Preventive Care in the United States: Are Blacks Finally Catching Up?

Janice Blanchard MD, MPH; Nicole Lurie, MD, MSPH

Objective: To evaluate rates of preventive care among Blacks in specific demographic categories, such as age, income, gender, and Caribbean descent.

Design, Setting, and Participants: Data from the Commonwealth Fund 2001 Health Care Quality Survey, conducted from April through November 2001, which involved telephone interviews with a nationally representative sample of 6,722 adults age 18 and older living in the continental United States. Analysis focuses on the subset of Black respondents in comparison to Whites and Hispanics ($n=5678$).

Main Outcome Measures: Rates of preventive care including primary care visits, cholesterol and blood pressure screening, diabetes care, and cancer screening.

Results: Blacks have rates of preventive care comparable to those of Whites, with higher rates for some services. Overall, Blacks did better than Hispanics for most of the preventive measures studied. An evaluation of specific demographic subgroups of Blacks shows that certain populations, such as men and the uninsured, have lower rates of some preventive care measures. For example, Black men are less likely to report having a physical exam than Black women (odds ratio [OR] 0.53, 95% confidence interval [CI] 0.37–0.77) as well as less likely to report blood pressure screening in the prior year (OR 0.58, 95% CI 0.34–0.98).

Conclusions: While high levels of mortality persist, Blacks fare relatively well in terms of selected preventive care services. Although focus on prevention is still a key concern, evaluating other causes of increased mortality, including differences in follow-up, referral, and quality of care, is also important. (*Ethn Dis.* 2005;15:498–504)

Key Words: Blacks, Preventive Measures

From the George Washington University Department of Emergency Medicine, Washington, DC (JB); RAND Corporation, Arlington, Virginia (JB, NL).

Address correspondence and reprint requests to Janice Blanchard, MD, MPH; George Washington University Department of Emergency Medicine; 2150 Pennsylvania Avenue, NW; Washington DC 20037; 202-741-2911; jblanchard@mfa.gwu.edu

Introduction

Despite dramatic advances in health care, Blacks continue to have excess mortality for a number of common health conditions. Life expectancy for Black males is seven years less than that for White males, and life expectancy is five years less for Black females than that for White females.[1] The recent Institute of Medicine report found that, in addition to disparities in health status, disparities in care exist for a wide variety of conditions, even when controlling for factors such as income and insurance.[2]

Many of these disparities relate to diseases that can be mitigated with adequate primary care and early detection. Elevated blood pressure and cholesterol, both treatable with early intervention, have been linked to the risk of coronary artery disease, from which Blacks have disproportionately higher morbidity and mortality.[3–7] Similarly, despite the efficacy of mammography and cervical smear cytology in reducing breast and cervical cancer mortality, Black women continue to have higher rates of mortality and advanced presentation of both diseases.[8–11] Yet, Blacks have been shown to have comparable, and in some cases higher, rates of screening for some conditions.[12,13] According to data from the 1997 Behavioral Risk Factor Surveillance Survey, Blacks had similar or higher median rates of screening for breast, cervical, and colorectal cancer as well as for hypertension and cholesterol (although not all states reported data for all screening exams.)[14]

Despite a narrowing in gaps in preventive care between Blacks and Whites in recent years, Hispanics continue to lag behind.[15,16] Language may play a large role in the persistent disparities seen among Hispanics, with lower levels of care seen among persons who speak primarily Spanish.[17]

Although Blacks as a group may do well in terms of screening and preventive care, the level of preventive care among specific subgroups of Blacks is not known. This fact is particularly important considering that the Black community has become increasingly more diverse. Blacks have a higher median income than ever before, but with that increase is a growing divide between the richest and poorest segments of the Black population.[18] A large amount of ethnic and cultural diversity exists in the Black community; although a significant percentage of Blacks in the United States are of Caribbean descent or are foreign-born, we know less about whether certain ethnic groups fare better or worse within the healthcare system.

We analyzed data from the Commonwealth Fund to further investigate what specific sociodemographic characteristics and healthcare settings are associated with better quality of care for Blacks in the United States. Specifically, we addressed aspects of prevention that are associated with improved outcomes.

Methods

Sample

We use data from the Commonwealth Fund 2001 Health Care Quality Survey, conducted from April through November, 2001. This survey involved telephone interviews with a nationally representative sample of 6,722 adults age 18 years and older living in the continental United States who speak English, Spanish, Mandarin, Cantonese, Vietnamese, or Korean. Interviews were conducted in each of these languages based on respondent preference. The sample was designed to oversample African-American, Hispanic, and Asian households.

