

CV Report

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The Heart of the Matter:

The Relationship between Communities, Cardiovascular Services and Racial and Ethnic Gaps in Care

Expecting Success: Excellence in Cardiac Care
Cardiovascular Market Assessments

October 2006

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The Heart of the Matter

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Foreword

Research on health care tells us that getting the right care at the right time is critically important. We know, for example, that if patients with diabetes receive a certain level of treatment, their outcomes are likely to be better than patients who don't receive this same level of treatment, and that heart attack patients have a better chance of survival if they receive an aspirin within 24 hours of arriving at a hospital. Evidence suggests, however, that the gap between the care Americans *should* get versus what they *do* get is enormous. Because of this evidence, a growing movement has emerged to ensure that all patients are provided high quality care.

This “quality chasm,” identified by the Institute of Medicine (IOM) in its seminal 2001 *Crossing the Quality Chasm: A New Health System for the 21st Century*, is even worse for patients from certain racial and ethnic backgrounds. In a 2003 report entitled, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*, the IOM reported that many minorities experience challenges accessing and receiving high quality health care, contributing to the quality chasm between minority and majority groups. The IOM called for a targeted action plan directed at health system change as part of an overall strategy to eliminate health disparities.

In response, the Robert Wood Johnson Foundation (RWJF) has formulated a strategy to reduce racial and ethnic health care disparities, as part of its mission to improve the quality of health care for all Americans. *Expecting Success: Excellence in Cardiac Care* is a national program developed by RWJF as part of that strategy. Based at The George Washington University in Washington, DC, the program is designed to improve the quality of health care provided to minority populations in the United States through a hospital collaborative focusing on cardiac care. Ten hospitals from across the country were chosen to participate in the project.

While the focus of *Expecting Success* is on improving the quality of patient care at the hospital level, we believe that hospitals cannot successfully improve quality without a good understanding of the health care market and community in which they operate. Therefore, *Expecting Success* is conducting an assessment of community and health system factors that drive disparities and influence the quality of care in diverse communities. This market assessment project is being led by a team of researchers at George Washington University with the direction of Marsha Regenstein, PhD, MCP. *The Heart of the Matter* is the first in a series of reports releasing our results from the assessments. Taken as a whole, we hope these reports will inform the dialogue on racial and ethnic disparities in the United States and provide a context for concrete action to close these gaps.



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Executive Summary

Increasingly, the field of health policy has come to acknowledge that patients from certain racial and ethnic groups are more likely to receive a lower quality of health care than majority groups. These gaps in treatment between minority and majority populations, commonly referred to as racial and ethnic disparities, persist across a range of health care services used to treat different conditions. Evidence of disparities is particularly strong in the diagnosis and treatment of cardiovascular disease.

Heart disease is the leading cause of death for whites, blacks, and Hispanics in the United States. Health statistics show that while heart disease and its risk factors are a problem for all Americans, they disproportionately affect different racial and ethnic groups. Blacks are much more likely to die from the disease than whites or Hispanics. The age-adjusted death rate for blacks ages 35 and older in the U.S. is 662 per 100,000 residents, compared to 529 for whites and 348 for Hispanics. Premature death due to heart disease is more common for blacks and Hispanics than for whites. Prevalence of cardiovascular disease also varies by race and ethnicity with blacks experiencing higher rates of the disease than white and Mexican-American adults.

The reasons for these disparities are multidimensional. But doubtless some of the variation rests with the availability of services and service patterns within communities and health care markets. By the time a patient reaches a hospital bed, countless decisions have either explicitly or implicitly been made on that patient's behalf. The choice of primary care or specialty physician, location of a physician's office, and preference for hospitals are just some of the decision points that can influence minorities' access to high quality services.

The purpose of the *Heart of the Matter* is to clarify the role of access in health care disparities by examining factors that contribute to a structure of heart care that segments patients based on income and insurance. The report reviews key decision makers – plans, providers, purchasers, consumers and patients – to identify the factors that contribute to disparate care. Subsequent *Expecting Success* market assessment reports will explore the differentials in care for minorities who have coverage and/or access to a medical home.

Expecting Success

The *Expecting Success: Excellence in Cardiac Care* program is a national initiative of the Robert Wood Johnson Foundation. In fall 2005, 10 hospitals were selected through a competitive process to participate in a Learning Network focused on quality improvement in cardiac care. Each of the hospitals in the Expecting Success Learning Network provides cardiac services to substantial numbers of African American and/or Hispanic patients.

The *Expecting Success* program also includes an assessment of the health care delivery systems in each of the communities where the 10 hospitals are located. These assessments provide a context for understanding the particular pathways by which African American and Hispanic residents access and manage care for their heart conditions. Below are highlights of some of the important socioeconomic and demographic factors of the communities.

- Each of the communities is extremely diverse. Detroit and the Mississippi cities of Jackson and Greenville have the highest percentages of African American residents (between 70 and 85 percent), while El Paso and San Antonio have the highest proportion of Hispanic residents (between 70 and 80 percent).

- Many residents in the *Expecting Success* communities speak a language other than English in their homes, signaling the need for adequate language services within health care settings to facilitate communication between patients and providers.
- All of the *Expecting Success* communities demonstrate disparities in the economic status of their residents. In some cases, the disparities are striking: in Greenville, Jackson, and Washington, DC, black residents are at least three times more likely to live in poverty than white residents. In the Bronx, Detroit, El Paso and Jackson, at least 30 percent of Hispanic residents live below the poverty level. Associated with these economic disparities for minority residents are higher rates of unemployment and lack of health insurance.

Expecting Success Communities

Bronx, NY
 Broward County, FL
 Chicago, IL
 Detroit, MI
 Durham, NC
 El Paso, TX
 Greenville, MS
 Jackson, MS
 San Antonio, TX
 Washington, DC

Five Factors that Contribute to Disparate Heart Care for Minority Americans

The major finding from the 2003 IOM report on disparities was that racial and ethnic gaps in the quality of care persist even when other factors, such as socioeconomic status and insurance, are equal. Subsequent *Expecting Success* market assessment reports will explore the differentials in care for minorities who have coverage or access to a medical home. However, in this first report we will explore five factors which appear to segment the cardiovascular health care market by income and insurance status and thereby contribute to patterns of care in which low-income, uninsured, underinsured or publicly insured patients are less likely to receive optimal heart care than other residents in the same communities.

Factor 1: Market competition in health care has led to the emergence of a three-tiered system of heart care.

Market competition in health care contributes to a system of heart care that segments the market by insurance coverage and ability to pay. This segmentation, which occurs in physicians' offices, hospitals and other health care settings alike, may affect the quality of heart care provided to patients. As a result, a tiered system of care emerges that effectively treats uninsured and Medicaid patients differently than commercially insured and Medicare patients. In some communities, particularly those with a high proportion of poor minorities, the tiered system of care is divided largely along racial and ethnic lines.

Within a community's health care system, private hospitals attract the best paying patients, and public hospitals are left with poorly insured or uninsured patients. This practice effectively creates three tiers of care for cardiac patients.

Tier 1 is composed mostly of private hospital or health systems and private practice primary care and specialty physicians. Tier 1 providers serve a patient population that is most commonly covered by commercial insur-

ance or Medicare. Tier 1 providers are able to provide or arrange for the full array of hospital-based inpatient and outpatient cardiac care to all of their patients who require these services.

Tier 2 represents the public or private hospital, community clinic and physician practice with little if any dedicated funding to offset care for the uninsured. Tier 2 providers have high numbers of uninsured patients, relative to other hospitals and physician practices in their communities and higher than average Medicaid patient populations. Availability of heart care among Tier 2 providers can vary significantly within a community.

Characteristics of a Tiered System of Heart Care



Tier 3 comprises the public hospital or health system and community health center with dedicated funding to offset care for the uninsured. Tier 3 providers have high numbers of uninsured and Medicaid patients and are often significantly limited in the cardiac services they can provide due to resource shortages. Tier 3

providers see disproportionately high numbers of minority patients in economically segregated communities.

Factor 2: Market differentiation has resulted in specialized, boutique medicine that further segments cardiac care.

In line with the financial considerations weighing on most health care enterprises is the emerging trend in the health care field of providing highly specialized, boutique medicine in an effort to increase proportions of commercially insured or Medicare patients.

As a business strategy, this market differentiation serves the goal of increasing revenues and boosting profits. However, because racial and ethnic minorities are disproportionately represented among the ranks of the publicly insured and uninsured, the decision to grow the “high end” of the cardiac care market may result in the exclusion of low-income minority patients from getting this specialized care. To be sure, those minorities who have health coverage and other resources to access and pay for care will benefit from this market differentiation and the growth in high-end services. However, the fact remains that low-income groups are disproportionately composed of minorities, who lose out in a health care market that is segmented in this way.

Factor 3: The availability of dedicated resources to provide care for the uninsured can mitigate market segmentation.

The availability of dedicated resources for the uninsured is an important factor that can help mitigate the problems of market segmentation and a tiered system of care, and improve minority Americans’ ability to obtain optimal cardiac care. Few of the *Expecting Success* communities, however, have sufficient federal, state or local resources, such as federally qualified health centers (FQHCs), publicly supported hospitals, or state or local indigent care programs, to meet the demands for services from the low-income residents and to offset the costs of care for this population. Lack of resources

presents a barrier to cardiac care in these communities and can result in suboptimal health outcomes.

Factor 4: Referral arrangements can dictate whether minority populations receive optimal cardiac care.

Referral practices can segment care and contribute to disparities. Low-income, uninsured or underinsured patients tend to be referred to providers in the lower tiers of the system, while privately insured patients are directed to the top tier. Where providers refer patients can affect the amount of care they receive, the quality of that care and, ultimately, the outcomes they experience.

Given how health care markets are structured, important factors that could impact referral practices include income, insurance status and the availability and willingness of providers to deliver care at the time care is needed. These factors can result in minority patients obtaining services from different types of providers and from different tiers of care – public versus private hospitals, residency clinics versus private practice cardiologists, community health centers versus private practice primary care physicians. Referral practices can also affect inpatient care. For example, services available to patients may be differentiated based on the path used to access hospital care. These patterns hold true for provider-to-provider referrals, referrals into the hospital via the hospital “front door,” and referrals into the hospital via the emergency department.

Factor 5: Poor coordination of cardiac care across multiple sites and providers can influence minority patients’ ability to receive the full spectrum of heart care.

Receiving coordinated health services is essential in the diagnosis, treatment, and management of heart disease. In heart care, coordination requires a network of providers, from primary care providers (PCPs) to cardiologists, other sub-specialists and hospitals, that can communicate well, share information and refer

freely among each other. While coordination of care is a problem for all patients, access to coordinated cardiac services can be especially problematic for minority groups, who lack regular access to a provider or a medical home that can oversee the management of their heart care.

Conclusions

Disparities in heart care can be attributed to many factors. Our work identifies several market characteristics that can make heart care particularly difficult for minority Americans to obtain. Health service utilization is driven by health coverage and the ability to pay for care, with important implications for racial and ethnic minorities in America. In each of the *Expecting Success* communities, like countless other communities across the country, poverty and lack of health insurance are much more common among African American and Hispanic residents.

Low-income, uninsured African American and Hispanic residents with heart disease often face significant hurdles in finding timely and affordable health care. Without the benefits of adequate health insurance, these patients lack the financial lobbying power to obtain care from the top tier of the system; they also suffer from market segmentation and referral patterns that favor the insured and all but dismiss the uninsured.

