PERCEIVED ACCESS TO HEALTH CARE AND ITS INFLUENCE ON THE PREVALENCE OF BEHAVIORAL RISKS AMONG URBAN AFRICAN AMERICANS

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Introduction: Individuals who have difficulty gaining access to health care may delay seeking and obtaining treatment, underutilize preventive health care services, and may have a high prevalence of chronic disease risks. This report examines participant perception of the level of difficulty encountered when obtaining medical care and its influence on the prevalence of chronic disease behavioral risks among urban African Americans.

Results: We found a significantly higher prevalence of current cigarette smoking and alcohol consumption among African Americans who reported that they experienced difficulty in obtaining medical care than among those who did not. Compared to those who experienced no difficulty obtaining care, participants who perceived a high level of difficulty in obtaining care were less likely to have had a physical exam in the past year and to have seen the same doctor when services were obtained.

Conclusion: The perception of a high level of difficulty obtaining health care may be associated with a higher prevalence of behavioral risks for chronic disease. The limited data suggest a need to more closely examine the perception of health care accessibility and its relationship to health services utilization and the prevalence of chronic disease behavioral risks. (*J Natl Med Assoc.* 2002;94:952–962.)

Key words: health care access ◆ behavioral risks ◆ cancer screening utilization ◆ cigarette smoking ◆ alcohol consumption ◆ barriers to care ◆ health disparities

INTRODUCTION

The overall cancer incidence and mortality rates of African Americans are among the highest of all US racial/ethnic groups.[1] Furthermore, African Americans experience five times more hypertension-related deaths than whites[2] and have disproportionately higher incidence of and mortality from other chronic diseases,[3-4] such as end-stage renal disease[5] and stroke.[6-8] Obesity and cigarette smoking are major risk factors for the leading causes of preventable death among Americans.[9-10] The prevalence of

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many chronic disease risk factors can be lowered through changes in lifestyle and health behavior. Research studies show that physician recommendations and involvement can influence health behaviors.[11-13]

Racial differences in health status and outcomes also are due in part to the higher prevalence of barriers to health care among African Americans compared to whites.[14-15] Twenty-three percent of non-elderly African Americans are uninsured, compared to 12.7% of whites.[16] African Americans also more frequently report poor access to health care than whites[17] and are less likely to have a physician who is a regular source of medical care.[18] Data from the Medical Expenditure Panel Survey show that 20.2% of African Americans do not have a regular source of care, compared to 15.2% of whites.[18] Approximately 16% of African Americans regularly use hospital outpatient departments or emergency rooms for routine medical care, compared to 4.4% of the overall US population.[19] This provides little, if any, continuity in care.

Access to health care can influence the prevalence of chronic disease risks and cancer screening utilization in many ways. Individuals who find it difficult to obtain medical care or who do not have a regular source of care may not receive preventive services[20-22] or obtain follow-up care,[23] tend to delay seeking medical attention when sick,[24] and may have less continuity in care when services are obtained.[25] This also results in fewer opportunities to be counseled about health risk behaviors and may reduce the likelihood of being referred for cancer screening. For example, a recent survey of non-critically ill patients in three hospital emergency departments (ED) shows that 38% did not have access to primary care.[26] Further, 48% of ED patients were smokers, 42% of women age 50 and older had not received a recent pap test, and 23% had a positive screen for alcoholism. In comparison, among respondents to the 1998 Behavioral Risk Factor Survey,[27] the prevalence of current smoking was 22.9% and women over age 50 who reported not having had a pap-test in the past two-years was less than 20%.

Other research shows that women who do not have insurance or experience other barriers to access of health care less frequently receive screening mammography than women who have insurance or who do not experience problems accessing care.[28] Coughlin[29] found that Asian and Pacific Islander women with health insurance who had seen a physician within the past year were more likely to have received breast and cervical cancer screenings than Asian and Pacific Islander women without health insurance. Data also show that the proportion of women who receive pap tests is higher among women who do not experience cost barriers to care and/or who have health insurance.[30] Ahluwalia et al.[31] reported that among African American smokers, having a regular source of health care was associated with plans to quit smoking, receiving a physician recommendation to quit smoking and smoking 10 or fewer cigarettes per day.