This survey used random-digit dial-

Life expectancy for Black males is seven years less than that for White males, and life expectancy is five years less for Black females than that for White females.[1]

ing, with telephone numbers drawn disproportionately from area code-exchange combinations that had higher-than-average rates of minority households. In addition, interviews were conducted at 394 households identified from a nationwide demographic tracking survey as having an Asian/Asian-American or African-American family member. The response rate for the entire sample was 53.1%.

Final statistical results were weighted to correct for the disproportionate sample design and to make the final total sample results representative of all adults age 18 years and older living in the continental United States, consistent with the March 2001 Current Population Survey. A more detailed description of the weighting methods used in this analysis can be found elsewhere.[19]

This paper focuses on the 5678 respondents reporting their race as Black, White, or Hispanic. It involves analysis addressing the subset of questions focused on the receipt of selected preventive care services. A description of the sample demographics of this subset is described in Table 1. All analyses were performed with STATA Version 6.0 (StataCorp LP, College Station, Tex.) by using the weighted sample.[20]

Table 1. Demographics (weighted sample)

	Blacks (*n*=1037)	Whites (*n*=3488)	Hispanics (*n*=1153)
Gender			
Male	41.9%	45.1%	45.9%
Education			
High school or less	56.0%*	44.0%*	68.3%*
Age			
18–49	66.2%*	58.1%*	76.5%*
50–64	19.9%*	21.8%	14.5%*
65+	12.5%*	18.9%*	8.6%*
Unknown	1.3%	1.2%	0.4%
Income			
<20,000/year	26.2%*	14.3%*	25.7%
≥20,000/year	54.9%*	68.0%*	51.9%
Unreported income	18.9%	17.7%	22.4%
Insurance status			
No insurance	20.6%*	10.6%*	32.8%*
Medicaid	8.6%*	2.4%*	5.8%*
All other insurance	70.8%*	87.0%*	61.4%*
Chronic illness†			
Chronic illness	44.4%*	35.9%*	30.2%*
Usual source of care			
Doctor's office	65.9%*	80.3%*	59.1%*
Community clinic	9.7%*	6.6%*	20.0%*
Hospital outpatient department	8.8%*	2.9%*	3.2%*
Hospital emergency department	10.9%*	4.1%*	6.6%
No regular place of care	1.6%*	2.5%	7.0%*
Other	3.1%	3.5%	4.1%
Residence			
Urban	49.4%*	25.2%*	52.1%
Suburban	36.1%*	50.2%*	38.9%
Rural	14.5%*	24.5%*	9.0%*

* Statistically difference detected between Blacks and Whites or Blacks and Hispanics with chi-square test for $P<.05$.

† Hypertension, heart disease, diabetes, asthma.

Measures

Respondents were first asked about use of preventive health services, including whether they had received a complete physical exam by a doctor or health professional, blood pressure screening within the past year, cholesterol screening within the prior five years (for persons over the age of 40 years), or counseling about at least one of the following: smoking cessation (if a smoker), diet, exercise, or mental health.

Participants were also asked about cancer screening. We reported measures of cancer screening by recommended age groups and populations. Specifically, these measures included colon cancer screening within the prior year (reported for respondents over age 50), cervical cancer screening within the prior three years (all women over age 18), mammography within the prior year (women over age 50), and any history of blood test or rectal exam for prostate cancer screening (men over age 50). We created an "optimal cancer screening" variable to reflect those persons who had received all of those recommended cancer screening exams for their age and gender within the specified time periods. For example, women between the ages of 18 and 50 were considered to have optimal cancer screening if they had received a Pap smear test within the prior three years; since mammography and colon cancer screening are not routinely recommended for all women under the age of 50, this test was not applicable to this

Table 2. Chi-square analysis for differences in preventive care/screening for Black vs Whites and Blacks vs Hispanics*