Lack of coordinated care across providers and health delivery sites can result in poor outcomes. Poorly coordinated care or attention to only episodic moments of care can result in medical errors, increased duplication of services, and frustration among patients attempting to navigate such disjointed care.

Given these significant challenges, what, then, is the value of a program like *Expecting Success*, which has enlisted 10 hospitals to improve the quality of cardiovascular care? Hospitals are not likely to be the primary agents of change when it comes to dramatically influencing the socioeconomic conditions and coverage options in their surrounding communities. However, hospitals can and do influence the quality of health care provided to the patients that live in their communities. Therefore, one of the fundamental assumptions of *Expecting Success* is that even though hospitals operate in environments where multiple factors contribute to poor quality health care for minority patients, it is nevertheless possible for those hospitals to make significant differences in how they provide quality health care to their patients. The goal of *The Heart of the Matter* is to support that process by helping hospitals better understand those factors rooted in the community and the larger health care system that may lead to disparate care.

Section 1: Introduction

Increasingly, the field of health policy has come to acknowledge that patients from certain racial and ethnic groups are more likely to receive a lower quality of health care than majority groups. These gaps in treatment between minority and majority populations, commonly referred to as racial and ethnic disparities, persist across a range of health care services used to treat different conditions. Evidence of disparities is particularly strong in the diagnosis and treatment of cardiovascular disease.

Disparate cardiovascular care can result from decreased access to heart care services, including cardiologists, sub-specialists, diagnostic testing, and advanced therapeutic procedures.^{1,2} Differences in care can also be attributable to the difficulty that minority patients have in accessing high quality care.^{3,4}

The reasons for these disparities are multidimensional. But doubtless some of the variation rests with the availability of services and service patterns within communities and health care markets. By the time a patient reaches a hospital bed, countless decisions have either explicitly or implicitly been made on that patient's behalf. The choice of primary care or specialty physician, location of a physician's office, and preference for hospitals are just some of the decision points that can influence minorities' access to high quality services.

The purpose of the *Heart of the Matter* is to clarify the role of access in health care disparities by examining factors that contribute to a structure of heart care that segments patients based on income and insurance. The report reviews key decision makers – plans, providers, purchasers, consumers and patients – to identify the factors that contribute to disparate care. Subsequent *Expecting Success* market assessment reports will explore the differentials in care for minorities who have coverage and/or access to a medical home.

The *Expecting Success* program focuses on cardiac care because heart disease is the leading cause of death among all racial groups and the evidence of racial disparities is especially strong in the diagnosis and treatment of cardiovascular disease. Moreover, well-established evidenced-based measures of high-quality cardiac care have been adopted by clinicians, regulatory bodies and quality improvement experts that will help hospitals and health systems implement real and achievable change to improve the cardiac outcomes of minority Americans.

The Burden of Heart Disease

Examining the burden of heart disease for minority Americans underscores their need for easily accessible, well-managed heart care. Health statistics show that while heart disease and its risk factors are a problem for all Americans, different racial and ethnic groups are affected disproportionately:

- Cardiovascular disease is the leading cause of mortality in the United States, accounting for 37.3 percent of all deaths in the nation in 2003.⁵ Cardiovascular disease is also the leading cause of death for whites, blacks, and Hispanics in the United States.⁶
 - Mortality rates from cardiovascular disease vary significantly by race and ethnicity. Blacks are much more likely to die from the disease than whites or Hispanics. The age-adjusted death rate for blacks ages 35 and older in the U.S. is 662 per 100,000 residents, compared to 529 for whites and 348 for Hispanics.⁷ Premature death⁸ among individuals with cardiovascular disease is also more common for blacks (31.5 percent) and Hispanics (23.5 percent) than for whites (14.7 percent).⁹
 - Prevalence of cardiovascular disease varies by race and ethnicity with blacks experiencing higher rates of the disease than white and Mexican-American adults.¹⁰
- Over 40 percent of black males and females suffer from cardiovascular disease, compared to 34 percent of white males, 32 percent of white females and 29 percent of Mexican-American males and females.¹¹
- Racial and ethnic disparities are evident in the prevalence of a number of cardiovascular risk factors. Black males are more likely to have high blood pressure than white and Mexican-American males (42 percent compared to 31 percent and 28 percent, respectively).¹² Mexican-American males are more likely to have total blood cholesterol levels of 200 mg/dl or higher than white or black males (52 percent compared to 49 percent and 42 percent, respectively).¹³
 - Black and Mexican-American adults are much more likely to have been diagnosed with diabetes than white adults.¹⁴ Ten percent of black and Mexican-American males have diabetes, compared to only six percent of white males. Similarly, 13 percent and 11 percent of black and Mexican-American females, respectively, have been diagnosed with diabetes compared to five percent of white females.

Disparities in Care

As evidenced by the data, racial and ethnic minorities suffer disproportionately from cardiovascular disease and a number of its risk factors. Much of the extensive literature that documents these disparities suggests that they are influenced by the structure of the health care system and how health care is delivered, financed, and organized.¹⁵

In 2003, the Institute of Medicine (IOM) issued a report on disparities in the quality of health care received by racial and ethnic minorities in the United States. Entitled *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*,¹⁶ the report suggests that the causes of health care disparities are complex and involve participants at several levels, including hospital and health systems, payors, health care professionals, and patients. Furthermore, the report notes that financial and institutional arrangements of health systems may influence whether minorities can attain quality care.

From the standpoint of health care systems, a significant body of literature has identified several factors that help to explain the existence of health care disparities either in cardiac care or in health care more generally. A few of these factors are described below:

- *Disparities in care between racial and ethnic minorities are attributable to insurance status and income.* A cross-sectional survey of a nationally representative sample of blacks, Hispanics, and whites found that lack of insurance was the single most important factor accounting for differences between the three groups on the following health measures: 1) reporting of unmet medical needs; 2) status of having a regular health care provider; and 3) visiting a physician in the past year.¹⁷ Differences in income comprise the second most important factor accounting for these disparities. Because racial and ethnic minorities are disproportionately poor and uninsured, disparities in care are a function of inadequate health coverage and access to care.
- *Racial and ethnic minorities receive lower quality care because they are more likely to be treated by physicians who are less well trained clinically and have less access to clinical resources than physicians treating white patients.* Because minorities and whites often reside in different locations and seek care in different settings, disparities arise in terms of the qualifications and resources possessed by the physicians that treat them. For example, a study comparing the care received by black and white Medicare beneficiaries found that physicians who treated black patients were less likely than those seeing white patients to be board-certified and were less likely to report that they were delivering high-quality care to all of their patients.¹⁸ Another study found that non-whites are treated by lower-quality cardiac surgeons in hospitals, based on risk-adjusted mortality rates.¹⁹
- *Racial and ethnic minorities receive lower quality care because they are more likely to receive care in hospitals that deliver lower quality services compared to those serving greater proportions of white patients.* Members of racial and ethnic minority groups are more likely than white patients to receive care in hospitals that deliver lower levels of care on key treatments or procedures. One study found that blacks were more likely to undergo coronary artery bypass graft (CABG) surgery in hospitals with lower volume and higher risk-adjusted mortality rates.²⁰ Another study reported that risk-adjusted mortality after acute myocardial infarction (AMI) was significantly higher in U.S. hospitals that disproportionately served blacks.²¹
- *Disparities in care between racial and ethnic minorities and white patients are due to differences in physician referral patterns.* Race is a significant determinant of referral and, ultimately, utilization patterns of specific treatments and procedures. One study found that blacks were less likely than whites to receive referrals for coronary angiography in a sample of patients eligible for the procedure among three

community hospitals.²² Another study found that race was a significant factor in physician decision making in referrals for a number of specific invasive cardiac procedures.²³

- *Disparities in care between racial and ethnic minorities and white patients are due to differences in how new treatments are discussed and distributed in a patient population.* A study examining disparities by race in the use of implantable cardioverter defibrillators (ICDs) found that ICDs may have insufficiently penetrated the health care systems where black patients were more likely to receive care. As a relatively new technology introduced in the 1990s, ICDs were utilized at different rates among different localities, with delays in growth of its use more

likely in geographic areas with large proportions of black populations.²⁴

The literature clearly demonstrates that minority populations receive disparate care. How and why they do is a question that is much more difficult to determine. While the causes of disparities are complex, many different factors appear to influence how a system of care that provides unequal care to minority Americans can develop. This study examines a number of these factors, including income and insurance status, provider business strategies and financial considerations, physician referral practices and coordination of care, to better understand the sources of disparities and to help improve health care for minority Americans.

Expecting Success: Excellence in Cardiac Care

The Robert Wood Johnson Foundation established *Expecting Success: Excellence in Cardiac Care* in 2004 as part of its strategy to develop solutions to the well-documented problem of racial and ethnic disparities in health care. The *Expecting Success* program takes a targeted approach, whereby hospitals across the country apply quality improvement techniques and adopt evidence-based practices in an effort to reduce health care disparities and improve the quality of care provided to minority populations in the United States.

In fall 2005, 10 hospitals were selected through a competitive process to participate in a Learning Network focused on quality improvement in cardiac care. Each of the hospitals in the *Expecting Success* Learning Network provides cardiac services to substantial numbers of African American and/or Hispanic patients (see Table 1 for a list of *Expecting Success* grantees).

An underlying principle of *Expecting Success* is that hospitals cannot improve the quality of care they

provide their patients without gaining a better understanding of the health care environment in which they operate and in which the patients reside. Therefore, the program includes a component that is dedicated to assessing the health care delivery system in each of the *Expecting Success* hospital communities. The program will publish a series of reports providing comprehensive descriptions of key aspects of these assessments.

The Heart of the Matter: The Relationship between Communities, Cardiovascular Services and Racial and Ethnic Gaps in Care is the first report in the assessment series. The purpose of the first study is to examine how, when and where minorities obtain cardiac care in an effort to expose and explore some of the factors that lead to disparities. We do so for one purpose only: to open our eyes to all possible opportunities to improve health care for minority populations.

Throughout the report, we use examples from the *Expecting Success* communities to illustrate patterns of care and opportunities for improvement that are relevant to health systems around the country. Our

Table 1

Expecting Success Hospitals and Communities

Del Sol Medical Center
El Paso, Texas

Delta Regional Medical Center
Greenville, Mississippi

Duke University Hospital
Durham, North Carolina

Memorial Regional Hospital
Broward County, Florida

Montefiore Medical Center
New York, New York

Mount Sinai Hospital Medical Center
Chicago, Illinois

Sinai-Grace Hospital
Detroit, Michigan

University Hospital
San Antonio, Texas

University of Mississippi Medical Center
Jackson, Mississippi

Washington Hospital Center
Washington, District of Columbia

assessments are not meant to be an exhaustive inventory of cardiac services available in each community, but rather an overview that specifically focuses on the experiences of our grantee hospitals. The 10 *Expecting Success* hospitals have many characteristics that are common to other hospitals in their communities and across the country. They have allowed us to closely examine their structural and systemic characteristics to identify factors that may exacerbate or mitigate disparities in care. We are appreciative of both their willingness to participate in this process and their commitment to improving cardiac care for all of their patients, regardless of race or ethnicity.