Previous studies that have examined the relationship between access to health care and the prevalence of behavioral chronic disease risks among racial/ethnic minority populations, for the most part, have used health insurance[17,29-30,32] or the use of hospital emergency departments for routine care[26] as the measure of health care access. This approach, while addressing one of the most important determinants of health care access, ignores the many sociocultural and health system barriers to care that exist for both insured and uninsured populations, which might also influence the perception of health care accessibility. Furthermore, an individual's perception of health care access is likely to influence the use of health care services irrespective of health insurance status. For example, data from the 1998 Medicare Current Beneficiary Survey show that among Medicare beneficiaries, African Americans were more likely than both whites and Hispanics to report difficulty obtaining care and more often delayed care due to costs.[33]

In view of the disproportionate impact that

chronic diseases have on African Americans and the high prevalence of modifiable chronic disease risks, it is important to find factors that influence risk behaviors to facilitate the development of strategies to encourage healthier lifestyles. We examine the role of perceived access to care and its association with the prevalence of high body mass index (BMI), current cigarette smoking, alcohol consumption and the receipt of recent physical exam among African Americans in the city of Baltimore. Reducing the prevalence of these risk factors are especially important because they are major contributors to preventable deaths among African Americans.

METHODS

During October to December 1998, 202 African-American residents of Baltimore, Maryland, participated in a cross-sectional survey and completed in-person interviews using a newly developed survey instrument consisting of 115 items. The primary aim of the survey was to provide information that could be used to plan cancer prevention and control programs and to validate a questionnaire designed to assess cancer knowledge, attitudes and practices of urban African Americans in the city of Baltimore. The questionnaire also contained several questions on health care access, which are the focus of the secondary data analysis presented in this report. Focus groups and cognitive testing were used to develop questions and to test the instrument. Nine percent of survey participants were randomly selected to be re-interviewed to test survey response reliability. All follow-up interviews were conducted within two weeks of the initial interview. Answers to the initial and follow-up interviews were congruent for 98.5% of responses.

Survey questions collected information on (1) access to health care; (2) health seeking behavior; (3) knowledge and beliefs about cancer, cancer awareness, causes and signs; (4) cancer screening behaviors; (5) background on risk behaviors, including cigarette smoking and alcohol consumption; (6) socio-demographic information including, age, education, employment, income, and marital status; and (7) self reported height and weight.

African American members of the study community who were trained by study staff to administer this survey conducted in-person interviews at churches or in participants' homes. Participants were from a convenience sample and were recruited from the friends, relatives, and acquaintances of interviewers and through local neighborhood, church and other community recreation centers. African American residents of the City of Baltimore who were age 20 or older were eligible to participate in the study. Written consent was obtained from participants prior to each interview. The Committee on Human Research for the Johns Hopkins University School of Hygiene and Public Health approved the study protocol. A remuneration of $10 was provided to the participant after completion of their interview. A total of 202 subjects were interviewed, of whom 106 (52.5%) were males and 96 (47.5%) were females.

To measure perception of access to health care and care-seeking behavior, the interviewers asked the following questions: (1) "When you are not feeling well, what do you usually do first?" (2) "When you are sick, how difficult or easy is it for you to get medical care?"(3) "Why is it difficult for you to obtain medical care?" (4) "Do you have any type of health insurance?" (5) " Is there a particular place that you usually go to if you are sick or need advice about your health?" In addition, participants were also asked questions about reasons for not seeking care when sick, availability of transportation and time required to get to doctor's visits, barriers to care including waiting times for appointments, preferences for doctors of specific races or gender, expense of medical care, and so forth.

Participants were divided into two groups based on their perception of the amount of difficulty involved in obtaining medical care when sick (i.e., When you are sick, how easy or difficult is it for you to get medical care?).

Responses to question no. 2 were dichotomized from a four-level Likert-type scale. Participants who indicated that it was "very easy" or "not difficult" to obtain medical care comprise the "no difficulty obtaining medical care group" (NDOMC) and participants who indicated that it was "difficult" or "very difficult" to obtain medical care comprise the "have difficulty obtaining medical care group" (DOMC).

For the analysis of overweight body mass index (BMI) [weight in kilograms/(height in meters)^2] was used to place individuals into categories.[34] Individuals with a BMI below 25.0 were categorized as "normal" weight, while those with a BMI of 25.0 and over were "overweight," without regard to body frame, musculature, or gender.