	Blacks % (of total *n*)	Whites % (of total *n*)	Hispanics % (of total *n*)	*P*
	56.8% (1037)	**47.1% (34.88)**		**.0001**
Physical exam in prior year			**48.5% (1153)**	**.0077**
Counseling by physician on smoking cessation, exercise, or diet	**70.6% (1037)**	69.7% (3488)		.6759
			61.5% (1153)	**.0020**
Blood pressure screening within the prior year	**86.5% (1037)**	84.8% (3488)		.3444
			72.6% (1153)	**<.0001**
Cholesterol screening within the prior year†	86.6% (542)	87.5 (2184)		.7158
			70.7% (450)	.2451
All appropriate cancer screening exams for age and gender‡	**62.0% (821)**	**50.2% (2648)**		**.0001**
			60.3% (774)	.6546

* Two-way comparison of Blacks to Hispanics and Blacks to Whites.
† For persons over the age of 40.
‡ Defined as having all appropriate screening exams for age and gender: colon cancer—screening within the prior year; breast cancer—mammography for women over 50 within the prior year; cervical cancer—Pap smear for women within the prior three years; and prostate cancer—any history of digital rectal exam or blood test for men >50. Sample size excludes men <50 and those who did not report age.
Note: Bold text indicates statistically significant differences.

age group. We excluded men less than 50 years of age from this analysis since colon or prostate cancer screening is not universally recommended in this population.

Independent variables in our analyses included those persons thought to have potential relationships with preventive care measures based on traditional findings in the literature, were of adequate sample size to offer meaningful interpretation, and were shown in bivariate analysis to have a significance of $P<.10$ or less on at least one of the dependent variables of interest. These independent variables were age, income, education, chronic disease condition, insurance, gender (excluded from the regression for mammogram and Pap smear cancer screening), presence of a usual source of care, residence, and Caribbean descent. Age was divided into those respondents aged 65 and older, aged 50–64, and those aged 18–49 or with unreported age. Income was dichotomized into those with incomes above and below $20,000/year. We created a dummy variable to represent the 18% of respondents that did not provide income information. Education was dichotomized into some college or more versus high school or less. A chronic disease variable described patients who reported having high blood pressure, history of heart attack or other heart disease, cancer, diabetes, and/or asthma. Insurance was dichotomized into those with no insurance versus those with insurance (including Medicaid), and usual source of care dichotomized into no usual source of care (hospital emergency department, no usual source reported, or other source) versus a usual source of care including a doctor's office, a public or community clinic, or hospital outpatient clinic. The variable for residence compared those living in rural areas to those living in urban or suburban areas. Finally, a variable was included for Blacks who reported being of Caribbean descent.

Table 3. Adjusted differences in preventive care/screening for Black vs Whites and Hispanics by using multivariate regression§ (*N*=5678; *n*=3176 for cholesterol screening, *n*=4243 for cancer screening)

	Blacks	Whites	Hispanics
Physical exam in prior year	**1.00**	**0.64 (0.52, 0.78)***	0.85 (0.66, 1.11)
Counseling by physician on smoking cessation, exercise, or diet	1.00	1.01 (0.80, 1.27)	0.79 (0.60, 1.05)
Blood pressure screening within the prior year	**1.00**	0.75 (0.55, 1.03)	**0.56 (0.39, 0.79)***
Cholesterol screening within the prior year for adults over age 40	1.00	0.95 (0.60, 1.49)	1.07 (0.59, 1.96)
All appropriate cancer screening exams for age and gender	1.00	**0.59 (0.44, 0.80)***	0.70 (0.48, 1.01)

* $P<.001$; † $P\leq.01$; ‡ $P<.05$.
§ Controlling for confounding variables: gender, age, chronic disease (hypertension, diabetes, cancer, or asthma), income, insurance status, education, usual source of care, and residence.
Note: Bold text indicates statistically significant differences.

Analysis

We first examined baseline differences between Blacks and Whites and between Blacks and Hispanics by using chi-square analysis. We then examined these differences after controlling for possible confounders, ie, gender, age, chronic disease (hypertension, diabetes, cancer, or asthma), income, insurance status, education, usual source of care, and residence. We evaluated these differences among the entire population as well as among the subset of insured individuals.