The report summarizes observations from site visits, interviews with providers and other stakeholders, and information obtained from local and national data sources. Specifically, findings in this report are based on:

- Two-day visits to grantee hospitals and other key providers of cardiac care in each of the *Expecting Success* communities.
- Interviews with approximately 300 contacts including hospital and health center leaders, medical directors, cardiologists and cardiac nurses, primary care physicians, and quality improvement staff.

We also spoke with advocates, faith-based groups, representatives of medical associations, health department officials, and many others to learn about cardiac care and to develop an understanding of the structure and delivery of cardiac services in the community.

- Secondary data from the U.S. Census Bureau, the Centers for Disease Control and Prevention, the Centers for Medicare and Medicaid Services, and state and local governments and departments of health.

The report begins with a discussion of the burden of heart disease for minority Americans and the disparities in cardiac care that black and Hispanic populations face. The second section provides information on the people who live in the 10 *Expecting Success* communities, illustrating the extent to which African Americans and Hispanics shoulder the burdens of poverty, unemployment and lack of health insurance. The third section identifies five characteristics of the health system that may affect the ability of minority groups to obtain cardiac care. The report concludes with our impressions of how the structure of cardiovascular care in communities across the country can impact the quality of care provided to patients, and the implications this has for minority Americans.

Section 2: Characteristics of the *Expecting Success* Communities

The 10 communities that comprise the Expecting Success program provide interesting examples of how heart care can be organized and delivered to local residents. They also provide context for understanding the particular challenges that African American and Hispanic residents face in accessing and managing care for their heart conditions. Each of the communities is home to large numbers of minority residents in need of heart care, though the composition of these populations varies considerably across communities.

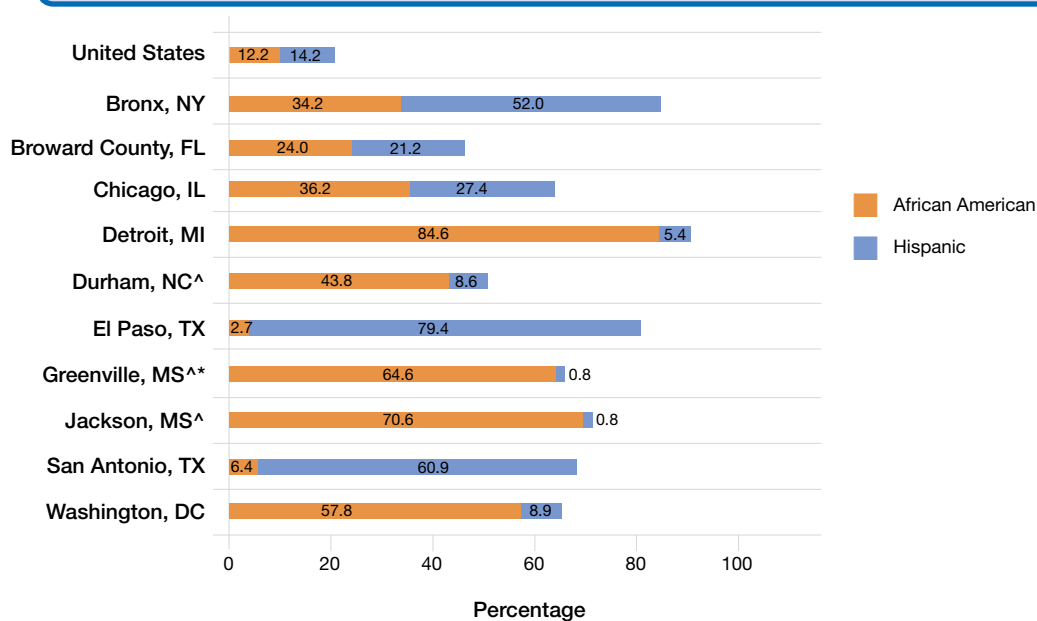
Race, Ethnicity and Language of Residents

Expecting Success hospitals were chosen to participate in the program in part because they provide relatively high proportions of cardiac care to African American and Hispanic patients. This situation may reflect the demographic characteristics of the local communities in which the hospitals reside. As can be seen in Figure 1, each of the communities is extremely diverse. Detroit and the Mississippi cities of

Jackson and Greenville have the highest percentages of African American residents (84.6 percent, 70.6 percent and 64.6 percent, respectively),²⁵ while El Paso and San Antonio have the highest proportion of Hispanic residents (79.4 percent and 60.9 percent, respectively).²⁶ The Bronx, Broward County (in Florida) and Chicago have substantial percentages of both African American and Hispanic residents.

Figure 1

Percentage of African American and Hispanic Residents in *Expecting Success* Communities (2004)



Source: U.S. Census Bureau, 2004 American Community Survey and 2000 Census, Demographic Profile Highlights. 2004 data are limited to household populations.

^Data are for 2000.

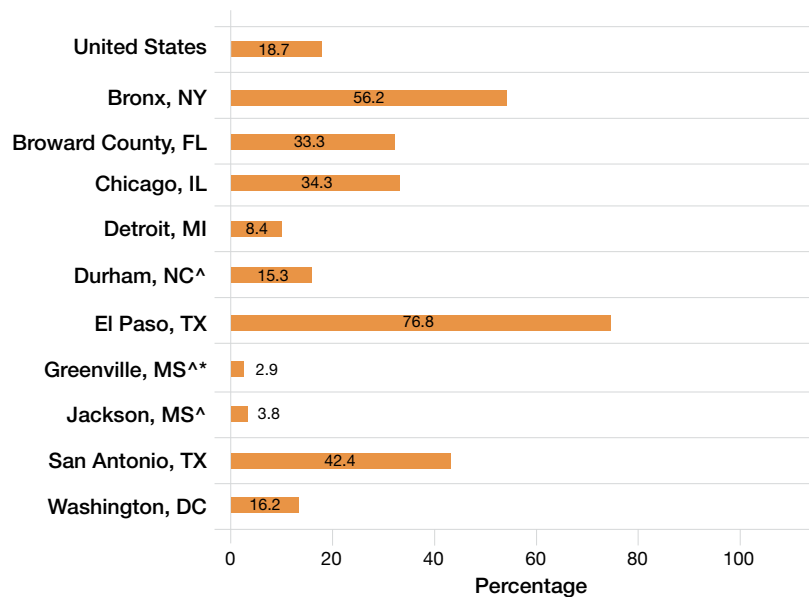
*Data are for Washington County, MS.

Given the large Hispanic populations in several of these communities, it is not surprising that many residents speak a language other than English in their homes. While these percentages do not provide information about an individual’s ability to speak English, they nevertheless signal the need for adequate language services within health care settings to facilitate communication between patients and health care providers.

As Figure 2 illustrates, three-quarters of El Paso residents speak another language (most likely Spanish) at home. Similarly, over half of the Bronx residents and 42.4 percent of San Antonio residents speak another language at home. The numbers in El Paso and San Antonio may reflect long-standing Spanish-speaking populations who have inhabited these cities for several generations. Nearly three-quarters of El Paso residents and 86.4 percent of San Antonio residents indicate that they speak English “very well.”²⁷

Figure 2

Percentage of Residents in *Expecting Success* Communities who Speak a Language Other than English at Home (2004)



Source: U.S. Census Bureau, 2004 American Community Survey and 2000 Census, Demographic Profile Highlights. 2004 data are limited to household populations.

[^]Data are for 2000.

^{*}Data are for Washington County, MS.

Poverty and Unemployment

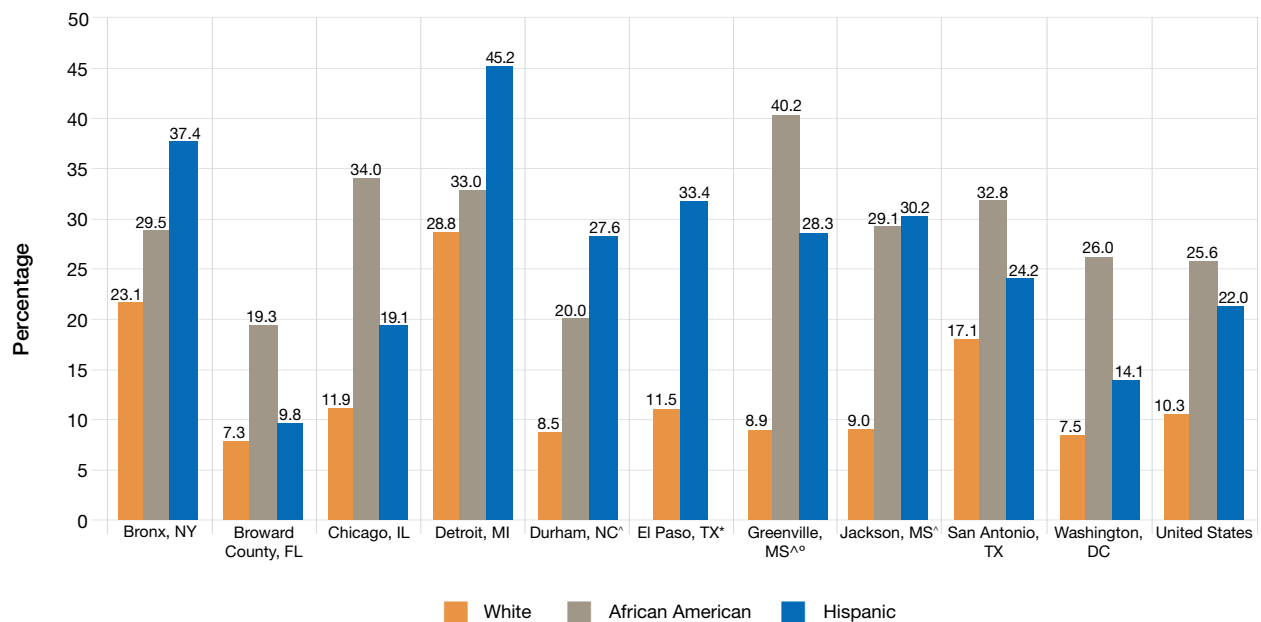
About one in eight American households in the U.S. are considered poor – that is, they have a total household income below a federally established poverty threshold that in 2004 was set at \$15,760 for a family of three.²⁸ African American and Hispanic households bear a greater burden of poverty than white households, and several of the *Expecting Success* communities demonstrate stark disparities in the economic status of their residents.

As can be seen in Figure 3, 10 percent of white residents in the U.S. live in poverty, compared to 26 percent of black residents and 22 percent of

Hispanics. Across the country, blacks and Hispanics are more than twice as likely to live in poor households as whites. The differentials are greater in Greenville, Jackson, and Washington, where black residents are at least three times more likely to live in poverty than white residents. In each of these cities, the rate of poverty for white residents is lower than the national average. Hispanics in the *Expecting Success* communities generally have lower rates of poverty compared to black residents, but the rates still substantially exceed those for whites. In four of the cities, at least 30 percent of Hispanic residents live below the federal poverty level. In terms of poverty, Hispanics fare worse in Detroit

Figure 3

Percentage of Residents of *Expecting Success* Communities Living Below Poverty by Race and Ethnicity (2004)



Source: U.S. Census Bureau, 2004 American Community Survey and 2000 Census, Demographic Profile Highlights. 2004 data are limited to household populations.

[^]Data are for 2000.

*Data for blacks in El Paso are unavailable due to small sample size. Whites in El Paso are classified as white alone, non-Hispanic.

