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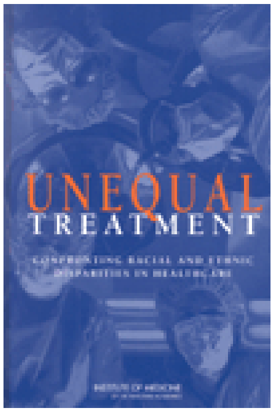

Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care (with CD)

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Assessing Potential Sources of Racial and Ethnic Disparities in Care: Patient- and System-Level Factors

The literature reviewed earlier in this report demonstrates that evidence of racial and ethnic disparities in healthcare is persuasive and remarkably consistent across a range of health conditions and procedures, and cannot be fully explained by differences in access to care, such as insurance status. Moreover, the literature suggests several sources for these disparities. This evidence, however, does not suffice for an authoritative, comprehensive, unambiguous account of how disparities arise. A number of uncertainties confound efforts to synthesize what is known empirically about stereotypes and prejudice, doctor-patient relations, clinical judgment and patient preferences, as well as the social, institutional, financial, and legal forces that shape the practice of medicine. Yet an effort at such a synthesis is essential to construct an evidence-based account of how disparities in care emerge, and of what might be done to eliminate these disparities.

To begin, this chapter presents a model of how disparities might occur. This model builds upon the wide foundation of empirical evidence but makes reasoned inferences when they are necessary to explain observed disparities. The committee makes such inferences when, in our judgment, they are more probable than not and when practical consequences, in the form of recommended actions to ameliorate known disparities, follow from these inferences. In doing so, the committee acknowledges that gaps in our understanding about causation remain and that further research has the potential to enhance understanding.

The chapter then presents a review of empirical literature that raises hypotheses regarding potential sources of racial and ethnic disparities in healthcare. This literature is suggestive of a range of sources of disparities, some of which lie just beyond the conscious perception of individual actors (e.g., patients, providers, health systems administrators) in clinical encounters. They include systemic (e.g., those related to health system administration, financing, accessibility and geographic location), patient-level (e.g., the clinical appropriateness of care, patients' attitudes, preferences, and expectations regarding healthcare), and care process-level (e.g., physician biases, stereotyping, and uncertainty) factors. This chapter, however, will focus on the two former sets of variables. As depicted in Figure 1-1, these include "patient-level" variables, and variables related to the operation of healthcare systems and the legal and regulatory contexts in which health systems function. Chapter 4 will focus the analysis on care process variables, including the roles of clinician bias, prejudice, stereotyping, clinical uncertainty, and patient mistrust. According to the study committee's conceptualization, racial and ethnic *differences* in care may arise from all three sets of variables. *Disparities* in care, however, emerge from the characteristics of and the operation of healthcare systems, as well as the legal and regulatory climate in which care is delivered, and from the process of care (i.e., factors emerging from the provider-patient interaction).

The following section presents a guiding framework that depicts the likely interplay of health systems characteristics, patient-level factors, and care process variables in fostering racial and ethnic disparities in healthcare.

A MODEL: SOURCES OF HEALTHCARE DISPARITIES

The Role of Clinical Discretion

An integrated model of how racial and ethnic disparities in care emerge is presented in Figure 3-1. According to this model, patients present to healthcare providers with varied healthcare needs, expectations, and preferences, some of which are socio-culturally determined. Providers, in turn, possess expectations and beliefs that are shaped both by their professional training and experience, as well as by their social experiences and broader societal norms and structures. These encounters take place within healthcare systems and settings that are broadly influenced by institutional design factors (such as the ease of care access), and financial forces (such as incentives to providers and patients to limit service use and healthcare costs). These systems operate within legal and cultural contexts that influence how healthcare is delivered and the behavior of both patients and providers.

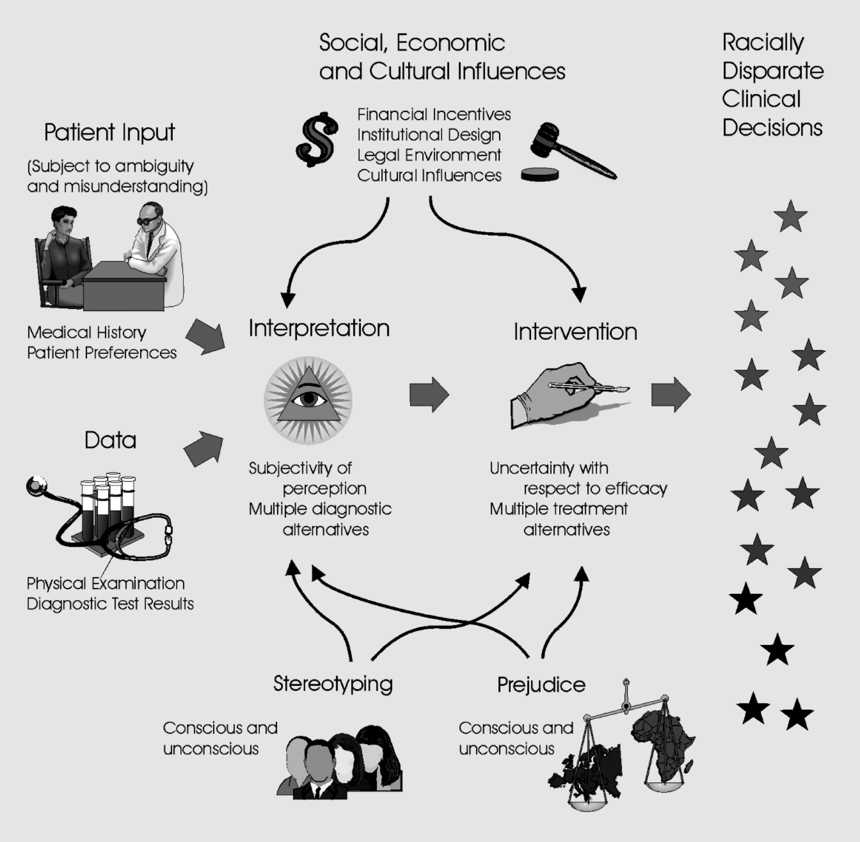

FIGURE 3-1 An integrated model of healthcare disparities.

Central to this model is the role of personal discretion in determining the care that patients receive. Three sets of actors possess and exercise discretion: clinical caretakers, utilization managers remote from the bedside, and patients themselves. Patients' medical histories, physical exam findings, and diagnostic test results often present a level of uncertainty to physicians, and patients vary enormously in their help-seeking behavior, ways of presenting their symptoms and histories, and responses to medical recommendations (Bursztajn, 1990). Clinicians typically have multiple diagnostic and therapeutic options, and choices from among them sometimes do not rest firmly on empirical evidence. In addition, physician perception of clinical signs and symptoms is sometimes incomplete (Eddy, 1996), while decisions concerning diagnostic and therapeutic intervention are no less ambiguous. Significant variations in the incidence of many common medical and surgical procedures have been documented within small geographic areas and between individual practitioners (Wennberg, 1999). These variations reflect, in many instances, both the subjectivity of clinical judgment and the lack of professional consensus about best practice. Further, the lack of firm scientific support for some medical decisions both engenders variations in clinical practice and makes it difficult in many cases to reach evidence-based conclusions concerning the appropriateness of particular practices.

In and of itself, the discretion exercised by patients, providers, and utilization managers does not produce racial and ethnic disparities in healthcare. In most cases, patients and providers are able to work together in an iterative process to match patients' needs with appropriate treatment, regardless of race or ethnicity. Discretion and ambiguity, however, create conditions in which race or ethnicity may become salient in the process of diagnosis and treatment in ways that make disparities more likely to occur, as explained below.

The Patient as Discretionary Actor: Subjectivity and Variability

A substantial research literature in psychiatry and psychology, sociology, and anthropology documents large differences in how people experience, understand, and discuss illness (Goff et al., 1998). Patients' experience and reporting of pain and other symptoms have been found to vary greatly (Bonham, 2001), as has patients' help-seeking behavior relative to health professionals (Milewa et al., 2000). The relationships between such variation and differences in how clinical caretakers go about the diagnosis and treatment of disease have been less well studied. But the subjectivity and incompleteness of clinical perception leave room for differences in patients' experience, understanding, and reporting of symptoms to affect professional judgment and action. These differences, moreover, interact with differences in patients' values and attitudes toward clinical caretakers to shape patients' healthcare choices. To the extent that such variation correlates with patients' race and ethnicity, it is therefore a potential contributor to differences in healthcare use.

Clinical Caretakers as Discretionary Actors: Subjectivity and Uncertainty

Medical care at the dawn of the 21st century has achieved heights thought improbable even a few decades ago. Advances in diagnostic techniques, scientific understanding of the human genome and underlying disease processes, and new, high-tech interventions have led to breakthroughs in treating and preventing disease. Despite these gains, however, many medical decisions must be made in the absence of solid evidence as to the efficacy of diagnostic and therapeutic measures or rigorous scientific understanding of the pathophysiology of disease (Mushlin, 1991). Efforts to better understand pathophysiology are further complicated by variations in clinical expression in individuals with different genetic, environmental, and cultural backgrounds. In addition, even the most technologically sophisticated diagnostic interventions (e.g., magnetic resonance imaging and X-ray and positron tomography) reveal little about the biochemistry and physiology of the diseases they detect. To add to this uncertainty, medicine's diagnostic constructs are themselves limited in their predictive (and thus therapeutic) value by the incompleteness of the pathophysiologic understandings that undergird them (Bloche, 2001).

