# RESTYLING OUR LIVES TO REDUCE CARDIOVASCULAR DISEASE RISK: WHAT WILL IT TAKE?

Shiriki Kumanyika, PhD, MPH
(*Ethn Dis*. 2004; 14:185–188)

> "We have come to take the seemingly miraculous cures of modern medicine almost for granted. And we tend to forget that our improved health has come more from preventing disease than from treating it once it strikes. Our fascination with the more glamorous "pound of cure" has tended to dazzle us into ignoring the often more effective "ounce of prevention." Excerpt from former President Jimmy Carter's letter to accompany *Healthy People. The Surgeon General's Report on Health Promotion and Disease Prevention,* July 1979[1]

**Key Words:** Cardiovascular Disease Risk, Lifestyles

Four articles in this issue center around the theme of lifestyle choices and their potential impact on cardiovascular health in diverse ethnic groups.[2–5] The lifestyle variables addressed are smoking, obesity, physical activity and diet. Henderson et al[2] report data from the Strong Heart Study of American Indians. Their analysis focused on a large, multi-site study with nearly 1,000 middle-aged men and women, who reported current smoking, to determine how many stopped smoking and what characteristics were associated with quitting during the ensuing 4 years. Wolfe offers a perspective on weight management in African-American women and posits a need for greater emphasis on providing social support as a component of interventions for this population.[3] Peart et al examine four different measures of physical activity or inactivity in a sample of African Americans with type 2 diabetes.[4] The fourth article, by Dunham et al,[5] addresses Polish-American women in Chicago, contrasting dietary behavior in those born in Poland vs those born in the United States and also considers recency of migration.

The importance of these lifestyle variables is well-established. They are associated with the level of health risk and clinical trials indicate that improvements in these variables lead to reduced health risks or better disease management. Health risks associated with smoking, obesity, lack of physical activity, or certain dietary patterns encompass not only diabetes, elevated blood pressure, dyslipdemias, and outcomes such as coronary heart disease and stroke, but also respiratory diseases and several cancers.[1,6–9] Elimination or improvement of these lifestyle factors could potentially save thousands of lives every year and billions of dollars in associated healthcare costs. Obesity is strongly associated with the development of diabetes and high blood pressure, sleep apnea, and related cardiopulmonary outcomes.[9] Diet and physical activity behaviors are the primary modifiable determinants of weight gain and weight loss. In addition, physical activity and certain types of dietary patterns have direct benefits for blood pressure and lipid and glucose homeostasis, other aspects of cardiovascular disease risks, and other aspects of health and well being.[8–10]

The implication of the four articles in this issue is all too clear and consistent: we have a very long way to go in reaching the general population with either the message or the means for lifestyle change. This is true even for high risk populations for whom the recommended lifestyle changes can be considered medically essential or at least highly desirable for primary or secondary prevention.[11] As discussed below, national data further underscore that only a low percentage of individuals consciously adopt the recommended health behaviors or are able to control their weight within a healthy range.

Smoking rates are still relatively high in many population groups in spite of the marked reductions in smoking prevalence that have been achieved over the past decades and are still far from the public health goal of having no more than 12 percent smokers in the US population by the year 2010 (Figure 1).[12,13] The situation looks most favorable for Asian Americans overall, but aggregate data for this culturally and socioeconomically heterogeneous population may conceal subgroups with much higher smoking rates. American Indians and Alaska Natives are also heterogeneous, but the high average smoking rates among both men and women in this group are noteworthy. The Strong Heart data identify some factors associated with spontaneous quitting, but fewer than 25% of smokers quit during the observation period.[2]

Our lack of progress in combating the obesity epidemic is currently a major topic of social and scientific discourse. Because of the quality and coverage of the National Health and Examination Survey (NHANES) program, the march of obesity through the US population is all too easy to observe.[14,15] In-

From the University of Pennsylvania School of Medicine; Philadelphia, Pennsylvania.