^oData are for Washington County, MS.

than in the other *Expecting Success* communities; nearly half (45.2 percent) of Hispanics in Detroit are living in poverty.

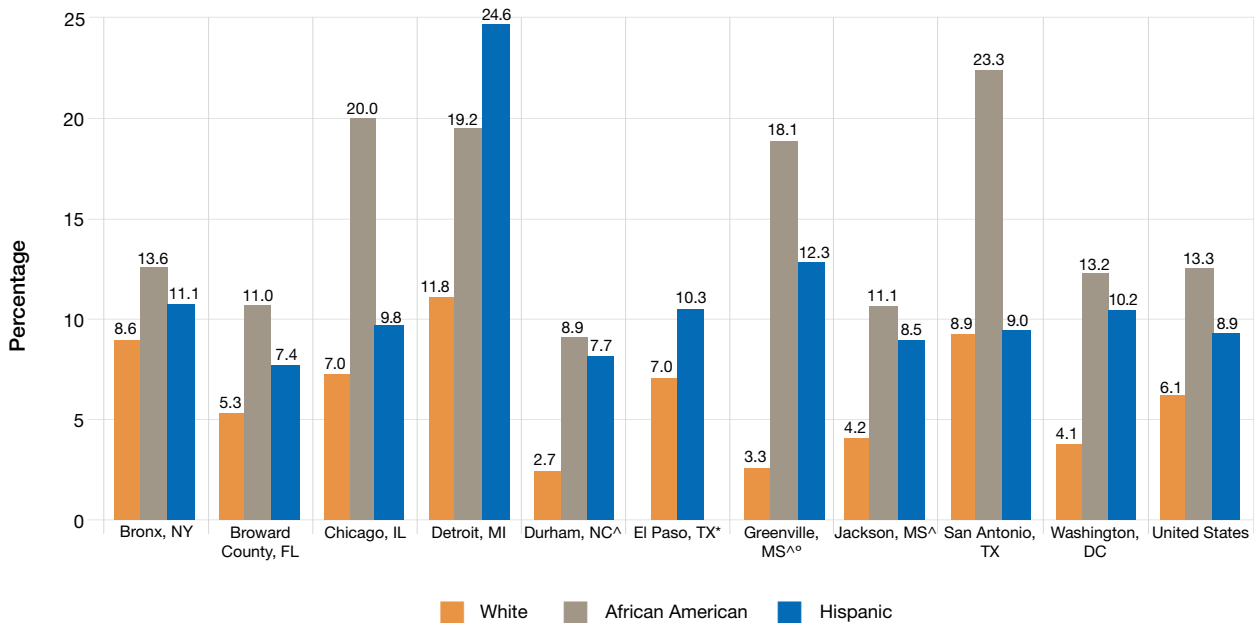
Two of the cities, the Bronx and Detroit, have smaller differentials across the racial and ethnic groups but substantially higher poverty overall. Whites in these cities are more than twice as likely to live in poverty, compared to national norms; poverty for blacks and Hispanics also greatly exceed the national rates of 26 percent and 22 percent, respectively.

Unemployment rates tend to be higher for minority residents in these communities, as well, whether compared to white residents or to minority residents

nationwide (see Figure 4). In half of the sites, unemployment for black residents exceeds the average of 13.3 percent unemployment for blacks nationwide.²⁹ In San Antonio, nearly one-quarter (23 percent) of black residents are unemployed and in Chicago, Detroit and Greenville, about one out of five black residents is not working. Hispanics in Detroit also face extremely high rates of unemployment; one-quarter of Hispanic residents in the city are unemployed, a rate that is nearly three times as high as the national average for Hispanics. In every *Expecting Success* community, unemployment rates for whites are lower than minority residents, with Durham showing the lowest rate at under 3 percent.

Figure 4

Percentage of Residents in *Expecting Success* Communities Who Are Unemployed by Race and Ethnicity (2004)



Source: U.S. Census Bureau, 2004 American Community Survey and 2000 Census, Demographic Profile Highlights. 2004 data are limited to household populations.

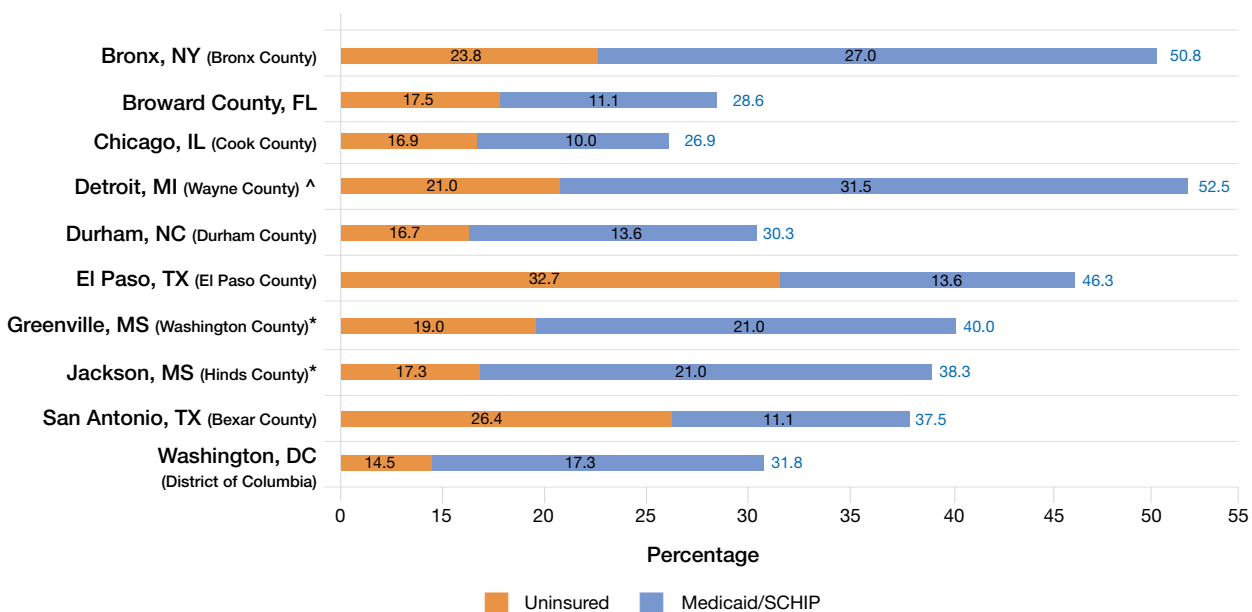
[^]Data are for 2000.

^{*}Data for blacks in El Paso are unavailable due to small sample size. Whites in El Paso are classified as white alone, non-Hispanic.

^oData are for Washington County, MS.

Figure 5

Percentage of Residents in *Expecting Success* Communities Who Are Uninsured or Covered by Medicaid/SCHIP (2000)



Source: National Association of Community Health Centers, 2000 REACH database.

Note: Data are for the county unless otherwise specified.

^Detroit data refer to the city of Detroit and are for 2000. Data are from the Detroit Health Care Stabilization Workgroup, *Strengthening the Safety Net in Detroit and Wayne County: Report of the Detroit Health Care Stabilization Workgroup (2003)*.

* Medicaid/SCHIP percentages for Greenville and Jackson are based on Medicaid and Other Public Insurance estimates for the state of Mississippi, years 2003-2004, reported by the Kaiser Family Foundation and the Urban Institute, at <http://www.statehealthfacts.org>.

With such significant rates of poverty and unemployment among minority populations in these communities, it should not be surprising that substantial numbers of residents are either uninsured or are covered through public health insurance programs such as Medicaid and the State Children's Health Insurance Program (SCHIP). As can be seen in Figure 5, between 14.5 and 32.7 percent of residents in these communities are uninsured and an additional 10.0 percent to 31.5 percent are covered by Medicaid and SCHIP.³⁰

These two groups of residents are the most likely to have difficulty finding timely and adequate health

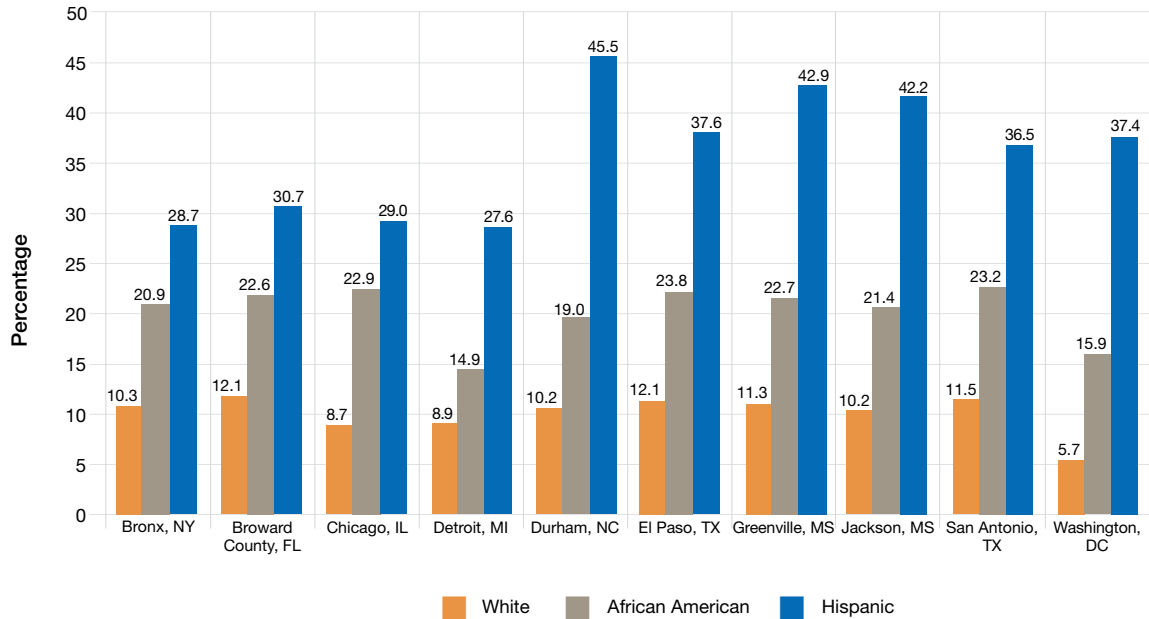
services. **Together, these groups represent between one-quarter to more than one-half of the people in their communities.** Broward County, Chicago, and Durham have the lowest proportions of uninsured or publicly insured individuals; nevertheless, more than one-quarter of residents in these areas are low-income or uninsured (or both) and may require additional supports to secure services to adequately support their heart care. El Paso has an exceptionally high percentage of uninsured residents, with nearly one-third of residents (32.7 percent) lacking health coverage. In three additional communities – San Antonio, the Bronx and Detroit – at least one in five residents is uninsured.

Minority residents bear a disproportionate burden when it comes to lack of health insurance coverage. In each of the *Expecting Success* communities, white residents are significantly less likely than black or Hispanic residents to be uninsured. Figure 6 illustrates the extent to which lack of coverage differs across race and ethnicity. For example, 16.7 percent of Durham residents are uninsured, but this figure masks significant variation across minority groups. While 10.2 percent of white residents in Durham are uninsured, nearly twice

as many blacks (19 percent) and 4.5 times as many Hispanics (45.5 percent) lack health insurance. Hispanic residents of Broward County are more than twice as likely to be uninsured compared to white residents (30.7 percent versus 12.1 percent). In San Antonio, blacks are twice as likely and Hispanics are three times as likely to be uninsured relative to white residents (23.2 percent and 36.5 percent, respectively, compared to 11.5 percent).