Statistical Analysis

Data analyses were performed with SPSS Version 10.1.[35] Pearson's Chi-square test was used to evaluate differences between the study groups in the distribution of categorical variables and *t*-tests were used to assess differences in the means of continuous variables.

Logistic regression analyses were used to examine demographic and health system variables, the perceived level of difficulty encountered when obtaining medical care, and their relationship to the prevalence of selected behavioral chronic disease risks.

We first examined the association between demographic and health system variables and the four outcomes (i.e., perceived level of difficulty and chronic disease risks) in univariate analyses. The prevalence of current overweight was not included in the models because it did not statistically differ between participants with NDOMC and with DOMC. Variables found to have a significant association with the outcome ($p < 0.11$) were then entered into a multivariate model using forward stepwise regression. Separate models were constructed where the perceived level of difficulty accessing health care and each of the behavioral risks were examined as the dependent variable; these included current cigarette smoking, alcohol consumption and receipt of a physical exam within the past year.

Demographic variables examined in the model of the perception of the level of difficulty in obtaining health care include age (under 35 vs. >/= 35), marital status (married vs. single, divorced, separated, or widowed), education (less than high school, grade 9–12, some college) and employment status (employed vs. unemployed). Income was not included in the multivariate analyses due to the large number of missing observations. Health system variables included participants' preference for a physician of a specific race (y/n), preference for a physician of a specific gender (y/n), belief that waiting times for appointments is too long (y/n), belief that time spent in waiting room is too long (y/n), access to own transportation for medical visits (y/n), sees same doctor for routine care (y/n), will have to lose a day of work to obtain medical care (y/n), and the belief that medical care is too expensive (y/n). Independent variables examined in multivariate analyses of the chronic disease risks included perceived level of difficulty in obtaining medical care, age group, gender, educational achievement level, and employment status. A two-tailed probability of type-I error of 0.05 was used to determine statistical significance for all analyses.

RESULTS

Perception of the level of difficulty encountered when accessing medical care when sick: One hundred eighty participants (89.1%) indicated that they had no difficulty obtaining medical care when sick (NDOMC) and 22 (10.9%) indicated that they had difficulty obtaining medical care (DOMC). Difficulty obtaining medical care was more prevalent among men, lower income, lesser educated, and participants employed part-time (Table 1). The mean age of participants with DOMC was 39.2 compared to 45.3 for participants with NDOMC ($p = 0.061$).

Participants with DOMC and with NDOMC significantly differed with regard to health in-

Table 1. Demographic characteristics of study participants by perception of the difficulty in receiving medical care among African Americans in Baltimore, MD

	Easy/not difficult n = 180	Difficult/very difficult n = 22	Total n = 202	P Value
Gender				
Male	87.7	12.3	52.5	
Female	90.6	9.4	47.5	0.33
Age				
< 35	26.1	50.0	28.7	
>/= 35	73.9	50.0	71.3	0.02
Marital status				
Single, divorced, separated or widowed	79.4	86.4	80.2	
Married	20.6	13.6	19.8	0.44
Education achievement level				
Less than high school	13.4	27.3	14.9	
Grade 9–12	57.5	54.5	57.2	0.18
Two years of college or more	29.1	18.2	27.9	
Employment status				
Employed	57.2	59.1	57.4	
Not employed	42.8	40.9	42.6	0.53
Extent of employment				
Working full time (32 hrs or more)	81.6	57.1	78.6	
Working part time (less than 32 hrs)	14.6	42.9	17.9	
Full-time homemaker	3.9	0	3.4	0.03
Extent of unemployment				
Currently unemployed	38.5	45.5	39.3	
Retired	42.3	9.1	38.2	
Full-time student	3.8	18.2	5.6	
Part time student	6.4	9.1	6.7	
Other	9.0	18.2	10.1	0.13
Income				
<$10,000	17.8	40.9	20.3	
$10,000–$24,999	35.5	18.1	33.7	
$25,000 or more	20.6	27.3	21.3	
Don't know, refused, other	26.1	13.6	24.8	0.07

surance status, source of transportation for doctor's visits, mean times to the facility where routine medical care was obtained and reasons for not seeking care when sick (Table 2). Participants with DOMC were less likely to have health insurance, to see the same doctor when services were obtained, to have their own transportation for doctor's visits and had a longer mean time (in minutes) required to reach the hospital, clinic, or doctor's office for medical care than those with NDOMC. Participants with DOMC also more frequently preferred to be treated by African American physicians and more frequently reported barriers to care when sick (Table 2).