Address correspondence and reprint requests to Shiriki Kumanyika, PhD, MPH; Center for Clinical Epidemiology and Biostatistics; University of Pennsylvania School of Medicine; 8th Floor Blockley Hall; 423 Guardian Drive; Philadelphia PA 19104; 215-898-2629; 215-573-5311(f); skumanyi@cceb.med.upenn.edu

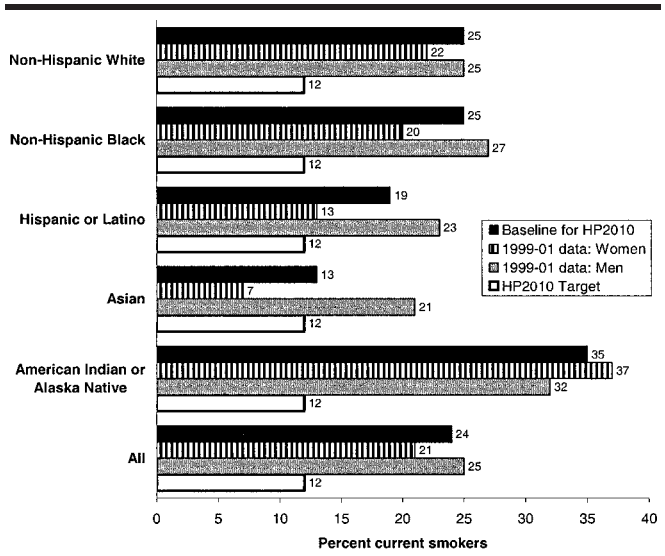


**Fig 1. Comparison of cigarette smoking prevalence for men and women in the 1999–2001 National Health Interview Survey with the US Healthy People 2010 baseline and targeted levels. Data are for US adults ages 18 years and over, age-adjusted to the 2000 Census population. The data for Asian Americans do not include Native Hawaiians or other Pacific Islanders. Sources: References 12 and 13**

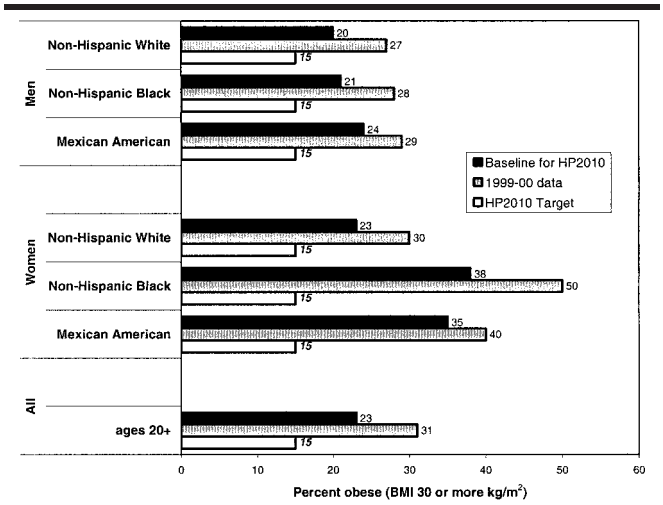


**Fig 2. Comparison of obesity prevalence data for men and women in the 1999–2000 National Health and Nutrition Examination Survey with the US Healthy People 2010 baseline and targeted levels. Data are for US adults ages 20 years and over, age-adjusted to the 2000 Census population. Sources: References 14 and 15**

creased BMI levels are clearly linked to increased occurrence of disease and disability.[9] Figure 2 shows, unequivocally, that we are failing in our attempts to meet the challenges in this domain. The 1999–2000 NHANES data show change in obesity levels in a direction that puts us much farther from reaching the public health service goal of 15% obesity prevalence by the year 2010 than when this goal was set. The difficulty of aligning obesity prevalence goals with the target is particularly evident in the data for Black and Mexican American women (Figure 2). In this sense the current, ambitious public health objectives have raised the bar for the ethnic groups that experience the greatest health disparities. Rather than set different, incremental standards for population groups farthest from general population goals, as in the past, the current guidelines propose the same goals for everyone. How will we meet the challenges with respect to the highest risk populations when we are still so far from identifying approaches that will work for the mainstream? Special initiatives and new insights will be required.[3]