Figure 6

Percentage of Residents in *Expecting Success* Communities Who Are Uninsured by Race and Ethnicity (2000)



Source: National Association of Community Health Centers, 2000 REACH database. Data are for the county. Counties are as follows: Bronx County (Bronx, NY), Cook County (Chicago, IL), Wayne County (Detroit, MI), Durham County (Durham, NC), El Paso County (El Paso, TX), Washington County (Greenville, MS), Hinds County (Jackson, MS), Bexar County (San Antonio, TX) and District of Columbia (Washington, DC).

Hospital-Based Heart Care Services³¹

Hospitals may offer a range of diagnostic and therapeutic cardiac procedures to their heart patients. Below are examples of some of the more common non-invasive, interventional and invasive procedures. Non-invasive procedures do not require surgery and are limited to diagnostic procedures. Interventional procedures require the insertion of a stent or mechanical device into the heart, and can be either diagnostic or therapeutic in nature. Invasive cardiac procedures are typically therapeutic heart procedures requiring surgery.

Diagnostic Procedures: Diagnostic procedures are those conducted to diagnose a patient's heart condition. These include:

Electrocardiogram (Non-invasive): A graphic record of electrical impulses produced by the heart.

Echocardiography (Non-invasive): A diagnostic method in which pulses of sound are transmitted into the body. The echoes returning from the surfaces of the heart and other structures are electronically plotted and recorded to produce a "picture" of the heart's size, anatomic shape and movements.

Exercise Stress Test (Non-invasive): A diagnostic test in which a person walks on a treadmill or pedals a stationary bicycle while hooked up to equipment to monitor the heart. The test monitors heart rate, breathing, blood pressure, electrical activity (on an electrocardiogram) and the person's level of tiredness. It shows if the heart's blood supply is sufficient and if the heart rhythm is normal.

Computer Imaging Tests (Non-invasive): A category of diagnostic tests that use computer-aided techniques to gather images of the heart. Computer imaging tests are performed to evaluate diseases such as aortic disease, cardiac masses and

pericardial disease. Examples of such tests include: cardiac computed tomography (CT), magnetic resonance imaging (MRI), computerized axial tomographic scan (CAT scan), and cardiac positron emission tomography (PET).

Angiocardiology (Interventional): An X-ray examination of the blood vessels or chambers of the heart. A special fluid (contrast medium or dye) visible by X-ray is injected into the bloodstream. Tracing the course of this fluid produces X-ray pictures called angiograms.

Therapeutic Procedures: Therapeutic procedures are performed to heal or improve a patient's heart condition. These include:

Angioplasty (Interventional): A procedure sometimes used to dilate (widen) narrowed arteries. A catheter with a deflated balloon on its tip is passed into the narrowed artery segment, the balloon inflated and the narrowed segment widened. Then the balloon is deflated and the catheter is removed.

Stent Procedure (Interventional): A therapeutic procedure that uses a wire mesh tube (a stent) to prop open an artery that has recently been cleared using angioplasty.

Pacemaker (Interventional or Invasive): An electrical device that is implanted in the skin under the collarbone with wires connected to the heart to substitute for a defective natural pacemaker or conduction pathway. The artificial pacemaker controls the heart's beating by emitting a series of rhythmic electrical discharges.

Implantable Cardioverter Defibrillator (Interventional or Invasive): A device used in patients at risk for recurrent, sustained ventricular tachycardia or fibrillation. Leads positioned inside the heart or on its surface are used to deliver electrical shocks, sense the cardiac rhythm and pace the heart, as needed. The leads are tunneled to a pulse generator implanted in a pouch beneath the skin of the chest or abdomen.

Coronary Artery Bypass Surgery (Invasive): Surgery that reroutes, or "bypasses," blood around clogged coronary arteries and improves the supply of blood and oxygen to the heart muscle. The procedure is sometimes called CABG (for coronary artery bypass graft) or "cabbage."

Heart Valve Surgery (Invasive): Surgery that is performed to repair heart valves.

Source: American Heart Association (2003).

Section 3:

Factors that Contribute to Disparate Heart Care for Minority Americans

Appropriate and timely heart care should be widely available to all individuals in a community. However, certain characteristics of the health system make heart care particularly difficult to obtain for some segments of the population. **Because of these characteristics, health systems may unintentionally create or contribute to a system of care that provides unequal treatment for minority Americans.**

In this section of the report, we explore a number of characteristics of the health system that may affect minorities' access to heart care and thereby contribute to unequal treatment. Examples from *Expecting Success* communities illustrate different ways that providers have either contributed to or mitigated the influence of these factors. These characteristics are:

1. Market competition
2. The growing trend of market segmentation
3. The lack of dedicated resources to provide care for the uninsured
4. Referral arrangements
5. The coordination of cardiac care across multiple sites and providers

Our analysis suggests that these five factors essentially segment the market by income and insurance status and produce a system of care within which low-income, uninsured, underinsured or publicly insured patients do not receive comparable care to other residents in the same communities. To the extent that minority populations are disproportionately poor and poorly insured, these characteristics contribute to racial and ethnic disparities.

Factor 1: Market competition in health care has led to the emergence of a three-tiered system of heart care

Market competition and other financial considerations contribute to a system of care that segments the cardiac market by insurance coverage and ability to pay. This segmentation, which occurs in physicians' offices, hospitals, and other health care settings alike, may affect the quality of heart care provided to patients. For example, hospitals and health systems must pay attention to a number of financial considerations to operate successful health care enterprises. Hospital chief executives and financial officers use an adage to illustrate the challenges associated with operating a complex health care enterprise while providing a community benefit – *no margin, no mission*. All health care organizations, whether public, not-for-profit or investor-owned, depend on patient revenues to provide care to paying and non-paying customers. Without adequate margins, health systems cannot invest in themselves *or* their communities.

Privately insured and Medicare patients are most commonly a health system's target market because of their generally high reimbursement rates.³² Providers actively market their services both to attract these patients and to encourage local physicians to refer well-insured patients to them. Depending on the competition in the immediate or nearby markets,

health systems may also try to provide “comfort-related” products and services – single rooms, express services, and other amenities associated with what is touted as “top notch” care to attract patients.

While high quality can be a marketing tool, the use of evidence-based measures to objectively assess quality performance is still in a nascent stage. Often decisions regarding quality are based on perceptions and reputations of providers rather than objective facts.

Hospitals and health systems must contend with the possibility that privately insured and Medicare patients may not want to receive care from hospitals that treat high numbers of poor people. Without objective quality measures to help guide their decisions, insured individuals often use the choice of private providers who tend to treat other insured people as a proxy for high quality care. Frankly stated, high numbers of poor people can influence a hospital’s perceived reputation. To the extent that the poor in a community are more likely to be African American or Hispanic, this translates into high numbers of minorities as well.

Each of the *Expecting Success* communities houses hospitals and health systems that try to attract primarily commercially insured and Medicare patients. Because uninsured patients are rarely a financial benefit for health care institutions,³³ this patient population often has difficulty obtaining non-emergent care at these “higher end” hospitals. As a result, uninsured and underinsured patients cluster at certain locations that have either the financial resources or the reputation (or both) to serve their needs.

Several of the hospitals in the *Expecting Success* communities face enormous financial challenges related to serving significant numbers of these patients. Many hospitals in the U.S. treat large numbers of uninsured and underinsured patients. Some hospitals receive state or local funding explicitly targeted to patients without insurance, which helps offset the cost of care to this population. Other hospitals that see disproportionate

numbers of uninsured do not have explicit public funds to support their care. These unfunded facilities must determine how best to serve their needy population while preserving their profitability. How can they attract the “paying customer,” while still addressing the needs of the uninsured?

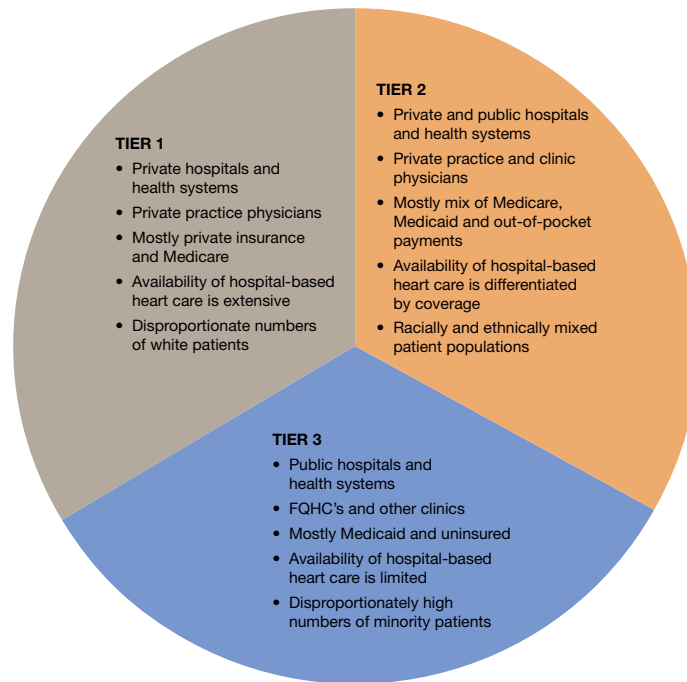
All of these financial considerations have led to a health care system that differentiates care based on ability to pay. As a result, a tiered system of care has emerged that effectively treats uninsured and Medicaid patients differently than commercially insured and Medicare patients. In communities where minorities are disproportionately impoverished, this tiered system of care is divided largely along racial and ethnic lines.

Within a community’s health care system, segmentation can result in a “skimming” phenomenon, where private hospitals attract the best paying patients, and public hospitals are left with poorly insured or uninsured patients. This practice effectively creates three levels of care for cardiac patients (see Figure 7):³⁴

- *Tier 1* is composed mostly of private hospitals or health systems. Tier 1 providers serve a patient population that is most commonly covered by commercial insurance or Medicare. These providers serve very small proportions of Medicaid or uninsured patients. Hospitals in the first tier of care are able to provide the full array of hospital-based inpatient and outpatient cardiac care to all of their patients who require these services. Depending on the racial and ethnic makeup of a community, Tier 1 hospitals may see a disproportionate number of white patients, but are also likely to see minorities with adequate health insurance.
- *Tier 2* represents the public or private hospital with little if any dedicated funding to offset care for the uninsured. Tier 2 providers have high numbers of uninsured patients, relative to other hospitals in their communities and higher than

Figure 7

Characteristics of a Tiered System of Heart Care



average Medicaid patient populations. Availability of heart care among Tier 2 providers can vary significantly within a hospital or health system, depending on a patient's health care coverage. Tier 2 hospitals serve populations that are more racially and ethnically mixed with black and Hispanic patients, as well as low-income white patients.

- **Tier 3** comprises the public hospital or health system with dedicated funding to offset care for the uninsured. This tier has a mandate to care for some segment of the uninsured population. Tier 3 providers have high numbers of uninsured and Medicaid patients and are often significantly limited in the cardiac services they can provide due to resource shortages. Tier 3 providers see disproportionately high numbers of minority patients in economically segregated communities.

