gender then “no”. If respondent and USC speak the same language, the language concordance measure is “yes”; if different language then “no”.

Insurance coverage

Responses to individuals’ insurance were coded into four categories:

- (1) private health maintenance organizations (HMO) coverage;
- (2) other private fee-for-service (FFS) insurance;
- (3) public insurance only (predominantly Medicaid); and
- (4) no insurance.

Individuals with Medicare or CHAMPUS (Civilian Health and Medical Program of the Uniform Services, a federally-funded insurance program to provide medical care supplemental to military facilities) were excluded from the analysis because these programs are associated with entitlement or military status and different in nature from other public insurance programs.

Independent variables	Race (1 = yes, 0 = no) Model 1 (unadjusted) Odds ratio (95% C.I.)	Model 2 (adjusted) Odds ratio (95% C.I.)
<i>Primary care: first contact</i>		
Provider specialty of USC		
Other (reference: specialists)	1.24 (0.97, 1.60)	1.44* (1.12, 1.85)
How difficult to contact USC by phone		
Not difficult (reference: difficult)	0.86 (0.73, 1.02)	0.9 (0.76, 1.08)
USC has office hours		
Yes (reference: no)	1.1 (0.95, 1.28)	1.22* (1.02, 1.47)
How difficult to contact USC after hours		
Not difficult (reference: difficult)	0.96 (0.81, 1.14)	0.96 (0.80, 1.15)
<i>Primary care: coordination</i>		
Go to USC by referrals		
Yes (reference: no)	1.13 (0.79, 1.63)	1.39 (0.94, 2.06)
Go to USC for new health problems		
Yes (reference: no)	1.84* (1.18, 2.88)	2.25* (1.37, 3.69)
<i>Primary care: longitudinality</i>		
USC providers ask about other treatment		
Yes (reference: no)	0.97 (0.83, 1.14)	0.98 (0.82, 1.16)
Go to USC for ongoing health problems		
Yes (reference: no)	0.91 (0.60, 1.38)	0.97 (0.63, 1.50)
USC providers shows respect for treatments		
Usually/always (reference: never/sometimes)	0.99 (0.81, 1.20)	0.87 (0.69, 1.09)
USC providers asks person to help decide		
Usually/always (reference: never/sometimes)	1.22* (1.04, 1.44)	1.19 (0.96, 1.48)
USC providers explains options to person		
Yes (reference: no)	1.09 (0.82, 1.44)	0.91 (0.67, 1.25)
<i>Primary care: comprehensiveness</i>		
Go to USC for preventive health problems		
Yes (reference: no)	1.15 (0.81, 1.63)	1.29 (0.87, 1.91)
<i>Primary care: first contact</i>		
Provider specialty of USC		
Other (reference: specialists)	1.62* (1.31, 2.00)	1.75* (1.41, 2.19)
How difficult to contact USC by phone		
Not difficult (reference: difficult)	1.00 (0.91, 1.11)	1.00 (0.93, 1.13)

(continued)

Table II.
Racial, gender, language
concordance and primary
care experience: logistic
regressions

Independent variables	Race (1 = yes, 0 = no) Model 1 (unadjusted) Odds ratio (95% C.I.)	Model 2 (adjusted) Odds ratio (95% C.I.)
USC has office hours		
Yes (reference: no)	0.92 (0.86, 1.00)	0.85** (0.78, 0.92)
How difficult to contact USC after hours		
Not difficult (reference: difficult)	0.99 (0.90, 1.09)	0.91 (0.82, 0.99)
<i>Primary care: coordination</i>		
Go to USC by referrals		
Yes (reference: no)	1.18 (0.87, 1.61)	1.22 (0.88, 1.70)
Go to USC for new health problems		
Yes (reference: no)	1.25 (0.90, 1.73)	1.29 (0.92, 1.81)
<i>Primary care: longitudinality</i>		
USC providers ask about other treatment		
Yes (reference: no)	1.02 (0.93, 1.11)	1.01 (0.93, 1.11)
Go to USC for ongoing health problems		
Yes (reference: no)	1.16 (0.90, 1.12)	1.11 (0.83, 1.05)
USC providers shows respect for treatments		
Usually/always (reference: never/sometimes)	0.95 (0.83, 1.08)	0.87 (0.75, 1.01)
USC providers asks person to help decide		
Usually/always (reference: never/sometimes)	1.00 (0.90, 1.12)	0.93 (0.83, 1.05)
USC providers explains options to person		
Yes (reference: no)	1.17 (0.98, 1.39)	1.01 (0.82, 1.25)
<i>Primary care: comprehensiveness</i>		
Go to USC for preventive health problems		
Yes (reference: no)	1.07 (0.81, 1.42)	1.16 (0.84, 1.59)
<i>Primary care: first contact</i>		
Provider specialty of USC		
Other (reference: specialists)	0.81 (0.22, 3.01)	0.66 (0.13, 3.45)
How difficult to contact USC by phone		
Not difficult (reference: difficult)	1.87* (1.00, 3.50)	1.76 (0.90, 3.44)
USC has office hours		
Yes (reference: no)	0.82 (0.45, 1.48)	0.77 (0.40, 1.49)
How difficult to contact USC after hours		
Not difficult (reference: difficult)	1.67 (0.90, 3.09)	1.99* (1.02, 3.86)

Table II.