One of the US public health goals for the year 2010 is for at least 30% of adults to meet the recommendation to engage in at least 30 minutes of moderate physical activity on at least 5 days of the week; baseline data suggested that only 15% of adults ages 18 years and over met this recommendation.[16] In Behavioral Risk Factor Surveillance System data for the year 2000, the percent of adults meeting this recommendation or an alternative recommendation to obtain 20 minutes of vigorous physical activity at least three times per week was 28% for Whites, 22% for Blacks, and 21% for Hispanics.[17] Hence, far fewer than half of the US population is getting enough physical activity. As shown in Figure 3, this also applies when the data are limited to those who are overweight.[18] Peart et al[4] report that fewer than half of their sample of African-American men and women with type 2 diabetes engaged in regular physical activity; this is worrisome, given the potential benefits of physical activity for this population.

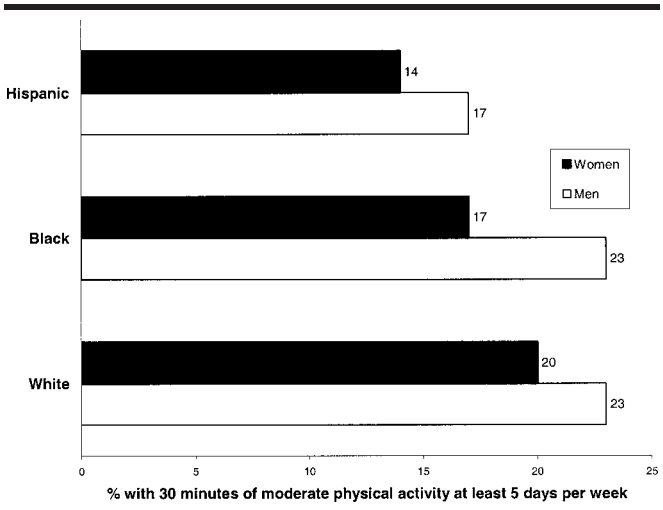


**Fig 3. Percent of overweight (BMI ≥ 25 kg/m²) US men and women ages 18 and over who reported levels of leisure-time physical activity in line with the Centers for Disease Control recommendeation, 1998. Source: Reference 18**

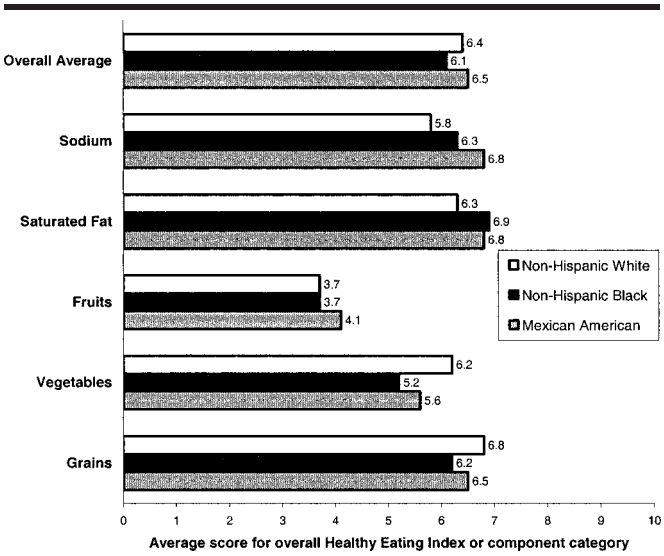


**Fig 4. Average scores for the overall (sum of scores for all 10 components, divided by 10) and selected components of the United States Department of Agriculture Healthy Eating Index for non-Hispanic White, non-Hispanic Black and Mexican Americans, 1999–2000. Higher scores indicate diets that are closer to dietary recommendations. Source: Reference 19**