Tier 1 hospitals provide care to well-insured patients and Tier 3 hospitals see the poor and uninsured. Tier 2 providers are in the middle, struggling to maintain financial solvency by attracting a “healthy” payor mix. These facilities must implement a combination of strategies to both attract covered patients and limit care to the uninsured. The implication of these policies is that even within a single hospital or health system, patients with health coverage may be getting heart care services that may not be offered to uninsured patients who cannot afford to pay for these costly services on their own.

This tiered model of care is also relevant for other health care enterprises with similar implications for patient care. For example, private practice physicians must pay attention to a number of financial considerations in order to operate a successful medical

practice. Physicians must ensure that they obtain sufficient reimbursement from health plans and insurers to provide a level of revenue to the practice that is consistent with their professional expectations. Patients with adequate private health insurance or Medicare, therefore, are preferred because of the revenues they represent for services rendered.

If private practice physicians take on the care of uninsured or underinsured patients, they may compromise overall revenue targets. Because many uninsured and underinsured patients cannot pay for the cost of their care from their own resources, physicians are left absorbing the cost in order to serve this population. Consequently, the percentage of uninsured patients seen on average by private practice physicians is generally quite small and tends to be associated with care for patients already in the physician's practice who temporarily lose their health coverage.^{35,36} Specialists generally expect their practices to garner higher revenue than primary care providers and so may be even more reluctant to take on uninsured or underinsured patients.³⁷

As a result, physicians are faced with balancing their financial viability with their commitment to medicine and treating sick patients regardless of their ability to pay. To address both concerns, private practice providers will make care available to all, but predicate much of it on the ability to make up-front payments for services rendered. This policy can create barriers for low-income uninsured or underinsured patients that effectively close them out of private practices. In the *Expecting Success* communities, these patients are likely to be African American or Hispanic. With the majority of providers beyond their reach, their options are few: they can find clinics and hospitals with explicit or implicit policies designed to support their care; they can resort to the emergency department (ED) to address their health care needs; or they can delay or forgo care.

As a result of these factors, physician practices also fall within a three-tiered system of care:

- *Tier 1* is composed of private practice primary care and specialty physicians, who serve a patient population that is almost all covered by commercial insurance or Medicare. Tier 1 providers treat very small proportions of Medicaid or uninsured patients, if any. Physicians in the first tier of care are able to either provide or arrange for comprehensive heart care either through their own practices or via a network of referral relationships with other providers and hospitals. Patients who see Tier 1 providers tend to be predominantly white and also include well-insured minorities.
- *Tier 2* consists of physicians and clinics that treat higher than average Medicaid populations, but without dedicated national, state or local funding. Tier 2 physicians also treat some uninsured patients, but require that these patients pay upfront for services. Private clinics, including clinics staffed by residents, faith-based clinics and other mission-driven physicians and clinics fall within this tier. Availability of heart care among Tier 2 providers depends largely on the health care coverage of the patients served by the provider. Some providers may be able to provide or arrange for a full array of inpatient and outpatient cardiac services through referral relationships with other providers, while others struggle to get their uninsured and Medicaid patients the care they need. The patient population for Tier 2 providers tends to be racially and ethnically diverse.
- *Tier 3* is composed of providers, such as FQHCs and public hospital-based outpatient clinics, with dedicated funding to offset care for the uninsured. This tier, which treats high numbers of uninsured and Medicaid patients, has a mandate to care for some segment of the underserved population.

Tier 3 providers are often significantly limited in the cardiac services they can provide due to resource shortages. They also have difficulty obtaining specialty and inpatient care for their uninsured and Medicaid populations. FQHCs, which are gaining a reputation for reducing disparities, are becoming more adept at managing the system, and frequently admit patients through the emergency department as the best and quickest pathway to heart care. Tier 3 providers serve a disproportionate number of minority patients.

While all of the communities in the study strongly maintain that the quality of care available to their low-income and uninsured patients is equal to the quality available to their more affluent patients, barriers can exist that make it difficult for the uninsured or publicly insured to obtain optimal care. For example, wait times for specialty care or cardiac procedures can be exceptionally long for low-income populations, who are forced by market segmentation to see only providers in either the second or third tiers of the medical field. In addition, problems with continuity of care and limited accessibility to state-of-the-art cardiac services are all obstacles that can ultimately compromise the care that low-income patients receive at these institutions.

The health care market in San Antonio, Texas, is a good illustration of how cardiac care is segmented by patients' coverage and ability to pay. Three investor-owned systems – Methodist Health Care, Baptist Health System and the newly constructed specialty hospital Texas Heart Hospital – offer residents of San Antonio well-managed, state-of-the-art cardiac care. These facilities, however, are available primarily to Medicare and commercially insured patients.

The only access to specialty cardiac services for low-income uninsured populations, the majority of whom are minorities, is through the county-funded *CareLink*

program. Administered by the public health system in the county, University Health System (UHS), *CareLink* provides uninsured residents with access to a network of care, while reimbursing providers for services rendered. *CareLink* facilitates low-income residents' access to cardiologists and other specialists, as well as inpatient services at UHS.

Despite these efforts, *CareLink* members still face problems managing their care. These patients continue to have high no-show rates and high emergency department utilization, suggesting that enrollees are having problems navigating the program or getting care from their providers.³⁸ Moreover, the *CareLink* program provides care for only a small proportion of the uninsured – less than 16 percent. Uninsured patients without *CareLink* are likely to forgo necessary heart-related treatments altogether. Not surprisingly, many of them eventually end up in the emergency department with advanced cardiac conditions that could have been prevented or attenuated with earlier treatment.

The Bronx, New York, is also an example of a health care market with tiered care. Privately insured patients are able to go to private hospitals, cardiology practices and private practice physicians in either the Bronx or Manhattan. In contrast, low-income residents seek care from public hospitals, community health centers, or clinics staffed primarily by medical residents. In the Bronx, with its substantial diversity and widespread poverty, the population of patients using this lower tier equates to poor minorities.

Despite significant efforts at both the city and state level to provide equitable health care resources to all New York residents, disparities do exist across the tiers. Patients using the first tier of care have access to timely, coordinated, state-of-the-art cardiac care. Patients using the second and third tiers are more likely to be limited

in where they can go for care, have problems obtaining both specialty and inpatient referrals and face significant wait times for appointments.

For example, Montefiore is the only hospital in the Bronx that provides a full array of cardiac services. The other hospitals in the borough provide diagnostic cardiac services only. The divide in available services means that patients using the public system or other community resources must be referred into Montefiore for additional care. Montefiore, however, is limited in the amount of free care it can provide, as well as the number of managed care plans it accepts, which means that providers must sometimes look elsewhere to get hospital care for low-income, Medicaid or uninsured patients.³⁹ This process can delay needed care, result in patients not receiving necessary services and add stress to an already difficult situation.

Factor 2: *Market differentiation has resulted in specialized, boutique medicine that further segments cardiac care*

In line with the financial considerations weighing on most health care enterprises is the emerging trend in the health care field of providing highly specialized, boutique medicine in an effort to increase proportions of commercially insured or Medicare patients. In our study, we found that market differentiation can manifest itself on two levels – the local health care market and the hospital. On the market level, investor-owned, cardiac specialty hospitals attract the segment of the market that is privately insured or insured through Medicare. Within a hospital, market segmentation can occur through the addition of floors, suites, or other non-clinical amenities that are marketed and dedicated towards privately insured patients.

As a business strategy, this market differentiation serves the goal of increasing revenues and boosting profits. However, because racial and ethnic minorities are disproportionately represented among the ranks of the publicly insured and uninsured, the decision to grow

the “high end” of the cardiac care market may result in the exclusion of low-income minority patients from getting this specialized care. To be sure, those minorities who have health coverage and resources to access and pay for care will benefit from this market differentiation and the growth in high-end services. However, the fact remains that low-income groups are disproportionately composed of minorities, who lose out in a health care market that is segmented in this way.

In the *Expecting Success* communities, specialty hospitals and wings do not appear to improve access to care for needy or underserved patients and instead seem to further segment care and exclude low-income minorities from state-of-the art medical care. These facilities treat a lower proportion of Medicaid beneficiaries and a higher proportion of insured patients overall compared to community hospitals within the same market.^{40,41} The benefits of cardiac specialty hospitals, including improved nurse to patient ratios and better trained staff and providers,⁴² largely accrue to patients with generous insurance coverage,⁴³ a population underrepresented by racial and ethnic minorities.

On the hospital level, the addition of suites and floors marketed or otherwise devoted to patients with generous insurance coverage may result in different types of care within a hospital, which may have implications for quality differentials. For example, hospitals that market aggressively to attract privately insured patients on the basis of enhanced private rooms or other non-clinical amenities may unintentionally contribute to a tiered system of care within the hospital. Racial and ethnic minorities, who are underrepresented in terms of being insured either commercially or through Medicare, may not receive the highest levels of service and attention that the hospital can provide to its patients. Over time, the continued refinement of quality measures will enable assessment of the impact of this segmentation on quality of care.

In San Antonio, the presence of a new investor-owned cardiac specialty hospital has stirred controversy about

its effect on the provision of cardiac care to patients with less attractive payment sources. Texsan Heart Hospital, a 60-bed cardiac specialty hospital that opened in 2004, has drawn criticism from stakeholders in the community, who argue that Texsan “cherry-picks” the healthiest and wealthiest heart cases (those with private insurance), leaving other general hospitals in the community to care for patients who are unable to pay for services or who access care through their emergency rooms.⁴⁴

Racial and ethnic minorities in San Antonio – particularly low-income minorities who receive Medicaid or are uninsured – may benefit only marginally from the services of a specialty hospital that explicitly targets patients who are insured either commercially or through Medicare. Without the better paying patients offsetting the cost of care of the uninsured, hospitals serving large proportions of minority patients are placed under an enormous financial strain and forced to face the prospect of being unable to serve their community.

Factor 3: *The availability of dedicated resources to provide care for the uninsured can mitigate market segmentation*

The availability of dedicated resources for the uninsured is an important factor that can help mitigate the problems of market segmentation and a tiered system of care, and improve minority Americans’ ability to obtain optimal cardiac care. Few of the *Expecting Success* communities, however, have sufficient federal, state or local resources, such as federally qualified health centers (FQHCs), publicly supported hospitals, or state or local indigent care programs, to meet the demands for services from the low-income residents and to offset the costs of care for this population. Lack of resources presents a barrier to cardiac care in these communities and can result in suboptimal health outcomes.

El Paso, Texas, is one example of a community where insufficient resources for the uninsured result in

suboptimal cardiac care for minority populations. Although El Paso’s county hospital, Thomason General Hospital, is dedicated to serving the uninsured, lack of resources and limited service lines inhibit its ability to adequately meet the cardiac needs of its patient population.

Thomason does not currently provide interventional or invasive cardiology. The other hospitals in the area, including Del Sol Medical Center, Las Palmas Medical Center, Sierra Medical Center and Providence Memorial Hospital, do not receive support to offset the cost of uninsured patients and therefore treat only a relatively small percentage of this patient population. Even if patients manage to access these services at local hospitals, post-discharge management and coordination across providers is likely to be highly dependent upon providers’ willingness to take responsibility for these services on a voluntary basis. Anecdotal evidence suggests that this is the exception rather than the rule.

