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# The High Costs of Poor Diets

Betsy Frazao  
(202) 219-0864

**W**hen an obese, inactive, middle-aged person dies from a heart attack, the cause of death is listed as cardiac arrest or heart disease. But a recent study published in the *Journal of the American Medical Association (JAMA)* would attribute the actual cause to a poor diet and inactivity.

Chronic conditions—such as heart disease, cancer, stroke, and diabetes—are generally cited as the causes of death because they represent the major condition identified at the time of death. However, these conditions actually result from a combination of risk factors, some of which may have been controlled by the individual—such as smoking, diet, and inactivity.

When nongenetic, or external, factors contribute to death, the deaths are considered to be premature. But premature mortality represents only one cost. A second type of cost is associated with a deterioration in the quality of life, which often precedes premature mortality. Identification of the external risk factors—those that potentially can be modified by the individual—would aid preventive efforts, improve the quality of life, and reduce health care costs.

To this end, the JAMA study calculated the number of deaths according to the underlying risk factors, rather than to the condition itself.

## Diet Behind the Leading Causes of Death

Of the 10 leading causes of death in the United States, 4—including the top 3—are associated with dietary excesses: coronary heart disease, some types of cancer, stroke, and noninsulin-dependent diabetes mellitus (also called type II diabetes, or adult-onset diabetes) (table 1). Together, these conditions account for nearly two-thirds of the deaths occurring each year in the United States.

In 1991, there were 720,000 deaths attributed to coronary heart disease. The American Heart Association estimates that about 1.5 million heart attacks occur each year, and that coronary heart disease costs Americans an estimated \$52 billion in direct health care expenditures and lost productivity.

It is estimated that more than 1 million new cases of cancer will have been diagnosed in the United States in 1993. Over 500,000 Americans died of cancer in 1991, with associated costs of \$104 billion.

Strokes affect over 500,000 people each year. In 1991, over 143,000 died of stroke. Some 3 million Americans suffer from stroke-related disabilities, at an annual cost of more than \$18 billion.

Table 1  
Leading Causes of Death in the United States in 1991

	Number
Heart disease	720,162
Cancer	514,657
Stroke	143,181
Chronic obstructive pulmonary diseases	90,650
Accidents and adverse effects	89,347
Pneumonia and influenza	77,860
Diabetes	48,951
Suicide	30,810
HIV infections	29,555
Homicide and legal intervention	26,513

The author is an economist with the Commodity Economics Division, Economic Research Service, USDA.

Source: U.S. Department of Health and Human Services, Public Health Service, National Center for Health Statistics. "Advance Report of Final Mortality Statistics, 1991," *Monthly Vital Statistics Report*, Vol. 42, No. 2, supplement, 1993.

## Improve Diet To Reduce Risks of Chronic Diseases

Genetic predisposition increases some people's risk for some of these chronic diseases, making it difficult to determine the proportion of chronic diseases that could be reduced by dietary changes alone. Some experts estimate that 35 percent of all cases of cancer could be prevented through dietary changes alone. According to the JAMA article, about a third of the decline in coronary artery disease mortality from 1968 to 1976 was due to reductions in serum cholesterol levels, and half of all type II diabetes is estimated to be preventable by controlling obesity.

In the recent JAMA study, the authors reviewed hundreds of studies conducted since 1977 to attempt to identify the underlying risk factors behind the deaths.

The effects of dietary factors and physical activity patterns were hard to distinguish, so the JAMA study included both together. The interdependence of both as

*"risk factors is illustrated by the case of obesity, which is associated with increased risk for cardiovascular disease, certain cancers, and diabetes, and is clearly related to the balance between calories consumed and calories expended through metabolic and physical activity. Similarly, high blood pressure, a major risk for stroke, can be affected by dietary sodium, obesity, and sedentary lifestyle."*

Using conservative estimates, and being careful not to double count deaths with overlapping risk factors (such as alcohol or illegal drugs), the JAMA study estimated that 300,000 (14 percent) of the 2.1 million deaths in 1990 could be attributed to poor diets and/or inadequate physical activity.

It should be noted that other health conditions—which may not lead to premature mortality but definitely impact on the quality of life and health costs—may also be affected by diet. For example, inadequate intake of calcium may increase the risk of osteoporosis. The National Osteoporosis Foundation estimates that some 25 million Americans suffer from osteoporosis, which causes 1.5 million bone fractures a year, at an annual cost of \$10 billion in medical charges. These costs are expected to rise to \$200 billion per year by the year 2040. Osteoporosis affects mostly women—over half of all women over age 50. However, about 5 million men are also at risk for osteoporosis-related fractures—one third of all men by age 75.

Thus, there is an urgent need to educate Americans about how to improve dietary patterns. The *Dietary Guidelines for Americans* represents the major Federal effort in this direction, providing a daily guide of nutrient recommendations as well as a reference for food choices (see "The Dietary Guidelines Focus on Reducing Excessive Intakes" elsewhere in this issue). And, the new nutrition labeling regulations, which mandate nutrition labels on most foods and update the list of nutrients that appear on the labels, are also intended to help consumers make healthier food choices.

Consumers seem to be heeding the advice to improve the healthfulness of their diets (see "Diets More

Healthful, But Still Fall Short of Dietary Guidelines" elsewhere in this issue). However, most diets still fall short of the Dietary Guidelines. New survey data now allow researchers to look for the first time on a national basis at the role that awareness of diet-disease relationships, and nutrition knowledge and attitudes, may play on increasing the healthfulness of an individual's diet and weight (see articles by Frazao and Cleveland, Smallwood and Blaylock, and Rose).

As was so clearly stated in the Surgeon General's 1988 Report on Nutrition and Health:

*"For the two out of three adult Americans who do not smoke and do not drink excessively, one personal choice seems to influence long-term health prospects more than any other: what we eat."*

## References

- American Heart Association. *Heart and Stroke Facts: 1994 Statistical Supplement*. Washington, DC.
- McGinnis, J. Michael, and William H. Foege. "Actual Causes of Death in the United States," *Journal of the American Medical Association*, Nov. 10, 1993, pp. 2207-12.
- National Osteoporosis Foundation, "Fast Facts About Osteoporosis," 1994.
- U.S. Department of Health and Human Services, Public Health Service. *The Surgeon General's Report on Nutrition and Health*, DHHS (PHS) Publication No. 88-50210, 1988. ■