(continued)

Independent variables	Race (1 = yes, 0 = no)	
	Model 1 (unadjusted) Odds ratio (95% C.I.)	Model 2 (adjusted) Odds ratio (95% C.I.)
<i>Primary care: coordination</i>		
Go to USC by referrals		
Yes (reference: no)	0.68 (0.20, 2.38)	0.93 (0.26, 3.31)
Go to USC for new health problems		
Yes (reference: no)	1.40 (0.48, 4.07)	1.64 (0.53, 5.13)
<i>Primary care: longitudinality</i>		
USC providers ask about other treatment		
Yes (reference: no)	2.31 ** (1.25, 4.25)	1.59 (0.78, 3.24)
Go to USC for ongoing health problems		
Yes (reference: no)	1.54 (0.44, 5.42)	1.73 (0.43, 6.99)
USC providers shows respect for treatments		
Usually/always (reference: never/sometimes)	1.30 (0.64, 2.61)	0.78 (0.35, 1.73)
USC providers asks person to help decide		
Usually/always (reference: never/sometimes)	1.14 (0.61, 2.13)	0.82 (0.40, 1.65)
USC providers explains options to person		
Yes (reference: no)	1.92 * (1.02, 3.61)	1.28 (0.62, 2.65)
<i>Primary care: comprehensiveness</i>		
Go to USC for preventive health problems		
Yes (reference: no)	0.78 (0.23, 2.64)	0.84 (0.20, 3.63)

Note: USC = usual source of care. * $p < 0.05$; ** $p < 0.01$. Model 1: unadjusted = simple relationship between primary care experience and racial concordance. Model 2: controlling = covariates: age, sex, marital status, employment status, insurance, USC location, perceived health status, perceived mental health status, ADL help, and IADL help

Table II.

Individual characteristics

Aday and Andersen's access to care framework (Andersen and Aday, 1978) was used in the selection of individual covariates that are potentially related to the experience of primary care. See Table III for a complete variable list.

Statistical analysis

Data analysis was performed with SUDAAN (RTI International) because of MEPS' multistage, stratified cluster sampling. All analyses accounted for both design effect and sampling weights. Simple bivariate comparisons were made between individuals' concordance measures and primary care attributes. Since many individual characteristics are significantly associated with primary care experience, logistic regressions were used to control these potentially confounding effects and to examine the independent effects of racial, gender and language concordance on primary care attributes. Although estimates presented in the text and tables were

Table III.
Aday and Andersen's
access to care framework
– adapted

Covariates	Possible responses				
<i>Predisposing characteristics</i>					
Age	Under 5	5-17	18-24	25-44	45-65
Gender	Male		Female		
Marital status	Married		Not married		
Employment status	Employed		Not employed		
<i>Enabling characteristics</i>					
Insurance status	Private		Public	None	
<i>Need characteristics</i>					
Perceived health status	Excellent	V. good	Good	Fair	Poor
Perceived mental health status	Excellent	V. good	Good	Fair	Poor
Activity of daily living (ADL) help	Excellent	V. good	Good	Fair	Poor
Instrumental activity of daily living (IADL) help	Excellent	V. good	Good	Fair	Poor
<i>Health system characteristics</i>					
USC location	Physician office		Hospital	HMO	
Notes: USC = usual source of care					

weighted to reflect national population totals, the relevant population varied. This is because missing values and the number of people answering “other”, “refused” and “don’t know” among questions caused variations in sample sizes for different models and, therefore, required the population to be generalized. Complete sample (after deleting missing values) was used for three questions (i.e. “Have USC”, “Has anyone changed USC last year”, and “Whether satisfied that family can get care”). All other analyses were limited to those with a USC. The question “Provider specialty of USC” was limited to those whose USC was a person or a person in a facility.

Results

Bivariate and multivariate results are reported in Tables I and II, respectively. Multivariate analysis includes unadjusted and adjusted (for age, sex, marital status, employment status, insurance, USC location, perceived health status, perceived mental health status, ADL help, and IADL help) odds ratios.

First contact

While race is not a significant factor in predicting accessibility to a USC in the bivariate analysis, controlling covariates in the multivariate analysis indicates that patients who see same race providers are more likely (odds ratio 1.44) to pick a primary care provider than a specialty care provider as their first point of contact. The same-race primary care provider is also more likely to have office hours (odds ratio 1.22). Gender is predictive in both analyses with regard to provider specialty ($p < 0.001$; adjusted odds ratio 1.75). However, when patients and primary care providers are the same gender, the USC is less likely to have office hours (odds ratio 0.85). Patients who speak the same language as their USC have less difficulty contacting their USC by telephone ($p < 0.05$) and do not find it difficult to contact the USC after hours (odds ratio 1.99).