In El Paso, Hispanic residents bear a greater burden than white residents in terms of poverty, unemployment and lack of insurance. However, because Hispanics comprise such a large percentage of residents in El Paso, care in this community is mostly segmented by income and coverage and not largely by race and ethnicity.

Broward County, Florida, is an example of a community that has committed a significant amount of resources to caring for the uninsured, resulting in a more equitable system of care for all patients. Indigent patients in Broward County appear to have fewer problems obtaining important cardiac services, a situation that affects the quality of care this population receives and the overall outcomes they experience.

The South Broward Hospital District, which oversees operations of the Memorial Healthcare System and its five hospitals, has dedicated significant resources to building a network of primary and specialty care services for low-income residents, most of whom are

members of racial and ethnic minority groups. Eighty-four percent of adult patients seen at the Memorial Healthcare System clinics are uninsured. Both Broward County and Memorial Regional, the system's flagship hospital, offset the cost of this care with direct subsidies. The primary care clinics receive between \$21 million to \$23 million from a combination of county and hospital resources. These funds support primary care as well as specialty services.

These subsidies allow the health system to offer care to a large proportion of low-income, uninsured patients. Patients below 400 percent of the federal poverty level can qualify for subsidized care, though most of the subsidy is directed toward patients below 200 percent of poverty. Patients pay sliding scale co-payments based on their income and the services rendered.

As a result of the network within the Memorial Healthcare System, low-income patients have improved access to specialty services, little difficulty gaining access to inpatient services, and well-managed, highly coordinated care across a spectrum of services. The South Broward Hospital District's dedicated funding for care for the uninsured, taken together with a low overall percentage of residents living in poverty, has allowed Broward County to provide important and necessary care to this needy patient population and improve the quality of their health care experience.

Factor 4: *Referral arrangements can dictate whether minority patients receive optimal cardiac care*

Referral practices are another way in which the market appears to segment care and contribute to disparities. Low-income, uninsured or underinsured patients are referred to providers in the lower tiers of the system, while privately insured patients are directed to the top tier of the system. Where providers refer patients affects the amount and type of care they receive, and, ultimately, the outcomes they experience.

Given how health care markets are structured, important factors that could impact referral practices include income, insurance status and the availability and willingness of providers to deliver care at the time care is needed. These factors often result in minority patients obtaining services from different types of providers and from different tiers of care – public versus private hospitals, residency clinics versus private practice cardiologists, community health centers versus private practice primary care physicians. Referral practices can also affect inpatient care. For example, services available to patients may be differentiated based on the path used to access hospital care.

We identify and discuss three types of referral practices: 1) provider to provider referrals; 2) referrals into the hospital via the hospital front door; and 3) referrals into the hospital via the emergency department.

Provider-to-Provider Referral Practices

Generally, patients cannot obtain health care without the participation of a physician. For example, patients cannot self-diagnose and purchase medications they might consider helpful for their health conditions if those medications require a physician's prescription. Likewise, they cannot determine that they require an angioplasty to address a heart-related problem and on their own, without a physician's order, secure that service.

Patients commonly require the services of an "agent" both to purchase the services they need and to navigate a complex health care system.⁴⁵ Patients with heart disease rely on their primary care physicians or cardiologists to provide direct services and also to act as their agent in identifying and sometimes arranging for care from other providers. Primary care providers frequently refer their patients with heart disease to cardiologists for various diagnostic or therapeutic procedures.⁴⁶ (This relationship is depicted in Figure 8.) Patients either continue seeing both types of physicians or they return

for follow-up care to their PCP only, who takes the lead on managing the patient’s heart condition. Among private practice primary care physicians and specialists, test results and other information about the patient’s condition generally flow back and forth with relative ease.

PCPs rely on cardiologists to provide critical heart care to their patients and cardiologists rely on PCPs for patient referrals. Although the system has inefficiencies, it creates a relatively smooth exchange of information and holds the potential for well-coordinated care across providers.

Where this referral system breaks down is for low-income, uninsured or Medicaid patients. Because specialty physicians are often reluctant to take on these patients in their private practice, the referral system no longer works as a reliable strategy to access care. In each of the communities, primary care providers who care for uninsured and Medicaid patients struggle to identify cardiologists and other specialists who will see their indigent patients. At times, frustrated with the

lack of options for cardiac care, these physicians will “refer” their patients to the ED to get the specialty care they require.

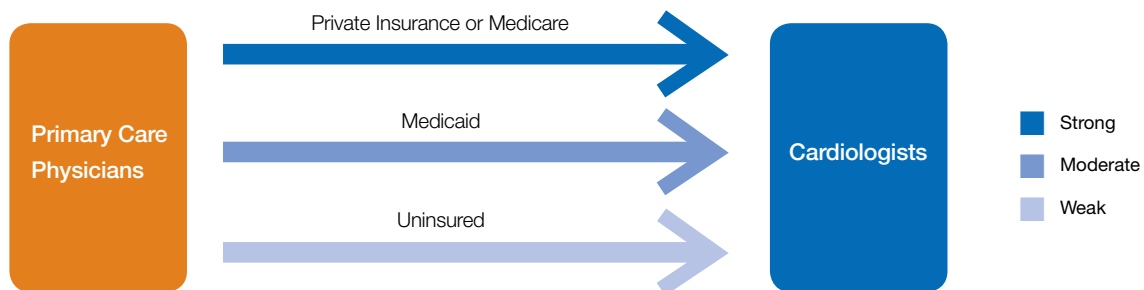
Referrals into the Hospital: Via the Hospital Front Door

Primary care physicians and cardiologists also refer patients to hospital-based medical and surgical care related to their heart disease.⁴⁷ The physician referral “triggers” a pathway into the hospital that may be thought of as accessing services through the hospital’s “front door” (see Figure 9).

Private practice physicians on staff at a hospital significantly contribute to a hospital’s financial health by driving inpatient admissions and outpatient services for hospital-based care through the referral process. Because they are responsible for substantial revenue brought into the hospital, these physicians have some influence over surgical schedules, patient placement within the hospital, and access to other types of amenities or supportive services for their patients. Elective cardiac procedures can be financially critical

Figure 8

Provider-to-Provider Referral Relationships by Insurance Coverage



to hospitals; as a consequence, the physicians responsible for creating cardiac-related revenue streams may be accorded special status within the hospital enterprise.

For example, some of the hospitals we visited in the study appear to accommodate referring physicians' busy schedules by clustering patients on certain floors, thereby maximizing the efficiency of their time spent visiting inpatients. In large hospitals, if patients are spread across many different floors or areas of the building, physicians will spend precious time moving through the hospital merely locating individual patients. By clustering patients in one area, physicians can see more patients in a shorter time period.

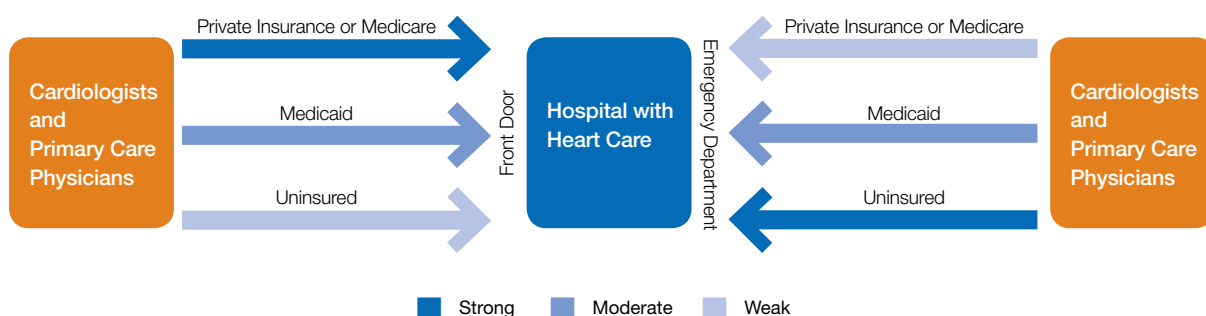
Additionally, with so many cardiac patients concentrated in one area, derivative benefits accrue separate and apart from efficiency for the physician. Over time, nurses and other ancillary health professionals become more experienced in the care of heart patients; equipment and special supplies related to heart care gravitate toward ready access to the inpatients on these floors; and operational aspects associated with patient flow and procedures become tailored specifically to the needs of cardiac patients.

Moreover, as cardiac wings and floors become well established within a hospital, the hospital is better able to attract and hire health professionals with specialized training and expertise related to the care of heart patients. Several of the hospitals in the communities have cardiac floors or wings where the “best”⁴⁸ cardiac care in the hospital is likely to occur. As a result, patients receiving care for heart disease, who are referred by private practice physicians and located on these floors are more likely to get optimal heart care than patients entering the hospital through other avenues.⁴⁹ To the extent that minority patients are less likely to have arrangements with private practice physicians, quality of care could vary depending on the race of the patient.

Physicians in community health centers and other clinics also refer patients to hospital-based services for heart care. However, because the patient populations in these clinics are much less likely to be privately insured or covered by Medicare, these physicians have fewer “lucrative” patients to refer for hospital care. In fact, the referral arrangements frequently require negotiation between the referring physician and the hospital. With fewer well-insured patients as bargaining chips, these physicians must try to secure services for uninsured

Figure 9

Provider-to-Hospital Referral Pathways by Insurance Coverage



patients or for patients who have coverage that provides significantly lower reimbursement than other health plans or payors. As is shown in Figure 9, these patients are most likely to access hospital-based cardiac services through the emergency department rather than the “front door” which provides the most likely route to a bed in the specialized cardiac unit.⁵⁰

Referrals into the Hospital via the Emergency Department

Patients entering the hospital through the emergency department also receive hospital-based cardiac services. However, entry through the ED without a private physician referral may lead to disparate care for underserved patients.

Access to heart-related care for patients who enter a health system through the ED is dependent on a number of different factors, including the patient’s clinical condition, the availability of heart-related services within the hospital, the availability of heart-related services at the particular time the patient arrives, and the hospital’s interest and willingness to provide uncompensated care. Depending on which of these conditions is present at the time he or she arrives at the ED with a heart-related problem, an uninsured or low-income patient may be: 1) admitted as an inpatient; 2) stabilized and discharged; 3) stabilized, sent for diagnostic testing and then released or transferred to another facility; or 4) stabilized, diagnosed and then treated.

Our study of hospitals in the 10 *Expecting Success* communities suggests that patients who enter the hospital through the ED pathway without a private physician are often less likely to receive hospital-based cardiac services. Correlated with their insurance status and their entry point into the hospital, these patients are less likely to be referred to outpatient services after their ED visit or to be admitted and treated in the hospital with the most advanced procedures and techniques.

Many patients who receive care from private practice PCPs and cardiologists also use the emergency department as an access point. However, the ED is not their principal pathway for accessing diagnostic, interventional and invasive heart services. Once a private physician’s patient arrives at the ED, the “private practice” referral pathway is activated and the patient can generally follow the same path to services that are commonly seen with non-emergent referrals. In other words, regardless of whether a patient enters the hospital via the front door or the ED, a private practice cardiologist’s patient will be routed to the path used by all of the cardiologist’s patients.