Moreover, healthcare providers' ability to assess patients' clinical signs and symptoms and gather a relevant medical history is constrained by a number of factors. As noted above, patients' ability to understand and describe their presenting concerns varies not only by cultural, linguistic, and other sociodemographic background factors, but may also vary from day to day. The variability and subjectivity of patients' clinical presentations is compounded by physicians' differences in perception, cultural and psychological sensitivity, and conceptual frameworks for evaluating illness. Similarly, many laboratory tests are open to varying interpretations. Radiologists sometimes give conflicting readings of the same X-ray, tomogram, or other scan, and pathologists sometimes report conflicting interpretations of slides sent for assessment of possible malignancy. Many clinical and laboratory data are likewise open to differing clinical interpretations by physicians with varying conceptual frameworks, perceptions, and biases. As will be discussed in the next chapter, it is reasonable to speculate that the resulting diagnostic subjectivity could permit clinical uncertainty, racial and ethnic biases, and stereotypes to influence the process and outcomes of clinical evaluation, resulting in racial and ethnic disparities in medical diagnosis.

Physicians' decisions regarding appropriate therapeutic interventions introduce still another level of uncertainty, subjectivity, and variability. Despite clinical medicine's gains noted above, accurate, evidence-based prediction of the efficacy of many therapeutic alternatives for most patients is lacking (Bloche, 1999), and geographic variations in clinical practice patterns are common (Wennberg, 1999). In the absence of guidance from prospective and retrospective clinical studies, physicians base their therapeutic judgments on such factors as their training, prior clinical success and failure, and practice norms among professional peers (Bauchner, Simpson, and Chessare, 2001). Inevitably, physicians' subjective understandings of their patients' needs play a role; thus psychological sensitivity, cultural and language competency, and conscious and unconscious stereotypes and biases may also influence therapeutic decision-making. Further, uncertainty about treatment options in itself, even absent biases or stereotypes, can lead to disparate treatment of racial and ethnic minority groups, as will be discussed in Chapter 4. In addition, organizational, financial, and legal influences shape therapeutic judgment. Such institutional and policy forces are often geared toward promoting cost-effective and efficient care, but may disproportionately and negatively affect minority patients (Bloche, 2001).

Utilization Managers as Discretionary Actors: Uncertainty at a Distance

Variation and subjectivity in healthcare practice may also emerge at the level of health systems, particularly in managed care arrangements where utilization managers are charged with authorizing physicians' and patients' requests for reimbursement for services. Except where contractually bound by clinical practice protocols, utilization managers evaluate the necessity of claims from among a range of diagnostic and therapeutic alternatives acceptable within one or another subset of the medical community. This evaluation often occurs on a case-by-case basis, without the guidance of recorded precedent or other administrative means for pursuing consistency between utilization management decisions in similar cases. In some cases, doctors and patients who seek pre-approval for planned treatments or who pursue internal appeals when pre-approval is denied know little or nothing about their health plans' past pre-approval practices in similar cases. Health plans that employ clinical practice protocols as cost management tools sometimes treat these protocols as trade secrets, not to be disclosed to patients or medical practitioners. The consequence of these administrative arrangements is that there is ample room (and little visibility) for discretion and inconsistency in the treatment of clinically similar cases (Bloche, 2001).

The following sections review available empirical evidence and present an analysis of how discretion, subjectivity, and preferences of patients, providers and utilization managers may contribute to healthcare disparities. Consistent with the committee's model of sources of racial and ethnic differences in care, these sources are divided into patient-level variables (such as preferences, needs, and the clinical appropriateness of care), and factors related to health systems and the legal and regulatory context of healthcare. Factors arising from the clinical encounter that may contribute to disparities are addressed in Chapter 4.

PATIENT-LEVEL VARIABLES—PREFERENCES, MISTRUST, TREATMENT REFUSAL, BIOLOGICAL DIFFERENCES, AND OVERUSE OF SERVICES

Patients' Preferences

To a great extent, patients' values, fears and hopes, and other psychological characteristics influence the level and type of care they receive. Patients' trust and doubts about medical advice, as well as their level of comfort with the effectiveness and potential unintended effects of interventions, directly influence their willingness to accept physicians' recommendations. In addition, patients' preferences are influenced by their tolerance for pain and discomfort, attitudes about long-term/short-term tradeoffs, and levels of social and emotional support. These factors also influence physicians' recommendations, in that the physician may directly assess or infer patients' attitudes toward particular interventions and may tailor recommendations accordingly. To the extent that minority patients express greater reluctance to accept physician recommendations, patients' preferences have the potential to contribute to healthcare disparities. Evidence that minority patients are more likely than whites to decline invasive and/or high-tech procedures is reviewed below.

For many racial and ethnic minorities, however, preferences for treatment are often difficult to separate from mistrust of health professions that stems from racial discrimination and the history of segregated and inferior care for minorities (Byrd and Clayton, this volume). Some researchers have not distinguished between these aspects of minority patients' historic experiences and preferences for treatment, and have contrasted "preferences" and racial discrimination as competing explanations for healthcare disparities. This account overlooks the interaction between patients' "preferences" and their experiences of discrimination. As Bloche (2001) notes, "For many African Americans, doubts about the trustworthiness of physicians and healthcare institutions spring from collective memory of the Tuskeegee experiments (Brandt, 2000) and other abuses of black patients by largely white health professionals (Randall, 1996; King, 1998). This legacy of distrust, which, some argue, contributes to disparities in healthcare provision by discouraging African Americans from seeking or consenting to state-of-the-art medical services, is thus itself a byproduct of past racism" (Bloche, 2001, p. 105).

Minority patients' negative experiences with care providers in the clinical encounter can also diminish their preferences for robust treatment, and may thereby contribute to racial disparities. It is reasonable to assume that experiences of real or perceived discrimination in healthcare settings, as evidenced by providers' overt behavior (e.g., as in the examples from focus group data presented in Chapter 2) or more subtle, subjective mistreatment (e.g., healthcare providers' low expectations for compliance or expressions of low empathy for minority patients) can affect patients' feelings about their clinical relationships and thereby dampen their interest in vigorous diagnostic and therapeutic measures. It is therefore necessary to distinguish patient "preferences" from experiences or perceptions of discrimination and not neglect the ways in which patients' preferences can be shaped by provider behavior. In addition, patients' preferences for treatment may be limited by the quality and completeness of information presented by the healthcare provider. Thus, should providers fail to present minority patients with a full range of treatment options, whether out of prejudice, stereotyping, biases, or uncertainty about the diagnosis or appropriate clinical course of action, patients' preferences will be limited by the information they are presented. These dynamics will be addressed in greater detail in Chapter 4.

Minority Patient Preferences Regarding Providers and Racial Concordance

Minority patients' experiences, values, and expectations regarding healthcare may significantly influence their preferences for the race or ethnicity of their providers. A growing body of evidence suggests that racial and ethnic minority patients are generally more satisfied with the care that they receive from minority physicians. Saha, Komaromy, Koepsell, and Bindman (1999), for example, found that African-American patients with African-American healthcare providers were more likely than those with non-minority providers to rate their physicians as excellent in providing healthcare, in treating them with respect, in explaining their medical problems, in listening to their concerns, and in being accessible. Hispanic patients who received care from Hispanic physicians did not rate their physicians as significantly better than Hispanic patients with non-Hispanic healthcare providers, but were more likely to be satisfied with their overall healthcare.

Similarly, Cooper-Patrick and her colleagues (Cooper-Patrick et al., 1999) assessed patients' ratings of the quality of interpersonal care in racially concordant and racially discordant settings. Using a measure of physicians' participatory decision-making (PDM) style, the authors surveyed over 1800 adults (including 43% white, 45% African American, and 12% other race or ethnicity) who were seen in 1 of 32 primary care settings by physicians who were either African American (25% of the physician sample), white (56%), Asian American (15%), or Latino (3%). Overall, African-American patients were found to rate their visits as significantly less participatory than whites, after adjusting for patient age, gender, education, marital status, health status, and length of the patient-physician relationship. Further, patients in race-concordant relationships rated their visits as significantly more participatory than patients in race-discordant relationships.

LaVeist and Nuru-Jeter (in press) examined predictors of racial concordance between patient and provider and the effect of race concordance on satisfaction among a sample of white, African-American, and Hispanic patients. Among all racial and ethnic groups, patients who reported having at least some choice in selecting a physician were more likely to have a race-concordant physician. Having a race-concordant physician was also associated with higher income for African Americans and not speaking English as a primary language among Hispanics. After adjusting for patients' age, sex, marital status, income, health insurance status, and whether the respondent reported having a choice in physician, African-American patients in race-concordant relationships were found to report higher satisfaction than African Americans in race-discordant relationships. Further, Hispanic patients in race-concordant relationships reported greater satisfaction than patients from other racial and ethnic groups in similarly concordant relationships.