Coordination

Patients who see a same race USC have 1.84 times higher odds to see the USC for a new health problem. Controlling covariates increases this likelihood (adjusted odds ratio 2.25). Gender and language are not significant.

Longitudinality

Patients who speak the same language as their USC provider reported asking their provider about other treatment more often (odds ratio 2.31), but this ratio became non-significant when adjusting for covariates. Patients who see a same race USC have 1.22 times higher odds to report that their USC asks them to participate in their treatment decisions; however, this ratio became non-significant when adjusting for covariates.

Comprehensiveness

There was no significant relationship among variables related to preventive services received from the primary care source.

Discussion

It is well documented in the scientific literature that minority populations experience a disproportionate share of health disparities. However, it may be that race, gender and language concordance concerns are addressed through policies based primarily on intuition and isolated case studies. Thus, concordance may have been advocated and resources allocated without fully exploring these relationships. Using data from the 2003 MEPS Household Component, we sought to determine the relationship between race, gender and language concordance and self-reported primary care quality measures. A total of 12 survey items were selected in four distinguishing primary care attributes or domains (first contact, coordination, longitudinality and comprehensiveness) to measure primary health care quality attributes. These attributes or domains have been identified and validated by Safran *et al.* (1998); Starfield (1992, 1998); Flocke *et al.* (1998); Newacheck *et al.* (1998).

After adjusting for covariates, only six items remained significant. Regarding race concordance, choosing a primary care physician (versus specialist) as USC, the USC having office hours and going to the USC for new health problems are the only significant items. However, these things are not intuitively related to race in terms of healthcare quality.

When considering gender concordance, choosing a primary care physician (versus specialist) as USC and the USC having office hours are significant. However, there is no clear relationship between these quality indicators and gender. This finding conflicts with the literature that supports primary care service demand and utilization based on gender. When taking into account language concordance, only a lack of difficulty contacting the USC after hours is significant. This item may be correlated with a quality primary care outcome, given that contacting a physician via telephone would be hampered by a language barrier.

Using four distinguishing primary care attributes or domains to characterize quality primary care outcomes, the six significant items in our study appear to be isolated cases rather than indicators that race, gender and language concordance play a key role in determining primary care quality. Language barriers and communication

issues are the only areas where improvement appears warranted. This analysis appears to contradict many findings from previous studies (Saha *et al.*, 2003; Barrett, 2001; Geiger, 2001; Chen *et al.*, 2005; Cooper-Patrick *et al.*, 1999; Rathore *et al.*, 2000; Morales *et al.*, 2001; Saha *et al.*, 1999; Carrasquillo *et al.*, 1999; Saha *et al.*, 2000) regarding patient satisfaction, mistrust, lack of communication, conscious and unconscious bias, and overall patient experience, which have driven policy development and implementation in an attempt to improve quality health care.

Given race, gender and language's perceived significance in health disparity terms, why might language and communication concerns be the only areas identified in this study for improvement? One explanation is that primary care providers are naturally sensitive to patient needs regardless of racial, ethnic, or gender differences. In essence, professionals are not discriminating in providing care to improve patient health. A second reason is that policies and recommendations to increase the number of minority providers, resulting in "concordance-appropriate" access for patients, has been effective in removing concordance bias.

The unique contribution of our study is to suggest that race and gender concordance may not accurately predict primary health care quality. If this is true then the emphasis on race and gender equity in terms of provider availability to patients may be overstated and overemphasized in health care policy. Further research is needed in this area to assess the impact of prior policies and to determine the need for additional programs. While all primary care providers should be trained to provide socio-demographically and culturally sensitive care, language and communication remain areas where healthcare quality appears to be affected. Particular emphasis should be placed on exploring the language/communication and gender concerns exposed in this study.

One study limitation is that the 2003 MEPS Household Component consists of self-reported results, which introduces bias. Additionally, there are limitations with primary care quality measurement using four primary care distinguishing attributes or domains (first contact, coordination, longitudinality and comprehensiveness). While the study has strong accessibility and interpersonal relationships measures, those for service coordination and comprehensiveness, two cardinal domains of primary care, are limited. Our analyses' cross-sectional nature also poses a problem in drawing causal relationships and conclusive findings. Finally, sample size limitations preclude stratified analyses across racial/ethnic groups, an important consideration as the relationships between concordance and quality may well vary across these groups.

Conclusion

The US population continues to become more diversified, with minority representation expected to approach 50 percent by 2050 (Suh, 2004). A significant portion of this growth will be non-English-speaking immigrants. This study has highlighted the need to consider language concordance as a healthcare quality influence. The intrinsic relationship of race and gender concordance to health care quality, however, was not supported in our study. Given the importance of concordance in health disparities, and our study's limitations, more research is needed, particularly regarding language/communication and gender to determine future resource allocation and policy direction.

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