Referral Practices in One Expecting Success Community

Chicago’s health care system illustrates how disparities associated with referral arrangements for segments of the cardiac market can occur. The city has an abundance of health care providers and yet thousands of residents are not getting the care they need. Even with dozens of federally qualified health centers that provide ongoing primary care, uninsured and low-income patients still struggle to get timely cardiac services. This affects African American and Hispanic residents in particular, since they comprise such a large percentage of the city’s poor and underserved.

Provider-to-provider referrals are problematic in Chicago, because of the reluctance of private practice specialty providers to take on the care of low-income, uninsured or Medicaid patients. PCPs at community health centers struggle mightily to get their patients appointments with cardiologists or other specialists related to the treatment of their heart disease. Providers are simply not willing or available to treat them. As a result, many community health center physicians are forced to refer their patients to hospital EDs to obtain necessary services.⁵¹

Provider-to-hospital referrals are also difficult for community health center providers. PCPs throughout Chicago refer many of their needy patients to the county facility, the John H. Stroger, Jr. Hospital of Cook County. Even with significant resources, however, Stroger Hospital is unable to meet the community's demands for specialty and diagnostic services. Referral to Stroger places patients in an extremely long queue; patients who cannot wait may seek care through the emergency department, with little or no opportunities for follow-up.

Some hospitals are developing programs to facilitate referrals and improve coordination of care across multiple providers. For example, Chicago's Mount Sinai Hospital has developed a partnership with one federally funded community health center, the Access Community Health Network, to improve referrals across a spectrum of services. For cardiovascular care, Access patients can see a Mount Sinai cardiologist at the clinic and use the hospital for diagnostic and invasive procedures. Because patients see the cardiologist on-site at an Access clinic, communication and coordination of care between the primary care physician and the specialist is improved. Moreover, the Access clinics and the hospital share an information system, which allows providers at each facility to share basic medical information for their patients.

Factor 5: Poor coordination of cardiac care across multiple sites and providers can influence minority patients' ability to receive the full spectrum of heart care

Receiving coordinated health services is essential in the diagnosis, treatment, and management of heart disease. Care coordination involves many components, including: 1) communication among providers who care for a patient either at different settings or at different times; 2) coordination by primary care physicians of specialty care services; 3) prompt feedback by specialists to primary care physicians and patients; 4) the monitoring of patient adherence to mutually agreed-upon diagnostic and treatment plans through the tracking of test

results, procedures, and medications; and 5) systems that monitor whether recommended referrals have taken place.⁵²

In heart care, coordination requires that a network of providers, from primary care providers to cardiologists, other sub-specialists and hospitals, communicate well, share information and refer freely among each other. While coordination of care is a problem for all patients, access to coordinated cardiac services can be especially difficult for minority groups, who lack regular access to a provider or a medical home that can oversee the management of their heart care.⁵³

Lack of coordinated care across providers and health delivery sites can result in poor outcomes. Poorly coordinated care or attention to only episodic moments of care can result in medical errors, increased duplication of services, and frustration among patients attempting to navigate such disjointed care.⁵⁴

In Detroit, for example, coordination of cardiovascular care is a significant problem, primarily because of the limited health care resources available to city residents. Shortages of primary care, specialty care and hospital beds in the city affect care for all residents, but are experienced most profoundly by the uninsured and underserved, most of whom are African American and Hispanic. These are the individuals who lack the resources to obtain care outside of the city.

Too few primary and specialty care providers are available in Detroit to care for the many residents who are poor. In the past five years, 20 primary care centers have closed in Detroit, taking with them a substantial number of primary care physicians. Most cardiology groups are located outside Detroit's city limits, making accessibility difficult for residents without a car. Furthermore, only a limited number of providers are willing to take on the care of uninsured and Medicaid patients. As a result, wait times for services are long; in some instances, services are not available unless the patient can pay upfront for care.

With considerable instability in the Detroit health care market over the last decade, providers have begun to move their practices to more affluent environments outside of the city. This migration trend has affected the continuity of care for many Detroit residents. Most of the cardiologists who refer patients to Detroit hospitals operate their private practices outside Detroit proper. Moreover, Detroit has a high turnover rate for providers, primarily because many physicians who are in residency programs practice in the area for three or four years and then move to other locations. These issues make it difficult for Detroit residents to find an easily accessible medical home and to develop relationships with physicians.

Without a provider coordinating the management of cardiac conditions across the continuum of care, patients are less likely to come in for routine care, less likely to consistently take their medications and more likely to need expensive, invasive cardiovascular care and hospital stays.

In the Bronx, coordination is a problem for low-income minority patients with heart conditions. Medicaid managed care significantly limits a patient's ability to get care by confining providers to a pre-approved list, limiting the number of physicians or clinic visits allowed or restricting prescription drug formularies.⁵⁵ These obstacles impede providers' ability to freely refer patients to their colleagues, thereby hindering patients' ability to obtain coordinated, well-managed care.

Furthermore, simply finding a provider who takes a particular managed care plan can be a difficult task for both patients and providers. Residents in the Bronx can enroll in one of more than 12 managed care plans. Hospitals and providers, however, generally choose to participate with only a few of these plans, limiting their choices to those that would be most financially beneficial to them. Residents must be enrolled in the same managed care plan as the hospital or provider they wish to see. Because many of the plans are small, they are not picked up by many of the large providers of

heart care. Consequently, patients are limited in where they can seek care and often forgo follow-up care because they cannot find providers who take their insurance plans. These limitations serve as barriers to care, resulting in poorly coordinated services and fragmented care.

Several hospitals have strong ties with community providers, such as free clinics or community health centers, to help improve continuity of care between inpatient and outpatient services. Montefiore Medical Center, for example, has an integrated health care system with specialty care hubs at the hospital and multiple primary care access points in the community that have helped to coordinate care for Montefiore patients. Once a Bronx resident enters the Montefiore health care system, the patient is then referred to other Montefiore providers for inpatient, specialty or primary care services. The patient's records are tracked via an information technology system available to all Montefiore providers. The information system compiles data from every Montefiore-provided health care encounter, which greatly improves coordination of care and continuity in medical instructions.

Montefiore has also gone a step further in managing care for its cardiac patients by implementing a disease management program for heart failure patients in the hospital's Care Management Organization (CMO). This CMO group serves as an intermediary between 25 commercial insurers and Montefiore patients and manages the contracts and paperwork for all Montefiore patients in these plans. As part of the group's disease management program, the CMO assigns a case manager to heart failure patients to help coordinate care across the continuum of health care settings and to educate patients about their disease. According to Montefiore representatives, early results from the program have shown a reduction in hospital use for these patients.⁵⁶

Montefiore's efforts have helped alleviate many of the concerns associated with poorly coordinated and

fragmented care. However, specialty care is still a problem for the uninsured because of cost, lack of availability of providers willing to treat this patient population and transportation problems. Medicaid managed care enrollees are also limited in where they can obtain specialty care since patients must use providers in their managed care plan.

Broward County, FL is an example of another community where the commitment of leadership and resources has led to highly coordinated care for low-income, minority patients. The Memorial Healthcare System has dedicated significant resources to building a network of primary and specialty care services for low-income residents, most of whom are members of racial and ethnic minority groups. If patients qualify for services at Memorial Healthcare System's primary care clinics, they essentially become enrolled in a virtual health plan for the uninsured, with financial and clinical management of their health and access to health services. Primary care patients gain access to a full range of services across the county, with their inpatient care centralized within a hospitalist service at Memorial Regional Hospital. This network provides a coordinated system of care where both referrals and medical information flow easily from provider to provider and provider to hospital.

In addition, Broward County has a long tradition of working to improve coordination of care for persons with chronic diseases. Much of this work has involved patients with diabetes and has been supported by Florida's Agency for Health Care Administration, which manages the state's Medicaid program, and the pharmaceutical company Pfizer, Inc.⁵⁷ Broward County has also addressed disease management and coordination of care through a Community Access Program (CAP) grant that provided funding to focus on the management of three target diseases: asthma, diabetes and HIV/AIDS.⁵⁸

The Memorial Healthcare System, which took the lead on the diabetes disease management program, is planning to move into other areas of care coordination as well.

Because of its experience with the diabetes program, Memorial's system is acclimated to considering coordination of care and developing strategies for managing heart patients at the point of discharge and throughout their heart care. Memorial has been working with its primary care clinics and other providers to identify weaknesses in care coordination for patients with heart disease and is considering ways to improve care in the future. This should have important and positive consequences for Hispanic and African American patients with cardiac conditions who use these systems of care.

Section 4: Conclusions

Our work identifies several market characteristics that can make heart care particularly difficult for minority Americans to obtain. Market competition, trends toward market specialization, the lack of dedicated resources for the underserved, provider referral patterns that limit options for care, and poorly coordinated care across multiple providers all appear to influence whether a health care system provides disparate care to specific populations.

How these factors lead to segmented heart care and the impact this segmentation has on our most vulnerable populations is the focus of this research. Health service utilization is driven by health coverage and the ability to pay for care, with important implications for racial and ethnic minorities in America. In each of the *Expecting Success* communities, like countless other communities across the country, poverty and lack of health insurance are much more common among African American and Hispanic residents. In some cases, the comparisons are staggering; in every case, they are considerable.

Low-income, uninsured African American and Hispanic residents with heart disease often face significant hurdles in finding timely and affordable health care. Without the benefits of adequate health insurance, these patients lack the financial lobbying power to obtain care from the top tier of the system; they also suffer from market segmentation and referral patterns that favor the insured and all but dismiss the uninsured. As a result, their health care experience often does not culminate in timely access to the most appropriate services for their heart condition.

Our work acknowledges that racial and ethnic disparities can result when African American and Hispanic patients lack the health care coverage or resources to make them financially desirable to health

care organizations. This finding is consistent with the literature on disparities which illustrates the correlation with limited financial resources and a lack of health insurance coverage.^{59, 60}

We also agree that disparities result from other factors that persist, even after controlling for the influences associated with income and coverage. As the IOM's *Unequal Treatment* correctly articulated, disparities are a result of myriad factors that work individually and collectively to create different "means" and "ends" to health care.

In each of the *Expecting Success* communities, hospitals will be working to improve the quality of care provided to patients with cardiac disease. The factors we explore in this report are significant contributors to the ongoing segmentation of health care, based on patient income and insurance status. Because the minority populations in these communities are disproportionately impoverished, the examination of these issues is intended to assist hospitals' understanding of what community-based characteristics may contribute to racial and ethnic disparities.

Given these significant challenges, what, then, is the value of a program like *Expecting Success*, which has enlisted 10 hospitals to improve the quality of cardiovascular care? Hospitals are not likely to be the primary

agents of change when it comes to dramatically influencing the socioeconomic conditions and coverage options in their surrounding communities. However, hospitals can and do influence the quality of health care provided to the patients that live in those communities. Therefore, one of the fundamental assumptions of

Expecting Success is that even though hospitals operate in environments where multiple factors contribute to poor quality health care for minority patients, it is nevertheless possible for those hospitals to make significant differences in how they provide quality health care to their patients.

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The *Expecting Success: Excellence in Cardiac Care* national program office is housed at The George Washington University Medical Center, School of Public Health and Health Services, Department of Health Policy. The Department of Health Policy is the home of health policy research and studies at the George Washington University Medical Center, School of Public Health and Health Services. The Department of Health Policy works to provide policymakers, public health officials, health care administrators, and advocates with information and ideas to improve access to quality, affordable health care. Information on the *Expecting Success* program can be found at www.expectingsuccess.org.