To further evaluate characteristics associated with prevention and quality of care for Black respondents, we used multivariate logistic regression to analyze the relationship of each of the dependent variables to our previously specified independent variables, controlling for sociodemographic characteris-

Table 4. Adjusted differences in preventive care/screening among the subsample of insured individuals for Blacks vs Whites and Hispanics by using multivariate regression§ (*n*=4765; *n*=2802 for cholesterol screening, *n*=3615 for cancer screening)

	Blacks	Whites	Hispanics
Physical exam in prior year	**1.00**	**0.69 (0.55, 0.86)***	0.94 (0.70, 1.26)
Counseling by physician on smoking cessation, exercise, or diet	1.00	1.07 (0.83, 1.37)	0.96 (0.68, 1.34)
Blood pressure screening within the prior year	**1.00**	0.77 (0.54, 1.11)	**0.59 (0.39, 0.90)‡**
Cholesterol screening within the prior year for adults over age 40	1.00	0.89 (0.52, 1.50)	0.68 (0.35, 1.34)
All appropriate cancer screening exams for age and gender	1.00	**0.63 (0.45, 0.88)†**	0.67 (0.44, 1.01)

* $P<.001$; † $P\leq.01$; ‡ $P<.05$.

§ Controlling for confounding variables: gender, age, chronic disease (hypertension, diabetes, cancer, or asthma), income, insurance status, education, usual source of care, and residence.

Note: Bold text indicates statistically significant differences.

tics. The variable for Caribbean descent was excluded from the cholesterol screening analysis because small sample size made the results difficult to interpret.

RESULTS

Consistent with the literature, Blacks in our sample tended to have higher rates of chronic illness (hypertension, diabetes, heart disease, and asthma) than Whites and Hispanics. They also had overall lower incomes and higher rates of uninsurance than Whites. Their incomes were not statistically different from those of Hispanics, but rates of uninsurance were slightly lower. They were also less likely than Whites to seek care at a doctor's office, instead using other sources such as community or public clinics, hospital outpatient departments, or emergency departments for care. Of all groups, Blacks reported the highest rates of use of hospital-based services such as the outpatient department or emergency department for care, while Hispanics reported the highest use of community clinics. Blacks were more likely to live in urban areas than Whites (see Table 1).

General Preventive Care, Cardiovascular and Cancer Screening

Blacks were just as or more likely than Whites and Hispanics to have received optimal preventive care in unadjusted comparisons (see Table 2). When controlling for sociodemographic characteristics, statistically detectable differences between Blacks and Whites persisted for receipt of a physical exam and age appropriate cancer screening and between Blacks and Hispanics for blood pressure screening (see Table 3). These differences were consistent among both the entire population, as well as for the subsample of persons with insurance. Not surprisingly, we found that among Blacks, certain groups were more or less likely to report screening exams (Tables 4, 5, and 6). For example, having a chronic illness was associated with a greater likelihood of all preventive care exams for persons over the age of 40 years, except for cholesterol screening (which showed no statistically detectable difference) and age-appropriate cancer screening (which was less likely to have been received). In contrast, persons without insurance were considerably less likely to receive blood pressure checks, cholesterol screening, and age-appropriate cancer screening. Persons reporting no usual source of care were also less likely to report having had their cholesterol checked and receiving age-appropriate cancer screening.

Black males were also significantly less likely to have had a physical exam or have had their blood pressure checked within the prior year and more likely to have received age-appropriate cancer screening than females (see Tables 5 and 6.) On the other hand, Blacks of Caribbean descent were more likely than other Blacks to have reported receiving all of the recommended cancer screening exams (see Table 6).

DISCUSSION

Despite persistent health status differences between Blacks and Whites, results from our study show that Blacks do as well as Whites and Hispanics for all of the preventive care services studied. However, persons without insurance, those reporting no usual source of care, and Black men had lower rates of screening for many of the measures we evaluated.

The differences between males and females are somewhat expected, given the fact that women traditionally receive more care than men (ie, through routine women's health interactions such as prenatal care). However, that these differences exist is cause for concern, given that Black men have a higher age-adjusted mortality rate than any other race regardless of gender.[1] Improved preventive care efforts that specifically target Black males may have an impact in narrowing the gaps seen for this population.

Insurance coverage and usual source of care remain important determinants of preventive health services for Blacks.[16,21] However, for those who reported a usual source, whether this care was received in a doctor's office or community or hospital outpatient clinic did not seem to matter.