Figure 4 presents 1999–2000 data for a summary index of dietary quality, the Healthy Eating Index (HEI), and selected HEI components, for non-Hispanic Whites and Blacks and Mexican Americans.[19] Higher scores indicate better quality diets. Americans, on average, are far from meeting current dietary recommendations, and African Americans have lower scores than other ethnic groups. HEI scores for Mexican Americans have a similar average to those of Whites and are more favorable than those of Whites for intake of sodium, saturated fat, and fruits. The concept of protective diets in populations that are not fully acculturated to the US lifestyle is also supported by the Dunham et al study of Polish Americans.[5]

The data in Figures 1 through 4 are for adults and may, therefore, not tell the whole story. Obesity and habits such as smoking, being inactive, and consuming high fat snacks in place of fruits and vegetables, for example, begin in childhood. National trends in children and adolescents suggest that we will see population health risks increase even more in the future, perhaps unraveling some of the gains of the past, as with smoking.[6] Obesity and lifestyle risk factors are also determined partly by socioeconomic factors. The situation for those in the lower income and educational strata will be less favorable than in the data highlighted here.

As we reflect on the unfulfilled promise of lifestyle change for cardiovascular risk reduction, we must ask why it is so difficult to bring our ways of daily living into line with the knowledge of how to promote health and reduce risk. Even lifestyle change experts admit that we have much to learn in this respect.[20] The best interventions based on the best theories and implemented with highly selected and motivated study participants yield impressive short-term results but effects erode over time. In addition, the approaches that are most promising for promoting long-term behavior change are too specialized and costly to be widely disseminated.

We can theorize about why lifestyles are so hard to redirect. Perhaps people do not believe the evidence for the potential benefits these changes would confer, or they believe it but do not think it applies to them. Perhaps their time horizons are too short to make present lifestyle changes seem relevant for the future benefits. Perhaps those of us older than 40 years of age would have lived our lives differently but think it is now too late for lifestyle changes to make much of a difference. Perhaps people do believe that lifestyle changes would be of benefit but are willing to accept the risks associated with not making them. Or, some people may try to change if they could get around to it, but have other priorities. Still others may be trying, but find it too difficult, or can not figure out what to do first and how to do it.

All of these possibilities are undoubtedly valid for some individuals and population segments. Equally valid and complementary explanations on the societal level can be advanced for the backwards or slow, forward pace of progress in population-level lifestyle change. While many think that suing "fast food" companies is silly, most recognize that there is indeed something discomforting about our reliance on others to prepare food and our limited control over what, and to some extent how much, we eat and drink on a day-to-day basis. There is similar recognition of a loss of control in the area of physical activity. For example, it may seem silly to walk when you can ride, but is also somehow abnormal to use so little of your physical capabilities on the average day sitting in the office. The forces that determine our current eating and physical activity patterns seem unavoidable and non-modifiable—consequences of societal progress that are held in place by strong vested interests, both financial and cultural. We like things the way they are in many respects but are beginning to see that something will have to change if we are to really have choices that are compatible with life.

What are we willing to give up in order to shift our communities and our behaviors in a healthier direction? We can, and perhaps eventually will, do away with tobacco without jeopardizing human survival, but this is clearly not the case for food. Moreover, a choice of food and the freedom to determine one's own activities are essential to our social processes. In comparison to our willingness to "do whatever it takes" to find new ways to treat cardiovascular and other chronic diseases, have we really yet faced the magnitude of initiatives that will be needed to prevent them from occurring? The specifics of what it will take to accomplish this are not yet clear.