While these studies lend important information regarding patients' perceptions of the interpersonal quality of care, few studies have corroborated this data with more objective assessments of the patient-provider interaction in racially concordant and discordant settings. Cooper and Roter (this volume) describe a study that assessed this relationship using post-visit surveys and audiotape analysis among a sample of 143 white and 110 African-American patients seen by 1 of 13 white or 18 African-American primary care doctors. Cooper and colleagues found that the average length of visits was shortest among white physicians with African-American patients (13.2 minutes), and was longest among African-American physicians seeing white patients (18.4 minutes). Visits by African-American patients were characterized by greater physician verbal dominance overall, but physician verbal dominance was highest in visits between white physicians and African-American patients, and lowest among white patients seen by African-American physicians. In addition, visits between white physicians and African-American patients were the least patient-centered, while the African-American physician–white patient interaction was characterized by the highest levels of patient centeredness. However, patients in race-concordant relationships rated their physicians' decision-making styles as more participatory. The finding that African-American physicians were more patient centered and spent more time with white patients, according to Cooper and Roter, suggests two possibilities. One is that African-American physicians, by virtue of their educational success and professional standing, presumably have had greater opportunities to develop skills in communicating with individuals from the dominant culture than white physicians have had to develop communication skills with individuals from minority cultures. This suggests that African-American physicians are likely to be bicultural (i.e., able to function effectively in the dominant culture as well as in minority cultures) or are acculturated (i.e., have assumed traits of the dominant culture). Secondly, African-American physicians may "overcompensate" for perceived deficiencies of their own group by adopting behaviors that indicate less respect for themselves or members of their own group (Cooper and Roter, this volume).

A significant limitation of these studies is the lack of random assignment of patients with physicians, introducing selection factors as a potential confound. In fact, Saha et al. (1999) found that African-American and Hispanic patients who had the ability to choose their provider were more likely to choose a racially or ethnically concordant physician. A significant proportion (42%) of Hispanic patients in this study reported selecting Hispanic physicians because of linguistic barriers with other providers. Nonetheless, these studies demonstrate that racial concordance is associated with greater participatory decision-making, greater patient-centered care, lower levels of physician verbal dominance, and greater patient satisfaction. In turn, evidence from other studies indicates that patient satisfaction is associated with greater patient compliance with treatment regimens, participation in treatment decisions, and use of preventive care services (Cooper and Roter, this volume). For racial and ethnic minorities, according to Cooper-Patrick and colleagues (1999), racial concordance may increase the likelihood that they will "share cultural beliefs, values, and experiences in the society [with their provider], allowing them to communicate more effectively and to feel more comfortable with one another" (p. 588).

Little evidence exists, however, to directly demonstrate that the quality of care provided is better when minority patients and their providers are of the same racial or ethnic group. Evidence of the efficacy of race-concordant patient and provider relationships is only indirect, as patient satisfaction, participation, and patient-centeredness of care are also associated with greater adherence to clinical regimens, greater participation in health screening and preventive medicine, and in some cases, health outcomes (Cooper-Patrick et al., 1999). Chen et al. (2001) suggest the opposite—that racial disparities persist in care even when minority patients are treated by minority physicians. The authors performed a retrospective analysis of data obtained from a sample of Medicare patients hospitalized with acute myocardial infarction (MI) to determine whether racial differences in rates of cardiac catheterization were related to the race of attending physician. Consistent with other studies, the authors found that African-American patients were less likely than white patients to receive catheterization within 60 days after MI. No significant differences were found, however, between African-American and white attending physicians in rates of catheterization among these patients. Among patients treated by African-American physicians, 38 percent of black patients and 50 percent of white patients received catheterization. Among patients treated by white physicians, 38 percent of black patients and 46 percent of whites received the procedure. Chen et al. conclude that "racial discordance between the patient and the physician does not explain differences between black patients and white patients in the use of cardiac catheterization" (2001, p. 1447).

While some newspaper accounts of this study suggested that racial bias is not a likely source of disparities in care (Associated Press, May 9, 2001), this interpretation appears premature. Several methodological problems complicate interpretation of the results obtained by Chen et al. Data on the race of the attending physician were missing for nearly one-third of the initial patient sample. In addition, African-American patients were more likely to be cared for in public or teaching hospitals, where greater barriers exist to receipt of catheterization, such as the availability of the procedure on-site. The most serious methodological problem, however, was the determination of the race of the attending physician ("the clinician who is largely responsible for the care of the patient from the beginning of the hospital episode"). Upon closer examination, it becomes apparent that the African-American physicians of these patients tended to be internists, not cardiologists, when compared with the white attending physicians. While these physicians may all refer patients for the procedure, the determination of who receives the procedure is typically made by the cardiologist. Thus, the authors compare two different physician pools who cared for these African-American patients post-myocardial infarction—African-American internists versus white cardiologists—to assess differences in utilization of a procedure that is specifically performed by and managed by cardiologists. Notably, of the nearly 20,000 cardiologists in the United States during the study period in 1994 and 1995, only 316 (approximately 1.5%) were African American.

Minority Patient Mistrust and Experiences of Discrimination

Some racial and ethnic minorities express greater levels of mistrust of healthcare providers and the medical establishment than white Americans, citing breeches of trust that have previously occurred between minorities and the scientific and medical communities (Swanson and Ward, 1995). In addition, survey research generally indicates that ethnic minority patients perceive higher levels of racial discrimination in healthcare settings than non-minorities. For example, in a survey of 781 African-

American and 1,003 white cardiac patients, LaVeist, Nickerson, and Bowie (2000) found that while the majority of these patients did not tend to endorse the existence of widespread racism in medical settings, African-American patients were four times more likely than whites to believe that racial discrimination is common in doctors' offices, and were significantly more likely to mistrust healthcare systems. Similarly, Lillie-Blanton et al. (2000) found that of a nationwide, random sample of whites and minorities, 30% of Hispanics and 35% of African Americans believe that racism is a "major problem" in healthcare, compared with 16% of whites. Well over half of the minorities in this sample (58% of Hispanics and 65% of African Americans) are "very or somewhat" concerned that they or a family member could be treated unfairly when seeking medical care because of their race or ethnic background, while less than 1 in 4 whites (22%) endorse this view. Finally, nearly three times as many African Americans (64%) as whites (23%) believe that African Americans receive a lower quality of healthcare compared with whites; over twice as many Hispanics (56%) as whites (27%) endorse this view when comparing whites and Hispanics.

In a study of healthcare consumers conducted by the Seattle and King County (WA) Department of Public Health (Hobson, 2001), researchers found that nearly one-third of African Americans report having experienced discrimination at some point in their lifetimes when seeking healthcare, and 16% reported such experiences in the past year. More than one-fifth of Hispanic patients reported similar experiences of discrimination in healthcare settings at any point in their lives, and between 7% and 19% of Asian-American subgroups reported such experiences. Significantly, for almost all ethnic groups, respondents who reported experiences of discrimination were more likely to report a delay in seeking needed healthcare than those who did not report experiences of discrimination; this effect was almost uniform (95%) among African Americans who reported experiences of discrimination.

Patient Refusal of Recommended Treatment

Some researchers have speculated that patient refusal may contribute to disparities in care, noting that African-American and other ethnic minority patients may be more likely to refuse invasive procedures. Schecter et al. (1996), for example, found that African-American patients were more likely than whites to refuse physicians' recommendations that they undergo cardiac catheterization. Similarly, Sedlis et al. (1997) found that 15.4% of African-American patients treated at Veterans' Administration hospitals refused invasive cardiac procedures (surgery or percutaneous transluminal coronary angioplasty) when offered, compared with 8.3% among white patients, a difference that the authors conclude may help to explain observed differences in rates of receipt of procedures. The same study, however, revealed that invasive cardiac procedures were recommended more frequently by physicians for white patients (72.9%) than for African-American patients (64.3%), even following diagnostic cardiac catheterization and initial assessment confirming that all the patients were potential candidates for surgery or angioplasty. Thus, physicians' judgments of suitability for procedures in this study contributed to racial variations in care even before patients were presented with surgical options.

Several other studies find no racial differences in rates of refusal of recommended procedures, or find that patient refusal does not fully account for disparities in receipt of care. Petersen et al. (2002) assessed use of cardiac procedures among a sample of African-American and white VA patients with diagnosed acute MI, and found that black patients were less likely to receive thrombolytic therapy or bypass surgery than whites, even when only patients with high-risk coronary anatomy were examined. Black and white patients did not differ, however, in rates of refusal of angiography, angioplasty, and coronary bypass surgery. Lauori et al. (1997) found that patient refusal of recommended cardiovascular procedures could not explain racial differences in "necessary" revascularization procedure rates. Similarly, Hannan et al. (1999) found that among patients deemed appropriate for a revascularization procedure but who did not receive it, a primary gatekeeper physician did not recommend the procedure in 90% of cases. In a study of African-American and white patients suffering from end-stage renal disease, Ayanian et al. (1999) found that African Americans were less likely than whites to desire a transplant. However, racial differences in rates of renal transplantation remained after adjustment for patients' preferences and expectations about transplantation, sociodemographic characteristics, the type of dialysis facility where they received treatment, perceptions of their care, health status, the cause of renal failure, and the presence or absence of co-morbid illness. Other studies, such as Canto et al. (2000), excluded patients who refused the recommended intervention (in this case, reperfusion therapy), but still found racial differences in receipt of therapy.