Table 5. General health care for Blacks: adjusted odds ratio and confidence intervals (*n*=1037)

	Physical Exam in Prior Year	Healthcare Counseling
Gender		
Female	1.00	1.00
Male	**0.53 (0.37, 0.77)***	0.82 (0.55, 1.22)
Age		
18–49	1.00	1.00
50–64	1.01	1.16 (0.64, 2.12)
>65	0.72 (0.41, 1.25)	**0.44 (0.23, 0.84)**
Chronic disease†		
No chronic disease	1.00	1.00
Chronic disease	**2.05 (1.37, 3.07)***	**4.03 (2.42, 6.69)‡**
Caribbean descent		
Non-Caribbean	1.00	1.00
Caribbean	0.72 (0.40, 1.29)	1.14 (0.62, 2.09)
Household income		
≥20,000/year	1.00	1.00
<20,000/year	0.75 (0.49, 1.14)	0.87 (0.55, 1.39)
Unreported	0.74 (0.43, 1.25)	1.10 (0.61, 1.97)
Insurance		
Insurance	1.00	1.00
No insurance	0.75 (0.47, 1.21)	1.40 (0.80, 2.44)
Education		
High school or less	1.00	1.00
Some college/technical school or more	0.86 (0.59, 1.26)	1.37 (0.89, 2.11)
Usual source of care		
Doctor's office	1.00	1.00
Community clinic/hospital outpatient	0.73 (0.44, 1.20)	0.76 (0.46, 1.26)
No usual source	0.75 (0.44, 1.28)	0.68 (0.39, 1.18)
Residence		
Urban/suburban	1.00	1.00
Rural	0.82 (0.49, 1.38)	**1.88 (1.03, 3.42)‡**

* $P<.001$; † $P<.01$; ‡ $P<.05$.
Note: Bold text indicates statistically significant differences.

No significant differences were reported for Blacks of Caribbean descent except for cancer screening. Prior research has shown that health behavior of Blacks from Caribbean backgrounds tends to converge with that of Blacks who are native of the United States over time.[22,23] In our sample, more than half of Caribbean respondents were born elsewhere; however, 71% of this group had lived in the United States for >10 years, which suggests that acculturation may have played a role in the similarities observed.

Why Blacks as a whole had equivalent rates of preventive care (and higher rates of physical exam receipt and blood pressure screening) as other racial groups, particularly in the face of more chronic disease and worse chronic disease outcomes, is not clear. Prior research from other national studies such as BRFSS also shows that Blacks have comparable screening rates as Whites and Hispanics for many of the preventive care measures studied here.[14] Physicians may be more aware of the risks of such chronic conditions as heart disease and diabetes in Blacks and therefore may be more likely to focus screening in these groups. Blacks who live in larger urban areas may have more access to tertiary care centers as well as many of the federal, state, and community-sponsored screening programs that are specifically targeted to increase early screening for many diseases such as hypertension and breast and cervical cancer.[24–26] In our sample, Blacks had higher rates than other groups of use of the hospital outpatient department for their regular source of care, and they were also more likely to live in urban areas than Whites, which suggests that the urban safety net (including outpatient departments, community clinics, and other efforts such as church-sponsored health fairs) may be succeeding in delivering basic preventive services to Blacks.[27–29]

Despite these improvements in the receipt of selected preventive care measures, Blacks continue to have lower rates of interventions in more acute settings. A review by Sheifer and colleagues examining past studies of intervention for cardiac disease showed consistently lower procedure rates for Blacks compared to Whites.[30] Our finding suggests that efforts to address disparities should expand to not only include screening, which remains an important area of focus, but to also target differences in follow-up, referral, and quality of care. As attention shifts to these areas, however, efforts to assure delivery of preventive care and the viability of the safety net must continue, particularly given the disparities that continue to exist among the uninsured.

Our study has some limitations. The survey uses self-report, which may not always be reliable, particularly regarding reporting past history of screening during a given time period.[31] In addition, the survey queried respondents about a limited number of preventive care measures. For instance, it did not include questions regarding adult immunizations. Prior research has shown that significant racial disparities exist in the receipt of influenza and pneumococcal vaccines for persons older than 65

Table 6. Cardiovascular disease prevention and cancer screening among Blacks (adjusted odds ratios with confidence intervals)