In univariate logistic regression analyses, variables that were significantly associated (i.e., p value < 0.10) with the perception of a high level of difficulty accessing health care were: having a gender or race preference for physician; age group (<65/65+); belief that the wait for an appointment was too long; belief that medical care was too expensive; belief that the time spent in the doctor's office was too long; not having health insurance; not seeing the same doctor when receiving services; and

Table 2. Barriers to the receipt of health care and perceived difficulty in obtaining medical care among African Americans in Baltimore, MD

	Easy/not difficult n = 180	Difficult/very difficult n = 22	P Value
Health insurance			
Has no health insurance	12.8	68.2	<0.001
Has health insurance	87.2	31.8	
Transportation			
Has own vehicle	42.2	18.2	
Relies on a friend for transportation	35.0	18.2	0.001
Relies on public transportation	21.7	59.1	
Uses other mode of transportation	1.1	4.5	
Mean time (minutes) to hospital, clinic, or doctor's office	27.18 ± 13.7	42.09 ± 28.1	0.02
Race preference for physician			
Has a race preference	15.6	31.8	
Has no race preference	84.4	68.2	0.06
Continuity in care			
Receives care in public health clinic, hospital outpatient clinic or emergency room	45.1	69.2	0.10
Sees the same doctor when seeking treatment	60.3	31.8	0.03
Reasons for not seeking care when sick			
Wait is too long to get an appointment	18.5	36.4	0.05
Too expensive	14.6	63.6	<0.001
Will have to lose a day of work	7.9	13.6	0.41
Wait in the waiting room is too long	20.2	45.5	0.008
Action taken when sick			
See a doctor	34.4	31.8	0.81
See a pharmacist	2.8	0	1.0*
Take medicine on their own	64.4	54.5	0.36
Use home remedies	3.9	18.2	0.02*
Seek advice from family/friends	17.2	18.2	0.91

*Fishers exact test

not having personal transportation for doctor's visits.

Only insurance status, belief that medical care was too expensive, and having a physician race preference were significantly associated with the perception of a high level of difficulty accessing medical care in multivariate analyses (Table 3). Participants who were uninsured were more likely to report a high level of difficulty accessing health care (OR 4.3, 95% CI 5.3–38.5) as were participants who believed that medical care was too expensive (OR 7.0, 95% CI 2.4–20.2) and who had a physician race preference (OR 4.6, 95% CI 1.2–17.2).

Chronic Disease Risks

We first modeled each of three chronic disease behavioral risks in univariate analyses. Independent variables examined in each of the models included age, gender, education, and perceived level of difficulty encountered when accessing medical care when sick. The prevalence of chronic disease risks by perceived level of difficulty accessing medical care is provided in Table 4.

Receipt Recent Physical Exam

Gender, education, and perception of the level of difficulty accessing health care were significantly associated with the receipt of a

Table 3. Multiple logistic regression of factors that influence participant perception of a high level of difficulty encountered in accessing medical care

Variables in model	Adjusted odds ratio	95% Confidence interval
Health insurance		
Does not have health insurance	14.2	5.3–38.5
Has health insurance	1.0	
Race preference		
Prefers physician from a specific race/ethnic group	4.6	1.2–17.2
Has no race preference	1.0	Reference
Expense of health care		
Believes health care is too expensive	7.0	2.4–20.2
Does not believe that health care is too expensive	1.0	Reference

Note: Preference for a physician of a specific gender, age group, belief that appointment waiting times were too long or that time spent waiting in the doctor's office was too long, not having transportation for doctor's visits or not seeing the same doctor when receiving services were not significantly associated with perception of a high level of difficulty accessing medical care.

physical exam within the past year in univariate analyses and were entered in the multivariate model. Participants who reported a high level of difficulty accessing medical care were significantly less likely to report a recent physical exam (OR 0.2, 9% CI 0.1–0.6), (Table 5.). Women (OR 1.9, 95% CI 1.0–3.5) were more likely than men to report a recent physical after controlling for other variables in the model. Likewise, participants who had had two years of college or more were significantly more likely to report a recent physical exam than participants who did not go to high school (OR 2.2, 95% CI 1.0–4.8).