In summary, few studies have specifically examined racial differences in rates of refusal of treatment recommendations, or why such differences may occur. Of these studies, the majority find that minority patients are more likely than whites to refuse treatment (particularly invasive treatments). Patient preferences are therefore a likely contributor to racial and ethnic disparities in healthcare. The studies reviewed by the committee, however, find that patient preferences do not fully account for observed disparities, suggesting that other sources of disparities may also be operative, perhaps in interaction with patients' attitudes and preferences. In addition, other studies find that minority patients are more likely than whites to perceive that discrimination is a problem in healthcare settings, and are more likely to believe that minority patients receive poorer care than non-minority patients. Minority patients' greater likelihood of refusal of treatment may therefore be linked to a wide range of factors, including real or perceived negative experiences in healthcare settings, negative experiences in other settings (e.g., housing, employment—see Chapter 2), or the history of inferior treatment that minorities have received by the medical and scientific community (Byrd and Clayton, this volume). Further, as noted in Chapter 1, patients' preferences must be understood in the context of information provided to the patient by his or her healthcare provider. Should providers fail to provide clear, accurate, understandable information about the range of treatment options, then patients' consent for treatment cannot be considered fully informed. It is important to distinguish these sources of patient preferences, because as will be noted in Chapter 4, higher minority patient refusal linked to negative experiences in clinical encounters or incomplete disclosure may constitute discrimination.

Biological Differences That May Justify Differences in Receipt of Care

Chen et al. (2001) and other researchers speculate that racial differences in clinical characteristics may contraindicate the use of the same therapeutic procedures at similar rates in both African-American and white patients. For example, some African-American patients who have had an MI may be more likely than whites to have negative or unclear electrocardiograms at the time of presentation, complicating diagnosis. In addition, African-American and white patients may respond differently to some therapeutic regimens. Exner et al. (2001), for example, found that African-American patients with left ventricular dysfunction were less likely than whites with the same disorder to benefit from enalapril, an angiotensin-converting-enzyme inhibitor. In this study, similar doses of enalapril therapy or a placebo were provided to matched African-American and white patients. Enalapril was associated with a 44% reduction in the risk for hospitalization for heart failure among white patients, but with no significant reduction in risk for hospitalization among African-American patients.

These racial differences in response to pharamacologic and other therapeutic regimens may reflect genetic differences, differences in the pathogenesis of diseases, and environmental factors, such as differences in diet and health-related behaviors. Genetic differences may reflect differences in the distribution of polymorphic traits—including drug receptors or drug-metabolizing enzymes—across all racial and ethnic groups, rather than traits unique to any one group (Wood, 2001). Further research is needed to determine racial differences in response to pharmacologic intervention to assist physicians in weighing individual patients' likely treatment response. It is important to note, however, that many therapeutic regimens have proven efficacious for minority as well as non-minority populations. As noted in Chapter 1, several studies document that these procedures are provided at lower rates to African-American and minority patients where racial differences in response to treatment cannot justify differences in application (Canto et al., 2000; Todd et al., 2000; Bach et al., 1999; Gregory et al., 1999; Hannan et al., 1999; Peterson et al., 1997; Allison et al., 1996; Ball and Elixhauser, 1996; Gornick et al., 1996; Herholz et al., 1996; Imperato et al., 1996; Harlan et al., 1995; Ayanian et al., 1993).

Overuse of Clinical Services by White Patients

Several researchers have suggested that racial and ethnic disparities in care may arise in part from the overuse of services among white patients, rather than differences in service utilization arising from clinical necessity. White patients enjoy generally higher levels of education and may have greater access to and means of gathering information about their presenting concerns and possible diagnostic and treatment options. They may also feel more comfortable advocating for themselves and urging their physician to provide desired services. Racial differences would therefore be expected to be pronounced for optional or non-essential services and procedures. As noted in Chapter 1, however, several studies have tested the "overuse" hypothesis by examining use of clinical procedures relative to established criteria for necessity. These studies demonstrate that in the case of essential services, African-American and minority patients tend to receive a lower quality of care than whites when assessed relative to established quality criteria. Hannan et al. (1999), for example, assessed rates of coronary artery bypass grafting (CABG) among 1,261 post-angiography patients who would benefit from CABG according to RAND appropriateness and necessity criteria. Controlling for age, gender, severity of disease, patient risk status, type of insurance, and other clinical characteristics, the authors found that African-American and Hispanic patients were 36% less likely than whites to undergo CABG. Similarly, Laouri et al. (1997) used RAND/UCLA criteria for necessity of revascularization procedures and found that African Americans were half as likely as whites to undergo necessary CABG and one-fifth as likely to undergo percutaneous transluminal coronary angioplasty (PTCA). In a larger study, Canto et al. (2000) studied the use of reperfusion therapy among more than 26,000 patients meeting eligibility criteria as a result of acute MI. After controlling for clinical and demographic characteristics, the authors found that African Americans were slightly less likely than whites to undergo reperfusion therapy. Further, Schneider et al. (2001b) found that while overuse of PTCA was greater among white men than among minorities, this difference did not fully account for racial differences in revascularization.

To further address the question of whether racial disparities in receipt of revascularization procedures reflect clinical necessity or merely overuse among whites, Peterson et al. (1997) assessed racial differences in receipt of coronary angioplasty and CABG among patients with documented coronary disease, and assessed whether differences were associated with survival. The investigators followed 12,402 patients seen at Duke University Medical Center, and found that African Americans were 13% less likely than whites to undergo angioplasty and 32% less likely to undergo CABG. Racial differences in procedure rates were more marked among patients with severe disease. Analysis of survival benefit of surgery also revealed racial differences; among patients expected to survive more than one year, 42% of African Americans underwent surgery, compared with 61% of whites. Finally, analysis of the adjusted five-year mortality rate among patients revealed that African-American patients were 18% more likely than whites to die.

HEALTH SYSTEMS-LEVEL VARIABLES

Aspects of health systems—such as the ways in which systems are organized and financed, and the "ease" of accessing services—may exert different effects on patient care, particularly for racial and ethnic minorities. Complicated reimbursement procedures and structures, for example, may deter patients with low literacy or limited English proficiency from seeking care. Similarly, time pressures on physicians may hamper the ability of providers to accurately assess presenting symptoms of minority patients, especially where cultural or linguistic barriers are present. Further, the geographic availability of healthcare institutions—while largely influenced by economic factors that are outside the charge of this study—may have a differential impact on racial and ethnic minorities, independently of insurance status. This means that even among minorities and non-minorities insured at the same level, the ease of accessing services and racial differences in where care is typically received may contribute to disparities. Perhaps most significantly, rapid changes in the financing and delivery of healthcare services—such as the dramatic shifts brought by cost-control efforts and the movement to managed care—may pose greater barriers to care for racial and ethnic minorities than for non-minorities (Rice, this volume). Increasing efforts by states to enroll Medicaid patients in managed care systems, for example, may disrupt traditional community-based care and displace providers who are familiar with the language, culture, and values of ethnic minority communities (Leigh, Lillie-Blanton, Martinez, and Collins, 1999). Finally, legal and regulatory policy with regard to healthcare can create a context in which healthcare disparities are not tolerated or implicitly accepted. These potential influences on the quality of care for racial and ethnic minority patients are discussed below, along with supporting evidence.

Language Barriers

As noted in Chapter 2, nearly 14 million Americans are not proficient in English. Linguistic concordance between patient and provider is important, however, as language allows the provider to construct an accurate medical and social history, and assess the patient's belief about health and illness. Language is also an important tool for clinicians to establish an empathic connection with patients (Woloshin et al., 1995), and to reach agreement with patients on treatment decisions and prescribe a course of action. The failure of patients and providers to communicate effectively with each other may result in misunderstandings of patients' concerns, misdiagnosis, or unnecessary testing. In addition, miscommunication can result in poor patient compliance, inappropriate follow-up, and poor patient satisfaction. To the extent that healthcare systems and institutions fail to address language barriers and assist communication between patients and providers, language mismatches are a fertile source of racial and ethnic disparities in care.

Several studies suggest that care processes and outcomes are affected by linguistic barriers. Perez-Stable, Napoles-Springer, and Miramontes (1997), for example, assessed the effects of ethnicity and language concordance between patients and their physicians on health outcomes, use of health services, and clinical outcomes among a sample of Spanish-speaking and non-Spanish-speaking Hispanic and non-Hispanic patients at a university-affiliated general medicine practice. Of the 74 Spanish-speaking Latinos, 60% were treated by clinicians who spoke Spanish, while 40% were treated by non-Spanish-speaking clinicians. After controlling for patient age, gender, education, number of medical problems, and number of prescribed medications, the authors found that having a language-concordant physician was associated with better patient self-reported physical functioning, psychological well-being, health perceptions, and lower pain.

Baker et al. (1996) surveyed 467 native Spanish-speaking and 63 English-speaking patients presenting with non-urgent medical problems in a hospital emergency department to assess patients' reports of the use and need for interpretation. Interpretation, which is usually provided at the discretion of healthcare workers, was provided for only 26% of the Spanish-speaking patients. Just over half (52%) of the Spanish-speaking patients who were seen without a translator felt that interpretation was not necessary, but an additional 22% of the patients who did not receive interpretation felt that it was necessary. Of the patients who received interpretation services, almost half (49%) received interpretation services by a physician or a nurse. But when both the providers' Spanish and the patients' English were poor, interpretation was not called in over one-third (34%) of encounters. In these instances, 87% of patients felt an interpreter should have been called.

Baker et al. (1996) went further to assess patients' understanding of their medical condition and treatments. They found that only 38% of patients who did not have an interpreter when they thought one was necessary reported that their understanding of their condition was good or excellent. Nearly 3 in 5 (58%) reported that their understanding of their treatment was good or excellent, and 90% wished that their examiner had explained their diagnosis or treatment better. However, when patients' knowledge of their diagnosis and treatment were assessed objectively using a standardized measure, no significant differences were found between those who received interpretation and those did not have an interpreter and thought one was necessary (Baker et al., 1996).