	Blood Pressure Screening Within Prior Year (*n*=1037)	Cholesterol Screening Within Prior Year§ (*n*=542)	All Appropriate Cancer Screening for Age/Gender (*n*=821)
Gender			
Female	1.00	1.00	1.00
Male	**0.58 (0.34, 0.98)**‡	**0.96 (0.46, 2.23)**	**2.70 (1.35, 5.38)**†
Age			
18–49	1.00	1.00	1.00
50–64	0.91 (0.42, 1.97)	1.57 (0.56, 4.45)	**0.01 (0.005, 0.03)***
>65	0.72 (0.27, 1.96)	0.68 (0.28, 1.69)	**0.02 (0.01, 0.06)***
Chronic disease†			
No chronic disease	1.00	1.00	1.00
Chronic disease	**5.05 (2.59, 9.84)***	1.81 (0.76, 4.32)	**0.47 (0.31, 0.71)***
Caribbean descent			
Non-Caribbean	1.00	—	1.00
Caribbean	0.71 (0.32, 1.56)	—	**2.71 (1.30, 5.67)**†
Household income			
≥20,000/year	1.00	1.00	1.00
<20,000/year	1.19 (0.65, 2.17)	1.17 (0.46, 3.01)	0.89 (0.47, 1.67)
Unreported	0.90 (0.40, 2.01)	0.97 (0.31, 3.03)	0.77 (0.38, 1.58)
Insurance			
Insurance	1.00	1.00	1.00
No insurance	**0.50 (0.28, 0.91)**‡	**0.27 (0.11, 0.67)***	**0.42 (0.20, 0.87)**‡
Education			
High school or less	1.00	1.00	1.00
Some college/technical school or more	1.55 (0.90, 2.68)	2.29 (0.97, 5.38)	1.43 (0.82, 2.50)
Usual source of care			
Doctor's office	1.00	1.00	1.00
Community clinic/hospital outpatient	0.94 (0.49, 1.80)	1.09 (0.43, 2.78)	0.89 (0.35, 2.28)
No usual source	0.89 (0.43, 1.86)	**0.21 (0.09, 0.51)***	**0.35 (0.16, 0.77)**†
Residence			
Urban/suburban	1.00	1.00	1.00
Rural	0.88 (0.40, 1.93)	1.38 (0.46, 4.11)	0.54 (0.25, 1.14)

* $P \leq .001$; † $P < .01$; ‡ $P < .05$.
§ Caribbean descent variable excluded from the analysis on cholesterol screening given the smaller sample size making the results difficult to interpret.
Note: Bold text indicates statistically significant differences.

While our results reveal generally significant progress in improving preventive care for Blacks, subgroups remain at risk, and efforts should place particular emphasis on them.

years.[32] We also did not have sufficient data to evaluate how Blacks who were born outside of the United States fared in terms of preventive care.

CONCLUSIONS

While our results reveal generally significant progress in improving preventive care for Blacks, subgroups remain at risk, and efforts should place particular emphasis on them. These data also reveal the lack of preventive care among other ethnic groups, such as Hispanics. Despite their much higher use of community clinics, they do not appear to be reaping the benefits of such care, at least in terms of prevention. This finding may be due to language or differences in approach to screening. Examination of successful screening programs in the Black community may provide useful insights for other vulnerable populations.

Our study also shows that significant

further research is needed to determine what other barriers exist beyond screening, since these likely continue to contribute to the disparities in health for Blacks in the United States. While preventive care is important, improving outcomes must be the ultimate goal.

ACKNOWLEDGMENT

This study was made possible by a grant from the Commonwealth Fund.