Smoking

Education and perception of a high level of difficulty accessing health care were the only two variables associated with current smoking in both univariate and multivariate analyses. After adjustment for education level in multivariate analyses, participants with DOMC were significantly more likely to report current smoking than participants with NDOMC (OR 3.8, 95% CI 1.5–9.7), (Table 5.). Participants who had two or more years of college were significantly less likely to report current smoking than participants who had not been to high school after adjusting for perception of the level of difficulty accessing care (OR 0.4, 95% CI 0.2–0.9).

Alcohol Consumption

Factors significantly associated with alcohol consumption in univariate analyses included income, education, and perception of the level of difficulty assessing medical care, and were entered in the multivariate model. Only the perception of the level of difficulty accessing medical care was significantly associated with current alcohol consumption in multivariate analyses. Participants with DOMC were significantly more likely to report current alcohol consumption than participants with NDOMC (OR 3.3, 95% CI 1.2–8.9).

DISCUSSION

This study suggests the possibility that the perception of a high level of difficulty accessing medical care among urban African Americans is associated with health services utilization and the prevalence of specific behavioral chronic disease risks. Participants who found it difficult to obtain medical care when sick, less frequently reported the receipt of a physical exam within the past year. We also found a significantly higher prevalence of current cigarette smoking and alcohol consumption among Af-

Table 4. Perceived difficulty in obtaining medical care and the prevalence of behavioral chronic disease risks among African Americans in Baltimore, MD

	Easy/not difficult n = 180 %	Difficult/very difficult n = 22 %	P Value
Time since last physical exam			
Less than 1 year ago	71.7	36.4	0.001
1–2 years ago	22.8	36.4	
More than 2 years ago	5.0	27.2	
Prevalence of overweight			
Normal weight	32.3	36.3	0.617
Overweight	67.7	63.7	
Cigarette smoking			
Current smoker	22.8	54.5	0.005
Former smoker	15.0	4.5	
Never smoker	62.2	40.9	
Current alcohol consumption			
Yes	31.1	59.1	0.009
No	68.9	40.9	

rican Americans who perceived a high level of difficulty in obtaining medical care when sick than among those who did not. Perception of a high level of difficulty accessing medical care was not associated with the prevalence of overweight.

Study findings also suggest that the lack of continuity in medical care contributes to a higher prevalence of behavioral risks among African Americans who perceive a high level of DOMC. Participants with DOMC more frequently reported that they received health care in public health clinics, outpatient clinics and hospital emergency rooms. We also found a decreased tendency among participants with DOMC to see the same doctor when services were obtained. Other research studies show that as a result of the manner in which individuals with barriers to care access medical services, they are unable to establish relationships with a particular primary care physician, resulting in less continuity in care.[18-19] Ettner[36] found that when availability, continuity, comprehensiveness, and communication in the medical setting were used to define optimal primary care among women with a usual source of care, optimal primary care from a regular place increased the likelihood of receiving preventive care. In a study of the relationship between continuity of care and health behavior, participants with a regular physician were 50% less likely to report substance abuse.[37] In another study, 87% of urban African Americans with a regular source of care indicated that they had been counseled by their physicians about exercising regularly and smoking cessation.[38]

Steiner[39] describes accessible health care as health care that is effective, acceptable, appropriate, comprehensive, and affordable. The use of participant perception of difficulty in obtaining medical care in this study is believed to provide a more accurate measure of health care access than insurance status alone, as it incorporates availability of transportation, the required time commitment, cultural appropriateness, and related issues, as perceived by each individual participant.

The frequency of physician use when sick was also similar between the study groups, despite differences in the perceived level of difficulty in obtaining care. A large proportion both of those with and without difficulty in obtaining medical care indicated that they first take medicine on their own when sick rather

Table 5. Multiple logistic regression analyses of access to care and factors that influence the prevalence of selected chronic disease risks

Variables in model	Adjusted odds ratio	95% Confidence interval
MODEL 1. RECENT PHYSICAL EXAMINATION		
Access to care		
Difficulty obtaining health care	0.2	0.1–0.6
No difficulty obtaining health care	1.0	
Gender		
Female	1.9	1.0–7.6
Male	1.0	
Education		
Less than high school	1.0	
Grade 9–12	2.7	1.0–7.6
Some college	2.2	1.0–4.8
MODEL 2. CURRENT SMOKING		
Access to care		
Difficulty obtaining health care	3.8	1.5–9.7
No difficulty obtaining health care	1.0	
Education		
Less than high school	1.0	
Grade 9–12	0.4	0.1–1.2
Some college	0.4	0.2–0.9
MODEL 3. CURRENT ALCOHOL CONSUMPTION		
Access to care		
Difficulty obtaining health care	3.3	1.2–8.9
No difficulty obtaining health care	1.0	

than seeking care from a physician. It is possible that the nature of their illnesses did not require the attention of a physician, but we did not examine that in this study. In addition, illness was self-defined; as such, it is likely that definitions differed among individuals.