David and Rhee (1998) examined the impact of language barriers on patient compliance with medication, satisfaction with care, and preventive testing. Spanish-speaking patients who possessed good English skills and did not need an interpreter were more likely than Spanish-speaking patients who had low English skills and used an interpreter to report that the side effects of medications were explained, and reported greater satisfaction with medical care. Surprisingly, while large majorities of both "cases" (Spanish-speaking patients with low English proficiency who used interpretation) and "controls" (Spanish-speaking patients who reported not needing interpretation) reported that their doctors discussed mammography and clinical cancer screening tests, significantly more cases than controls received these screening tests, leading the authors to speculate that testing served as a substitute for verbal communication.

Interpretation in healthcare settings has commonly been provided in one of several ways. Professional interpretation, using formally trained interpreters who demonstrate proficiency in mediating communication between languages and an understanding of medical terminology, remains rare. Without such services, one of three "sub-optimal" (Woloshin et al., 1995) strategies may be used: 1) the language skills of patients and providers; 2) the skills of family or friends; or 3) ad hoc interpretation from non-clinical employees (e.g., a clerk, aide, or custodian) or bilingual bystanders (e.g., other patients). These strategies are less desirable than professional interpretation because they can interfere with the patient-provider relationship and introduce error into interpretation. Ebden et al. (1988), for example, recorded and analyzed ad hoc interpretation encounters and found that 23% to 52% of words and phrases were incorrectly interpreted. Perhaps more importantly, ad hoc interpretation raises significant concerns regarding patient privacy. The use of bystanders, friends, or family, particularly children, as interpreters undermines patient privacy and may suppress the patient's willingness to discuss sensitive concerns (U.S. DHHS Office for Civil Rights, 2000).

Availability and Access to Services

Literature reviewed in Chapter 1 suggests that the quality of care for minority and non-minority patients may differ in part as a function of where these patients receive care. Even among equally insured patient populations, studies note differences in the quality of care provided, with private, teaching, and high-volume settings generally providing better quality care than public, non-teaching institutions. Significantly, minorities' access to better quality facilities is often limited by the geographic distribution of care facilities and patterns of residential segregation (see Chapter 2), which results in higher-quality facilities being less accessible to minorities.

Leape et al. (1999) tested this hypothesis by assessing racial differences in revascularization procedures as a function of hospital characteristics among 631 patients admitted to 13 New York City hospitals. Revascularization procedures were deemed clinically necessary for all 631 patients, according to RAND criteria. The authors found no significant racial differences in rates of revascularization procedures among African-American patients, (72%), Hispanic patients (67%) and white patients (75%). Rates of revascularization were significantly lower, however, among patients initially seen in hospitals that did not provide revascularization services (and therefore had to refer patients to other hospitals) than those treated in settings that did provide revascularization.

Similarly, Kahn et al. (1994) assessed the quality of care received by nearly 10,000 poor and/or African-American Medicare patients aged 65 years or older admitted to one of 297 acute care facilities for treatment of congestive heart failure, acute myocardial infarction, pneumonia, or stroke. For all patients, processes of care (as assessed by measures of physician and nurse clinical decision-making, technical diagnostic and therapeutic processes, and monitoring processes) were of lower quality in rural hospitals and best in urban teaching hospitals. No overall differences in the quality of care or mortality rates were found by race and poverty status. The authors note, however, that African-American patients and those who were from poor neighborhoods were 1.8 times as likely as whites and those not from poor neighborhoods to receive care in urban teaching hospitals, which generally provide better quality care. After adjusting for sickness at admission, patient and hospital characteristics (i.e., removing the effect of blacks and people from poor neighborhoods receiving better care in urban teaching hospitals), and other clinical factors, African-American patients and those who were from poor neighborhoods received a lower overall process-of-care and were 1.4 times more likely to be discharged in an unstable condition. The authors conclude that "the greater frequency of use of urban teaching hospitals by patients who are black or poor almost completely offsets the worse process of care they receive within each hospital. This phenomenon . . . should be considered in studying the care received for groups of patients whose care may be influenced by the setting in which it is provided" (Kahn et al., 1994, p. 1172).

Geographic factors have also been found to contribute to minorities' lower rates of access to pharmaceutical products. Morrison et al. (2000) examined the relationship between the racial and ethnic composition of New York City neighborhoods and the availability of opioid supplies of pharmacies to assess patients' ease of filling palliative care prescriptions. After controlling for the proportion of elderly persons at the census-block level and for crime rates at the precinct level, the authors found that only 25% of pharmacies in predominantly non-white neighborhoods (those in which less than 40% of residents are white) had sufficient opioid supplies to treat patients in severe pain. In contrast, 72% of pharmacies in predominantly white neighborhoods (those characterized by over 80% white residents) carried sufficient opioid supplies to treat patients in severe pain.

Maneuvering Through Clinical Bureaucracies

Racial and ethnic differences in rates of referral for specialty medical care can emerge in any of several steps in the process of care. Maneuvering through the bureaucratic and administrative "maze" commonly found in modern hospitals and clinics is essential in accessing clinical resources, yet some racial and ethnic groups, for a variety of reasons, may experience less success in navigating through such bureaucracies. Clinical caretakers, for example, are critical actors in helping patients access clinical resources. If these caretakers' advocacy efforts are adversely influenced by clinical uncertainty, stereotypic thinking, and/or lesser personal engagement with patients (to be discussed in the next chapter), it is reasonable to surmise that racial and ethnic minorities will be at a disadvantage in negotiating the medical bureaucracy. Thus, despite formal "equality" in access, minorities may experience differences in the rates with which they receive clinical services. To compound these difficulties, to the extent that minority patients are more likely to experience a subjective sense of disempowerment—whether because of a lack of cultural or linguistic familiarity with the "culture" of medicine (Good et al., this volume), or because of perceived discrimination—these patients may be expected to less vigorously assert their needs or "to feel bitter, even resentful, and to act in a manner that conveys this bitterness, rendering clinical administrators less empathic" (Bloche, 2001, p.106). As yet, however, little empirical data are available to support these hypotheses. An important aspect of navigation through healthcare systems—the clinical referral—is discussed next.

Referral Patterns and Access to Specialty Care

As noted in Chapter 2, racial and ethnic minorities report greater difficulty in obtaining referral and accessing specialty care. Einbinder and Schulman (2000), drawing on empirical literature and theory, illustrate how patient race or ethnicity may influence the referral process for invasive cardiac procedures. The initial step in the process involves the patient's recognition of symptoms that may suggest coronary artery disease. Some evidence, the authors note, indicates that racial and ethnic minorities are less likely than whites to recognize the symptoms of coronary artery disease, and therefore may delay seeking medical treatment. Such delays may limit treatment options. A second step involves obtaining access to healthcare providers, and varies by patient race or ethnicity because of differences in insurance status, as well as the local availability of providers (minority patients are more likely than whites to live in physician shortage areas). In addition, minority patients are less likely than whites to have a regular care provider. The lack of an on-going relationship with a healthcare provider may affect referral because the evaluation and referral process requires regular medical follow-up. In the third step, patient race or ethnicity may influence the presentation of symptoms, and the ability of care providers to recognize them (this topic will be discussed in greater detail in Chapter 4). Physicians' subsequent assessments and recommendations may therefore be based on incomplete information, or can be influenced by assumptions or unconscious stereotypes and biases, according to the authors. Patients' acceptance of physician recommendations also plays a minor role in racial differences in referral rates, as minority patients may refuse referral for invasive testing at higher rates than whites, and physicians may not have the time or interest in discussing patients' concerns or questions about unfamiliar procedures (see earlier discussion of patient refusal). A sixth step identified by Einbinder and Schulman—referral for noninvasive diagnostic evaluation—may be influenced by whether the patient is being followed by a primary care provider or a cardiac specialist, and the relationship that this provider has with other specialists in order to obtain referral. Referral for cardiac catheterization is affected by many factors, according to the authors, including the availability of catheterization services and access to high-technology hospitals, the presence of co-morbid conditions, patient preferences, advanced age, or social factors that may limit patients' ability to comply with therapeutic interventions. All of these factors may disproportionately limit minority patients' ability to undergo catheterization (Einbinder and Schulman, 2000).

Few studies have empirically assessed racial disparities in medical referral. A recent study by Hargraves and colleagues (Hargraves, Stoddard, and Trude, 2001), however, assessed minority physicians' experiences in both obtaining referrals for their patients to specialists and gaining hospital admissions. As noted earlier, racial and ethnic minority physicians are disproportionately more likely to serve minority patients, and therefore play a key role in enhancing access to care for minority populations. Hargraves et al. (2001) surveyed a nationally representative sample of African-American, Hispanic, and white physicians, and asked them how often they were able to arrange referrals to specialists and obtain admissions for their patients. Controlling for physician characteristics (e.g., years in practice, gender, specialty, group or private practice, revenue from managed care, Medicaid, and Medicare) and market characteristics (e.g., local physician participation in managed care, supply of hospital beds, and specialists per capita), minority physicians were found to have greater difficulty in gaining access to care for their patients. Hispanic physicians were more likely to report problems with obtaining referrals for specialty care than their white colleagues, and African-American physicians reported experiencing greater difficulty than white physicians in arranging hospital admissions for their patients. Hargraves et al. (2001) conclude that because physicians' training, type of practice, and other local characteristics were taken into account, only a few variables, such as physicians' prestige or clout, the proximity of hospitals and specialists to their patients, or discrimination directed at the physicians or their patients could account for these differences. The study's findings are limited, however, by a lack of direct measures of characteristics of the physicians' panel of patients. Given the fact that minority physicians are more likely to work in lower-income and minority communities, their patients might differ in disease status, preferences for treatment, and health insurance status.