On a societal level, it will take "tons" of prevention—re-

quiring resources and commitment far beyond those that we now devote to the "pounds of cure." Indeed, we cannot institute lifestyle changes without changing the way we live. Once we acknowledge this, we will probably be as creative in going forward as we are in other arenas, but I am afraid that we are not yet ready to face these complex realities. Will it take several, increasingly severe crises similar to what we are now seeing in the area of childhood obesity before we commit to starting early, going deep, and throwing a very wide net to capture possible solutions?

## REFERENCES


1. US Department of Health, Education, and Welfare. *Healthy People. The Surgeon General's Report on Health Promotion and Disease Prevention.* DHEW (PHS) Publication No. 79-55071. July 1979.
2. Henderson PN, Rhoades D, Henderson JA, Welty TK, Buchwald D. Cessation and its determinants among older American Indians: The Strong Heart Study. *Ethn Dis.* 2004;14:274–279.
3. Wolfe WA. Maximizing social supports: A neglected strategy for improving weight management with African-American women. *Ethn Dis.* 2004;14: 212–218.
4. Pearte CA, Gary TL, Brancati FL. Correlates of physical activity levels in a sample of urban African Americans with Type 2 diabetes. *Ethn Dis.* 2004; 14:198–205.
5. Dunham DP, Czysczon A, Chávez N, Piorkowski J, Persky V. Dietary differences among women of Polish descent by country of birth and duration of residency in the United States. *Ethn Dis.* 2004;14:219–226.
6. McGinnis JM, Foege WH. Actual causes of death in the United States. *JAMA.* 1993;270:2207–2212.
7. World Health Organization. *Diet, Nutrition, and the Prevention of Chronic Diseases. Technical Report Series No. 916.* Geneva: World Health Organization; 2003.
8. American Heart Association. *Heart Disease and Stroke Statistics—2003 Update.* Dallas, Tx: American Heart Association. 2003. Available at www.americanheart.org
9. National Institutes of Health, National Heart, Lung, and Blood Institute. *Clinical Guidelines in the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. The Evidence Report. Obesity Research.* Bethesda, Md: NHLBI. 1998; 6(Suppl 2).51S–209S.
10. US Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General.* Atlanta, Georgia: US Department of Health and Human Services, Public Health Service, CDC, National Center for Chronic Disease Prevention and Health Promotion. 1996.
11. Anderson RM, Funnell M. Compliance and adherence are dsyfunctional concepts in diabetes care. *Diabetes Educ.* 2000; 26:597–601
12. U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. Understanding and Improving Health and Objectives for Improving Health.* 2 vols. Washington, DC: US Government Printing Office. 2000: Chapter 27.
13. National Center for Health Statistics. *Health, United States, 2003 with Chartbook on Trends in the Health of Americans.* Hyattsville, Md: Department of Health and Human Services. DHHS Publication Number (PHS). 2003; 1232.
14. Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999–2000. *JAMA.* 2002; 288:1723–1727.
15. US Department of Health and Human Services. *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health.* 2 vols. Washington, DC: US Government Printing Office. 2000; Chapter 19.
16. US Department of Health and Human Services. *Healthy People 2010. 2nd ed. Understanding and Improving Health and Objectives for Improving Health.* 2 vols. Washington, DC: US Government Printing Office. 2000; Chapter 22.
17. Percent of US adults with the recommended level of physical activity by state and race/ethnicity. Adults ages 18 and over. Available at wysiwyg://67http://www.cdc.gov/nccdphp/dnpa/physical/stats/tarecrace.htm. Accessed January 12, 2004.
18. Prevalence of leisure-time physical activity among overweight adults, United States, 1998. *MMWR.* 2000;49:326-330.
19. Center for Nutrition and Policy Promotion. The Healthy Eating Index, 1999–2000. United States Department of Agriculture. Available at http://www.cnpp.usda.gov/Pubs/HEI/HEI99-00report.pdf. Accessed on January 12, 2004.
20. Wing RR, Vorhees CC, Hill DR, eds. Maintenance of behavior change in cardiorespiratory risk reduction. *Health Psychol.* 2000; 19:Suppl1: 1–88.