Study Limitations

Participants were largely recruited from the friends, relatives, and acquaintances of the interviewers and may not have been representative of the community. While the nonrandom manner in which participants were selected limits the generalizability of study findings, these data do provide anecdotal evidence that suggests that perceived level of difficulty in obtaining health care is associated with the use of health care services and a higher prevalence of current smoking and alcohol consumption.

Interviewer familiarity with participants may have influenced responses to sensitive questions. Participants may have been less honest about sensitive questions, particularly, behavioral risks. Any such bias, however, is more likely to be towards the null as participants would be more likely to underreport than overreport behavioral risks. Therefore, our results more likely underestimate the true impact of perceived access and its association with the prevalence of behavioral risks among urban African Americans in Baltimore.

Participants were asked about their level of difficulty in accessing medical care when sick, which may not have accurately reflected the level of difficulty encountered when accessing primary/preventive health care. With the exception of screening services, which have been made more accessible through low-cost or no-cost programs, it is also likely that preventive and non-emergency health care are more difficult to obtain than medical care when sick, particularly among individuals without health

insurance or other barriers to care. Consequently, our results would more likely underestimate the prevalence of a high level of difficulty among individuals who try to access medical care when not sick.

CONCLUSION

Our results suggest that more extensive population-based studies are needed to adequately examine the role of perceived access to care and its influence on the prevalence of behavioral risks among various racial/ethnic groups. The high prevalence of modifiable chronic disease risks prevalent among African Americans coupled with the disproportionate number of preventable deaths from chronic disease that occur annually highlights the importance of encouraging risk reduction in African American communities. This, coupled with evidence from other research showing that continuity in care increases use of preventive health care services and reduces the prevalence of behavioral risks,[26,28] challenges US health policy makers to find ways of providing "optimal" primary care to all Americans.

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REFERENCES

1. Ries LAG, Eisner MP, Kosary, et al. SEER Cancer Statistics Review, 1973–1997, National Cancer Institute, 2000. (NIH Pub. No. 00–2789.)

2. Fong RL. Violence as a barrier to compliance for the hypertensive urban African American. *J Natl Med Assoc.* 1995;87: 203–207.

3. Heckler MM. Report of the Secretary's Task Force on Black and Minority Health. US Department of Health and Human Services, August 1985.

4. US Department of Health and Human Services. *Diabetes in Black Americans.* November 1992.

5. Anderson H. Kidney disease in African Americans. Website: www.blackhealthnet.com/articles/9711/kidney.asp. Dec. 29, 1997.

6. Boysen G, Truelsen T. Looking beyond first-ever stroke incidence. *Lancet.* 1998;351:1073–1074.

7. Broderick J, Brott T, Kothari R, et al. The Greater Cincinnati/Northern Kentucky Stroke Study: preliminary first-ever and total incidence rates of strokes among Blacks. *Stroke.* 1998; 29:415–421.

8. Sacco R, Benjamin EJ, Broderick J, et al. American Heart Association Prevention Conference. IV. Prevention and rehabilitation of stroke. Risk factors (AHA Conference Proceedings). *Stroke.* 1997;28:1507–1517.

9. Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and economic costs—United States, 1995–1999. *Morb Mortal Wkly Rep.* 2002;51:300–303.

10. National Institutes of Health. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults. The evidence report. NIH Publication 98–4083. National Institutes of Health, Bethesda, MD.

11. Grey N, Maljanian R, Staff I, Cruzmarino de Aponte M. Improving care of diabetic patients through a collaborative care model. *Conn Med.* 2002;66:7–11.

12. Coleman EA, O'Sullivan P. Racial differences in breast cancer screening among women from 65 to 74 years of age: trends from 1987–1993 and barriers to screening. *J Women Aging.* 2001;13:23–39.