Fragmentation of Healthcare Systems

"Fragmentation" of healthcare can occur when patients, even those privately insured, encounter different levels of plan coverage that influence the kinds and quality of services they receive. Multiple coverage options offered by health plans are often characterized by different types of benefits packages and different degrees of provider choice. In addition, coverage options vary in levels of pre-authorization review and financial incentives to physicians to practice frugally. At the lowest level of coverage, beneficiaries may face greater constraints in their choice of providers, settings in which care is received, and types of covered services. These differences imply that even within health plans, the medical marketplace is segmented by personal wealth and health status as well as consumer and employer preference (Bloche, 2001). This effect is seen most profoundly in the case of managed care plans comprised largely or entirely of Medicaid recipients and other poor Americans. Such plans have expanded coverage for the neediest (Rosenbaum, this volume), but further segmented the market.

There is little empirical data bearing on the question as to whether less costly, more restrictive health plans provide a poorer (or better) quality of care than more costly, less restrictive plans. However, lower per capita plan budgets mean fewer resources per capita for clinical services, given that care must be provided within a budget. On average, population groups disproportionately represented in less costly, more restrictive plans receive a lower intensity of care. Significantly, much of the research on racial and ethnic disparities in healthcare cited in Chapter 1 controls for insurance status at only a crude level (e.g., insured versus uninsured, privately insured versus publicly insured, etc.), and has not adequately controlled for variations in levels of insurance coverage. They therefore leave open the possibility that racial disparities in care result to some degree from the disproportionate presence of socioeconomically disadvantaged groups in less costly plans.

Furthermore, fragmentation of healthcare financing and provision may foster the development of disparate clinical practice norms, arising from distinct institutional cultures and provider and patient characteristics as well as from different levels of fiscal constraint. The fragmentation ensuing from the Medicaid program's statutory design merits mention as a special case. Because of Medicaid's low reimbursement rates for doctors and hospitals, its poor, disproportionately minority beneficiaries are subject to largely separate, often segregated systems of hospital and neighborhood clinics (Rosenbaum, this volume; Watson, 1995). These systems often adopt their own norms of medical practice, shaped by tight resource constraints. In addition, Medicaid's low reimbursement rates drastically restrict Medicaid beneficiaries' ability to access private physicians, and prevents many Medicaid patients from being admitted to hospitals in the absence of a private doctor with hospital admitting privileges (Rosenbaum, this volume), unless admitted as "community service" inpatients. Even in these instances, such patients are more likely to be cared for primarily by house staff as opposed to private attending physicians. Congress further reinforced Medicaid's low payment scales and largely separate systems of care with repeal of the Boren Amendment, which required Medicaid payments to doctors and hospitals to be "reasonable and adequate" and gave healthcare providers a federal cause of action against state Medicaid programs[1] (Bloche, 2001).

U.S. Department of Defense and Veterans Administration Healthcare Systems

Additional evidence of the impact of health systems on the ability of racial and ethnic minority patients to receive quality healthcare emerges from studies of large healthcare systems run by the U.S. Department of Defense (DoD) and Department of Veterans Affairs (VA). While findings are mixed, some studies suggest that racial and ethnic healthcare disparities are reduced or eliminated in these systems. These findings appear more consistently in studies of DoD systems, which ensure universal access to care, than in VA systems, which significantly reduce financial barriers to care among veterans. Taylor et al. (1997), for example, found no racial differences in rates of catheterization or revascularization among more than 1,400 military patients seeking care for acute myocardial infarction. And as noted above, Optenberg et al. (1995) studied more than 1,600 African-American and white active duty military personnel, their dependents, or military retires with prostate cancer served in DoD healthcare facilities. They found no significant racial differences in waiting time to receive treatment after initial diagnoses, type of treatment, and survival rates once stage of presentation and other clinical and demographic

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[1] 42 U.S.C.A. §1396a(a)(13)(C) (1982 & Supp. V 1987), repealed by Balanced Budget Act of 1997, Pub. L. No. 105-33, §4712(c), 111 Stat. 509 (1997). A state plan for medical assistance must "provide . . . for payment . . . of hospital services, nursing facility services, and services in an intermediate care facility for the mentally retarded provided under the plan through the use of rates (determined in accordance with methods and standards developed by the State . . .) which the State funds, and makes assurances satisfactory to the [Health and Human Services] Secretary, are reasonable and adequate to meet the costs which must be incurred by efficiently and economically operated facilities in order to provide care and services in conformity with applicable State and Federal laws, regulations, and quality and safety standards and to assure that individuals eligible for medical assistance have reasonable access . . . to inpatient hospital services of adequate quality."

factors were considered. In a study of prenatal birth outcomes among civilian and military women, Barfield et al. (1996) found that rates of prenatal care utilization were lower, and rates of low birth weight and fetal and neonatal mortality higher among African-American women than white women, but that these racial disparities were lower (but still significant) among the military population. In addition, a recent study of VA systems found modest racial differences in mortality rates among African-American and white patients admitted for pneumonia, angina, congestive heart failure, chronic obstructive pulmonary disease, diabetes, or chronic renal failure, but these differences suggested *better* survival rates for minority patients (Jha et al., 2001).

Other studies, however, note significant racial differences in VA systems in rates of procedures such as cardiac catheterization. Peterson et al. (1994), Mirvis et al. (1994), Whittle et al. (1993), and Mirvis and Graney (1998) all found African-American VA patients less likely to receive cardiovascular procedures than white VA patients. Sedlis et al. (1997) found that therapeutic cardiac procedures (surgery or PTCA) were offered more frequently for white VA patients (72.9%) than African-American VA patients (64.3%). This difference could not be explained by simple clinical differences between the two groups. Conigliaro et al. (2000) found that although African-American VA patients were less likely then white VA patients to undergo CABG and PTCA, when RAND appropriateness criteria were considered, African Americans were still less likely to receive CABG when deemed “necessary.” Oddone et al. (1999) studied racial differences in rates of carotid artery imaging among patients diagnosed with transient ischemic attack, ischemic stroke, or amaurosis fugax seen at one of four VA Medical Centers. After controlling for patients’ age, comorbid factors, clinical presentation, anticipated operative risk, and hospital, African-American patients were found to be half as likely as whites to receive carotid imaging.

Evidence for racial and ethnic disparities in care in VA systems is therefore mixed, but suggests that financial, structural and institutional factors of these systems, as well as the universally available care for military personnel in DoD systems may serve to attenuate some disparities in care. For example, physicians in both DoD and VA systems are salaried, eliminating the role of financial incentives to physicians to recommend or withhold specialized procedures (Okelo et al., 2001). In addition, other practices of these health systems related to larger quality improvement goals may also serve to attenuate disparities. The VA, for example, has instituted clinical decision support programs for physicians, which provide automated, time-sensitive and context-sensitive clinical reminders at the point of care, such as prescription checks and preventive care information. These clinical supports rely on a computerized patient record system that provides patients' medical and social histories, discharge summaries and progress notes, allergies, prior laboratory results, and other information. Clinical reminder notifications provided through these computerized data systems are largely based on the VA's national clinical practice guidelines. In addition, clinical care is evaluated relative to performance measures in six domains (quality, functional status, patient satisfaction, access, cost, and healthy communities). Most of the measures used to assess progress in these domains are based on "best practices" formally supported by evidence-based medicine (Swift, 2001). Such practice guidelines, as will be discussed in Chapter 5, may help to reduce variations in care due to clinical discretion and/or uncertainty.

Significantly, some evidence also suggests that when patients' race or ethnicity is unknown (e.g., when treatment decisions are made by a group of conferring physicians based solely on clinical data), racial and ethnic disparities in care may be attenuated. Okelo et al. (2001) assessed whether racial differences in recommendations for cardiac revascularization persisted when patients' race or ethnicity is unknown. The authors described the treatment decision-making procedures of cardiologists at the Cleveland VA Medical Center, who review clinical data of each patient considered for revascularization absent information about patients' race or ethnicity. Following this procedure, Okelo et al. found no overall racial differences in recommendation for revascularization. After adjusting for patients' age, co-morbidities, location and number of coronary stenoses, left ventricular function, and previous CABG, the authors found that white patients were more likely to undergo CABG and African-American patients were slightly (but not significantly) more likely to undergo PTCA. These findings lead Okelo et al. to conclude that "when only clinical factors are considered, the rates of recommendations for revascularization will be similar for white and African-American patients; but the type of revascularization procedure may differ by ethnicity and may depend, in part, on clinical factors" (Okelo et al., 2001, p. 698).

The Managed Care Revolution

Managed healthcare remains the predominant model of cost containment in an era of continuing escalation of healthcare costs and overall health expenditures. Most managed care organizations employ various forms of either supply-side (i.e., incentives to healthcare providers to practice frugally) or demand-side (i.e., incentives to patients to constrain the use of services) cost containment strategies, or combinations of both as part of managed competition strategies (Rice, this volume). As part of broader efforts to contain costs, improve the quality of care, and increase market share, some managed care organizations employ standardized practice protocols and collect data on patient satisfaction and outcomes of care. As such, managed care offers the potential to help eliminate disparities in healthcare. In many other areas, however, managed care has introduced new institutional dynamics that may enhance the conditions in which racial and ethnic disparities in healthcare can occur.