REFERENCES

1. Minino AM, Arias E, Kochanek K, Murphy S, Smith B. Deaths: final data for 2000. *Natl Vital Stat Rep.* 2002;50.
2. Smedley BD, Stith AY, Nelson AR, eds, for the Institute of Medicine Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.* Washington, DC: National Academies Press; 2002.
3. East MA, Peterson ED. Understanding racial differences in cardiovascular care and outcomes: issues for the new millennium. *Am Heart J.* 2000;139:764–766.
4. Rosamond WD, Chambless LE, Folsom AR, et al. Trends in the incidence of myocardial infarction and in mortality due to coronary heart disease, 1987 to 1994. *N Engl J Med.* 1998;339:861–867.
5. Barnett E. Disparities in premature coronary heart disease mortality by region and urbanicity among Black and White adults ages 35–64, 1985–1995. *Public Health Rep.* 2000;115: 52–64.
6. Asher CR, Topol EJ, Moliterno DJ. Insights into the pathophysiology of atherosclerosis and prognosis of Black Americans with acute coronary syndromes. *Am Heart J.* 1999;138: 1073–1081.
7. Cooper RS, Durazo-Arvizu R. Hypertension detection and control: population and policy implications. *Cardiol Clinics.* 2002;20:187.
8. Martin LM, Parker SL, Wingo PA, Heath CW Jr. Cervical cancer incidence and screening: status report on women in the United States. *Cancer Pract.* 1996:4130–4134.
9. Shelton D, Paturzo D, Flannery J, Gregorio D. Race, stage of disease, and survival with cervical cancer. *Ethn Dis.* 1992;2:47–54.
10. Wingo PA, Tong T, Bolden S. Cancer statistics. *CA Cancer J Clin.* 1995;45:8–30.
11. Simon MS, Severson RK. Racial differences in survival of female breast cancer in the Detroit metropolitan area. *Cancer.* 1996;77: 308–314.
12. Screening for colorectal cancer—United States, 1997. *Morb Mortal Wkly Rep.* 1999; 48:116–121.
13. Martin LM, Parker SL, Wingo PA, Heath CW Jr. Cervical cancer incidence and screening: status report on women in the United States. *Cancer Pract.* 1996;4:130–134.
14. Bolen JC, Rhodes L, Powell-Griner E, Bland SD, Holtzman D. State specific prevalence of selected health behaviors, by race and ethnicity—behavioral risk factor surveillance system, 1997. *MMWR CDC Surveill Summ.* 2000;49:1–60.
15. Hargraves JL. Race, ethnicity, and preventive services: no gains for Hispanics. *Issue Brief Cent Stud Health Syst Change.* 2001;34:1–4.
16. Corbie-Smith G, Flagg EW, Doyle JP, Obrien MA. Influence of usual source of care on differences by race/ethnicity in receipt of preventive services. *J Gen Intern Med.* 2002;6: 458–464.
17. Fiscella K, Franks P, Doescher MP, Saver BG. Disparities in health care by race, ethnicity, and language among the insured: findings from a national sample. *Med Care.* 2002;40: 52–59.
18. Frontline: two nations of Black America. Available at: www.pbs.org. Accessed on: 2/10/1998.
19. *Methodology: Survey on Disparities in Quality of Health Care.* Princeton Survey Research Associates for Commonwealth Fund, fielded Spring 2001.
20. STATA Corporation. *STATA Version 6.0.* College Station, Tex: STATA Corp; 2000.
21. Committee on the Consequences of Uninsurance. Institute of Medicine Board on Healthcare Services. *Care Without Coverage: Too Little Too Late.* Washington, DC: National Academy Press; 2002.
22. Sonis J. Association between duration of residence and access to ambulatory care among Caribbean immigrant adolescents. *Am J Public Health.* 1998;88:964–966.
23. Singh GK, Siahpush M. Ethnic immigrant differentials in health behaviors, morbidity, and cause specific mortality in the United States: an analysis of two datasets. *Hum Biol.* 2002;74:83–109.
24. Coughlin SS, Thompson TD, Hall HI, Logan P, Uhler RJ. Breast and cervical carcinoma screening practices among women in rural and nonrural areas of the United States, 1998–1999. *Cancer.* 2002;94:2801–2812.
25. National High Blood Pressure Education Program. Available at: www.nhlbi.nih.gov.
26. The National Breast and Cervical Cancer Early Detection Program. Available at: www.cdc.gov.
27. Welch VL, Hill MN. Effective strategies for blood pressure control. *Cardiol Clin.* 2002; 20:321.
28. Kong BW. Community-based hypertension control programs that work. *J Health Care Poor Underserved.* 1997;8:409–415.
29. Demark-Wahnefried W. Partnering with African-American churches to achieve better health: lessons learned during the Black Churches United for Better Health 5-a-day project. *J Cancer Educ.* 2000;15:164–167.
30. Sheifer SE, Escarce JJ, Schulman K. Race and sex differences in the management of coronary artery disease. *Am Heart J.* 2000;139: 848–857.
31. Lipkus IM. Colorectal screening patterns and perceptions of risk among African-American users of a community health center. *J Community Health.* 1996;21:409–427.
32. Racial/ethnic disparities in influenza and pneumococcal vaccination levels among persons aged >65 years: United States, 1989–2001. *Morb Mortal Wkly Rep.* 2003;52:958–962.

AUTHOR CONTRIBUTIONS

Design and concept of study: Blanchard, Lurie
Data analysis and interpretation: Blanchard, Lurie
Manuscript draft: Blanchard, Lurie
Statistical expertise: Blanchard
Administrative, technical, or material assistance: Blanchard, Lurie
Supervision: Blanchard, Lurie