13. Okene JK, Zapka JG. Physician-based smoking intervention: a rededication to a five-step strategy to smoking research. *Addict Behav.* 1997;22:835–848.

14. Haywood LJ. Hypertension in minority populations, access to care. *Am J Med.* 1990;88:17S–20S.

15. George A. Accessibility and availability to health care in the African American community. *J Natl Med Assoc.* 1991;83:761–764.

16. Kaiser Commission on Medicaid and the uninsured. Health insurance coverage in America. 1999 Data Update. Washington, DC. December 2000.

17. Bolen JC, Rhodes L, Powell-Griner EE, Bland SD, Holtzman D. State-specific prevalence of selected health behaviors, by race and ethnicity—Behavioral Risk Factor Surveillance System, 1997. *Mor Mortal Wkly Rep, CDC Surveill Summ.* 2000;49:1–60.

18. Weinick RM. Experience of primary care by racial and ethnic groups. Correspondence. *Med Care.* 2000;38:447–448.

19. Cornelius LJ. Ethnic minorities and access to medical care: where do they stand? *J Assoc Acad Minor Phys.* 1993;4:16–25.

20. Corneilius LJ, Smith PL, Simpson GM. What factors hinder women of color from obtaining preventive health care? *Am J of Pub Health.* 2002;92:535–539.

21. Broyles RW, Narine L, Brandt EN Jr. The temporarily and chronically uninsured: does their use of primary care differ? *J Health Care Poor Underserved.* 1001;13:95–111.

22. Pullen C, Fiandt K, Walker SN. Determinants of preventive services utilization in rural older women. *J Gerontol Nurs.* 2002;27:40–51.

23. Mouton CP, Beaudouin R, Troutman A, Johnson MS. Barriers to follow-up of hypertensive patients. *J Health Care Poor Underserved.* 2001;12:290–301.

24. Sox CM, Swartz K, Burstin HR, Brennan TA. Insurance or a regular physician: which is the most powerful predictor of health care? *Am J Public Health.* 1998;88:364–370.

25. Billings J, Parikh N, Mijanovich T. Emergency department use in New York City: a substitute for primary care? *Issue Brief* (Commonw Fund). 2000;433:1–5.

26. Lowenstein SR, Koziol-McLain J, Tompson M, et al. Behavioral risk factors in emergency department patients: a multisite survey. *Acad Emerg Med.* 1998;5:781–787.

27. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System. Prevalence data for 1998. Atlanta, GA, 1998.

28. Qureshi M, Thacker HL, Litaker DG, Kippes C. Differences in breast cancer screening rates: an issue of ethnicity or socioeconomics? *J Womens Health Gend Based Med.* 2000;9:1025–1031.

29. Coughlin SS, Uhler RJ. Breast and cervical cancer screening practices among Asian and Pacific Islander women in the United States, 1994–1997. *Cancer Epidemiol Biomarkers Prev.* 2000;9:597–603.

30. Simoes EJ, Newschaffer CJ, Haddrup N, et al. Predictors of compliance with recommended cervical cancer screening schedule: a population-based study. *J Community Health.* 1999;24: 115–130.

31. Ahluwalia JS, Dang KS, Choi WS, Harris KJ. Smoking behaviors and regular source of care among African Americans. *Prev Med.* 2002;34:393–396.

32. Ayanian JZ, Weissman JS, Schneider EC, Ginsburg JA, Zaslavsky AM. Unmet health needs of uninsured adults in the United States. *JAMA.* 2000;284:2061–2069.

33. Murray LA. Racial and ethnic differences among Medicare beneficiaries. *Health Care Financing Review.* 2000;21:117–127.

34. National Heart Lung and Blood Institute. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults. *Executive Summary.* June 17, 1998.

35. SPSS Inc. SPSS Version 9.0. Chicago, IL; 1999.

36. Ettner SL. The relationship between continuity of care and the health behaviors of patients: does having a usual physician make a difference? *Med Care.* 1999;37:547–555.

37. Bindman AB, Grumbach K, Osmond D, Vranizan K, Stewart AL. Primary care and receipt of preventive services. *J Gen Intern Med.* 1996;11:269–276.

38. Hueston WJ, Hubbard ET. Preventive services for rural and urban African American adults. *Arch Fam Med.* 2000;9:263–266.

39. Steiner CB. Access to cancer prevention, detection and treatment. *Cancer.* 1991;67:(6 Suppl):1736–1740.

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