Utilization review and practice guidelines, for example, may be used by some managed care organizations (MCOs) to ensure that physicians provide services deemed medically appropriate. In this vein, it may be assumed that prospective utilization management, when applied in a standardized fashion, offers the prospect of ensuring that clinical care is consistent across patient groups. As noted earlier in this chapter, however, the subjectivity and ambiguity of clinical situations make standardized practice difficult, and guidelines cannot be developed for all clinical contingencies (Bloche, 2001). As a result, utilization managers must, in many instances, authorize reimbursement under conditions where considerable ambiguity and uncertainty exist. Under these conditions, advocacy by committed clinical caretakers may influence utilization managers' decisions. Typically, such advocacy is more likely to occur where patients and their providers have an established relationship and where providers have the time and resources to pursue claims. Minority patients, as noted below, are less likely than whites to receive care from private physicians and are less likely to have a regular primary care provider—even when compared to whites at the same insurance level (Lillie-Blanton et al., 2001). It is therefore possible that minorities may be less likely to benefit from the advocacy of their provider. The outcomes of competition for resources within a plan also hinge on utilization managers' discretion. With the exception of the studies cited below (see, for example, Lowe et al., 2001), there has been little research into subjective influences on utilization reviewers' decisions in ambiguous cases. Possible influences may include different degrees of sponsorship and advocacy on behalf of patients from their provider, which may be associated with patients' socioeconomic status, and utilization managers' assumptions about which patients are most likely to appeal utilization decisions (Bloche, 2001).

Another supply-side constraint employed by many MCOs is the practice of cost control via devolution of financial risk, thereby shifting responsibility for cost control to practicing physicians. Economic rewards for frugality and penalties for costly tests, treatments, and referrals have become common in contemporary clinical practice (Rice, 1997; Rice, this volume). The result has been increased reliance on the discretion of gatekeeping clinical caretakers to set limits and manage scarce resources. As noted in the model depicted in Figure 3-1, such discretion may allow cognitive, affective, social and cultural factors to influence clinical discretion in racially disparate ways. It may also affect medical resource allocation decisions, in that physicians' suspicions and fears about which patients will protest or sue if denied a test or treatment may influence (even at a subconscious level) the distribution of resources (Bloche, 2001).

While more research must be conducted to fully test these hypotheses, evidence indicates that low-income and ethnic minority patients are less likely to have a regular provider, are more likely to be denied claims, and are less satisfied with many aspects of the care they receive in managed care settings. In a study of low-income African-American, Hispanic, and white patients enrolled in managed care and fee-for-service plans in four states, Leigh and colleagues found that for all three groups, those enrolled in managed care plans were less likely to have a regular provider than those enrolled in fee-for-service plans (Leigh, Lillie-Blanton, Martinez, and Collins, 1999). African-American and Hispanic patients enrolled in managed care plans, however, were more likely than whites enrolled in MCOs to lack a regular provider, as approximately two of every five (38% among African Americans and 42% among Hispanics) lacked a regular provider, compared with 27% of whites enrolled in such plans. In addition, African-American patients enrolled in managed care plans were more than twice as likely as African Americans enrolled in fee-for-service plans to report that they did not obtain needed care. Further, when asked about "the extent to which your physician cares about you," Hispanic patients enrolled in managed care plans were nearly twice as likely as Hispanics enrolled in fee-for-service plans to rate their physicians' level of concern as "fair" or "poor" (Leigh, Lillie-Blanton, Martinez, and Collins, 1999).

Similarly, Phillips et al. (2000) used 1996 Medical Expenditure Panel Survey (MEPS) data to compare the experiences of 22,087 African-American, Hispanic, Asian-American, and non-Hispanic white patients enrolled in either managed care plans or other types of health systems (e.g., fee-for-service plans). Overall, survey respondents reported generally high levels of satisfaction with care, but minorities reported experiencing greater barriers to care than white patients. In particular, Hispanics experienced the greatest difficulty of the surveyed groups in obtaining care (24%), followed by Asian Americans (16%). Three in ten Hispanics reported lacking a usual source of care, as did two in ten African Americans and 21% of Asian Americans. Whites were least likely to report these barriers to care. In addition, and in contrast to Leigh et al. (1999) above, Phillips et al. found that among all racial and ethnic groups, those enrolled in managed care plans were more likely to report having a usual source of care than those enrolled in non-managed care plans. Minorities enrolled in managed care plans, however, tended to experience greater dissatisfaction with their usual source of care than those not enrolled in managed care plans. Asian Americans enrolled in managed care plans were 10 times more likely than Asian Americans enrolled in other types of plans to express dissatisfaction with their usual source of care; Hispanics enrolled in managed care plans were 4 times more likely to express this belief; while whites enrolled in managed care plans were only 1.5 times more likely than whites enrolled in non-managed care plans to endorse this view.

Research also suggests that managed care organizations' gatekeeper policies may pose greater barriers to care for minority patients. Lowe et al. (2001), for example, assessed racial differences in rates of gatekeeper approval for emergency department (ED) services sought by more than 15,000 African-American and white patients at an urban hospital. Nearly three-fourths (73%) of the ED visits analyzed were by African-American patients, and over two-thirds (67%) of visits were by Medicaid beneficiaries. Following a triage assessment by ED staff, 4.4% of visits were denied authorization for services, most commonly because they were deemed "minor" or non-urgent. African-American patients were more likely to receive low triage scores upon presentation; however, after adjusting for patients' age, gender, day and time of ED visit, type of MCO and triage score, African Americans were nearly 1.5 times more likely to be denied authorization for care. Patients who were covered by a Medicaid MCO or those covered by MCOs with mixed Medicaid and commercial patient populations were also more likely than those covered by purely commercial MCOs to be denied authorization for care. The authors note it unlikely that the gatekeepers who approved or denied authorization knew the race or ethnicity of patients presenting in the ED, as they generally did not know the patients and were not informed by ED staff of the patients' race. Therefore, these disparities could have emerged from other sources, such as ED staff's initial triage assessments, advocacy efforts by primary gatekeepers on behalf of patients (as discussed above), or other unmeasured factors (Lowe et al., 2001).

Finally, some of the most significant support for the hypothesis that managed care may pose greater barriers to care for racial and ethnic minorities than whites is provided by Tai-Seale and colleagues (Tai-Seale, Freund, and LoSasso, 2001). Using a "natural experiment," the authors assessed the differential effects of mandatory enrollment in managed care plans on use of clinical services by African-American and white Medicaid beneficiaries. A "difference-in-differences" econometric approach controlled for both time trends in demand for services and for fixed characteristics of beneficiaries that may have affected their use of services. African-American beneficiaries, including both children and adults, experienced significant declines in the use of physician services relative to whites. This relationship was found even when trends in service use unrelated to managed care were controlled by comparing service use to beneficiaries not subject to mandatory enrollment in managed care plans (Tai-Seale et al., 2001).

Supply-Side Cost Containment and Demand for Clinical Services

When patients are well insured, demand for clinical services is not constrained by demand-side prices. Because of low co-payment and/or generous insurance coverage of healthcare expenses, these patients will tend to display a higher demand for clinical services. Such is the case when previously uninsured or underinsured patients are provided with better health insurance, as their use of services (and subsequently, their healthcare costs) increases. In these circumstances, health plans will often use supply-side constraints to encourage doctors to engage in more frugal practice. These cost-containment efforts may involve capitation (providing a set fee for all patients seen in a health system or practice), devolution of financial risk to providers, or other practices (Rice, this volume). Similarly, limitations on the availability of physicians or resources within hospitals or clinics may also induce supply-side constraints. These supply-side constraints can engender demand-supply mismatches within hospitals (Joskow, 1981) and other clinical institutions, as patients will be less able to access all desired providers or services.

These demand-supply mismatches have the potential to contribute to racial and ethnic disparities in care. Excess demand for a hospital's services creates multiple internal queues for these services (Harris, 1979). Competition for these services within institutions may turn on the ability of providers to use their influence in advocating for their patients. As Bloche (2001) observed, "Absent bright-line, easy-to-apply criteria for prioritizing among patients in a queue, the politics of personal influence and professional hierarchy shape resource allocation. Attending physicians with the professional stature and/or political skills to push to the head of the queue in clinically ambiguous situations will do so on behalf of the patients to whom they feel most committed. Conversely, house staff and less influential attending physicians will have more difficulty making their way up the queue" (Bloche, 2001, p. 107).

As noted above, racial and ethnic minority patients are less likely to be seen by a private physician, or to have a regular primary care provider, even when insured at the same level as whites (Lillie-Blanton et al., 2001). Moreover, they are more likely to receive care in hospital clinics and other settings characterized by rapid staff turnover and lack of continuity of care providers. Under these circumstances, it is reasonable to assume that physician advocacy on behalf of patients will be less likely, either because the physician is less familiar with patients that he or she does not regularly treat, or because resource constraints such as capitation prevent physicians from meeting all patients' demands for services (Rice, this volume). Therefore, patients cared for by physicians in settings that support continuity of clinical relationships may have preferred access to services when demand-supply mismatch conditions exist.

Legal and Regulatory Policy and Healthcare Disparities

A number of legal and regulatory mechanisms exist that, in theory, may serve to remedy discriminatory healthcare practice. In some cases, however, these mechanisms are insufficient by themselves to address discriminatory practices, or cannot be implemented without addressing significant obstacles. A few of these mechanisms are briefly described below, as a means of providing examples of how legal and regulatory tools, while well-intended, often fail to address the complexity of racial and ethnic discrimination in healthcare.

Medical Tort Law and Clinical Discretion

Medical malpractice law, in some cases, has served as an effective response to departures from standards of competent practice. Its application to the problem of healthcare discrimination, however, has been limited.

In theory, medical malpractice law prescribes a unitary level of care, regardless of health insurance status or ability to pay. Tort doctrine assumes that a "correct" standard of care can be discerned from physician-experts through the adversary process. Yet, as noted above, clinical practice patterns and styles vary widely. Without high-quality data about the efficacy of alternative approaches, physician-experts cannot provide testimony that distinguishes scientifically between "correct" and "incorrect" clinical practice variations. So long as the care at issue in a medical malpractice case adhered to one or another widely accepted practice variation, it can be defended by resorting to like-minded physician-experts. Without empirical evidence that the practice variation at issue is "wrong," the requirement that plaintiffs shoulder the burden of proof on the issue of negligence in tort cases poses a high barrier to legal success. The lack of such evidence poses another obstacle to malpractice plaintiffs. Plaintiffs must shoulder the burden of proof as to whether the negligence they allege was in fact the cause of the harm that occurred. In the absence of high-quality evidence concerning the comparative efficacy of alternative courses of treatment, proof that a defendant physician's choice of one treatment over another resulted in harm (or a diminished probability of a favorable outcome) is more difficult. Racial disparities in care that fall within the range of widely accepted clinical practice variations are thus not easily amenable to correction through the operation of medical malpractice law (Bloche, 2001).

Moreover, only a small proportion of arguable errors of clinical judgment—arguable based on empirical grounds for preferring one approach over another—result in medical malpractice suits (Weiler, 1993). Even smaller proportions yield monetary settlements or judgments, and poor people and members of disadvantaged minority groups are less likely than other Americans to sue their doctors (Burstin et al., 1993). Medical malpractice law is therefore of weak utility as a mechanism to address racial and ethnic discrimination in healthcare.

Emergency Medical Treatment and Active Labor Act

The federal Emergency Medical Treatment and Active Labor Act (EMTALA)[2] requires federally funded hospitals (e.g., those that participate in Medicare or Medicaid) that operate emergency rooms to screen all emergency room patrons for "emergency medical conditions" regardless of patients' ability to pay, and to provide stabilizing treatment for emergency conditions. Further, these hospitals are required to refrain from discharging patients or transferring them to other facilities (also known as "patient dumping") on economic grounds. Judicial interpretation of EMTALA, however, has been criticized as having weakened the law's force as a deterrent to disparate treatment in the emergency room (Bloche, 2001). Federal appellate court panels in several circuits have ruled that the mandatory emergency screening examination required by EMTALA need not meet national standards of care, but rather, should conform only to the screening hospital's regular practice. Plaintiffs, as a result, commonly experience difficulty pursuing suits alleging violations of EMTALA, as they must challenge local hospital policy, often without the assistance of physicians familiar with emergency room screening practice at the hospital they intend to sue or other evidence of violations of hospital emergency room procedures. As Bloche (2001) notes, "the resulting 'code of silence' problem is obvious: avoidance of the 'code of silence' barrier was a principal reason for the shift from community to national standards of care in medical malpractice law" (Bloche, 2001, p. 110). The difficulties encountered by plaintiffs in suing to enforce EMTALA may lead to cursory evaluation and transfer or discharge of members of disproportionate numbers of minority patients, whether because of no or insufficient insurance, racial discrimination, or unconscious bias. To add to this difficulty, state laws mandating

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[2] EMTALA, 42 U.S.C. §1395dd (1995).

emergency room screening have generally been construed and applied with similar permissiveness (Rosenblatt et al., 1997).

The Unfulfilled Potential of Title VI

Title VI of the Civil Rights Act of 1964 bars discrimination in healthcare and other services by all entities that receive federal funds. Title VI therefore applies to the vast majority of U.S. hospitals and clinics, given the large percentage of these care settings that rely significantly or in part on Medicaid or Medicare reimbursement. Significantly, the law extends beyond intentional discrimination to prohibit many facially neutral practices that may result in disparate negative effects on racial and ethnic minorities and other disadvantaged groups. The impact of Title VI in desegregating healthcare and ensuring the equitable treatment of all patients has been enormous. Despite resistance to desegregation in the early years following the law's passage, for example, the enforcement of Title VI by federal investigators, aided by activists and health professionals, resulted in many previously segregated hospitals opening their doors and wards to all patients who could pay (Smith, 1999). Evidence of discrimination in some sectors of the healthcare industry, however, remained. Discriminatory practices such as denial of admitting privileges to African-American physicians,[3] refusal of admission to patients lacking attending physicians with staff privileges, high prepayment requirements for black patients, and discriminatory routing of ambulances continued in some instances (Smith, 1999). In these cases, the DHHS Office for Civil Rights (OCR) has enacted such measures as revising requirements for staff privileges, eliminating prepayment requirements, and requiring changes in ambulance routes (Rosenbaum et al., 2000).

Despite these gains, some argue that Title VI has yet to fulfill its potential as a tool to eliminate discrimination in healthcare (Perez, this volume; Bloche, 2001). For example, the federal regulations promulgated pursuant to Title VI did not offer detailed compliance instruction to healthcare institutions (Rosenbaum, 2000; U.S. Commission on Civil Rights, 1999), making it difficult for even the well-intended institutions to assess what practices may run afoul of the law. More significantly, federal Title VI regulations held that Medicare's payments to physicians do not constitute "federal financial assistance" under Title VI. This rule

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[3] Some hospitals pursued the facially neutral strategy of refusing to grant privileges to physicians who were not members of their local medical societies. The difficulty for African-American doctors (and their patients) in some localities, was that these medical societies (which received no "federal financial assistance" and were thus beyond Title VI's reach) refused admission to blacks (Smith, 1999).

meant that private physicians were not subject to Title VI, despite the fact that virtually all other federal payments to private actors are treated by the regulations as "federal financial assistance," triggering Title VI protections (Rosenbaum, 2000). If physicians who accept Medicare were subject to Title VI, the law would have given DHHS (and private plaintiffs) a powerful civil rights enforcement tool, applicable not only to racial disparities in the care provided to Medicare patients but also to disparate treatment of non-Medicare patients by physicians who accept Medicare. Given that most physicians accept Medicare, and given their important role as key decisionmakers with respect to use of hospital resources and services, extending the reach of Title VI to Medicare coverage of physician services would subject most of the private healthcare sector to Title VI enforcement.

The reach and effectiveness of Title VI can be improved by addressing these gaps. More specific regulatory guidance, based on empirical research regarding potential disparate impact and means to improve access to and quality of care for minority patients, will enable healthcare institutions to develop more finely crafted policies and will help enforcement efforts by drawing distinctions between allowable and potentially illegal practices (Bloche, 2001). More robust DHHS monitoring and enforcement, similar in scope to the early efforts of the Department following passage of Title VI, can help to re-establish federal leadership work toward the elimination of care disparities (Smith, 1999). In addition, application of Title VI to private physicians who accept Medicare would extend the law's reach to a significant segment of the healthcare industry.

Furthermore, the application of Title VI beyond intentional discrimination to include policies that may create disparate racial impacts could be an important tool for civil rights enforcement. Disparate impact could be assessed using institution-specific statistical evidence of disparities in healthcare provision. Such evidence may suffice to state a *prima facie* case of discrimination, requiring a healthcare provider to justify policies and practices that result in racially disparate clinical decisions (Barnes and Weiner, 1999). Establishing proof of institution-specific disparities—and of causal links between such disparities and particular policies and practices—will pose significant challenges. The possibility of institution-specific databases sufficiently powerful to serve this probative purpose is speculative, but the ongoing effort to establish electronic clinical record-keeping (see Chapter 7) may make such evidence increasingly accessible to civil rights enforcement authorities.

Despite the promise of this type of data, however, new challenges have emerged within the last year that will limit private parties' ability to seek legal relief under Title VI from policies with disparate racial impact (Perez, this volume). In *Alexander v. Sandoval*, the U.S. Supreme Court held that Title VI did not create a private right of action concerning policies with disparate impact, absent discriminatory intent. This action therefore places the greatest burden of civil rights enforcement with U.S. DHHS, which will shape Title VI's future as a health policy tool through its civil rights enforcement policies.

SUMMARY

This chapter presents a review of evidence regarding potential sources of racial and ethnic differences in healthcare, once access-related factors such as patient education, income, and insurance status are held constant. Consistent with the committee's definitions of *differences*, *disparities*, and *discrimination* in care, several sources are identified. Those related to patients' preferences, needs, and racial or ethnic differences in the clinical appropriateness of care may contribute to differences in the quality or intensity of care provided, but these are not sources of healthcare disparities, as they do not imply undue differential treatment on the basis of race or ethnicity. Disparities in care, on the other hand, likely emerge from a range of sources, such as characteristics of healthcare systems and the legal and regulatory context of healthcare delivery. In the next chapter, sources of disparities arising from the clinical encounter will be examined in greater detail.

> **Finding 3-1: Many sources—including health systems, healthcare providers, patients, and utilization managers—may contribute to racial and ethnic disparities in healthcare.**
> **Evidence suggests that several sources may contribute to healthcare disparities, including healthcare providers, patients, utilization managers and healthcare systems. In the current era of healthcare delivery, clinical decision-making increasingly involves this large number of individuals, who are subject to an array of systems influences that may contribute to healthcare disparities.**