

Trends in Risk Factors in the United States: 1971-1975 v. 1999-2002

DAVID M. CUTLER, EDWARD L. GLAESER, AND ALLISON B. ROSEN

In the past few decades, some measures of health risk have improved markedly, while others have deteriorated. Smoking rates have fallen by more than a third since 1960, and alcohol consumption has declined by 20 percent since 1980, both leading to better health. On the other hand, obesity rates have doubled in the past two decades and diabetes has increased as a result. Demographically, the population is better educated, and better educated people live longer than less educated people. At the same time, however, the population has a higher share of minority groups, for whom life expectancy is lower. Our aim in this paper is to assess the overall impact on population health, based on trends in the major risk factors that influence health.

Understanding trends in risk factors is also essential for public policy. Since social security payments are relatively constant by age, a population with longer expected survival will have higher social security costs than a population with lower survival. A healthier population will have lower near-term medical spending, but greater use of nursing homes and other long-term care needs. Evaluating the future of public programs requires synthesizing the trends in different risk factors. In this study, we examined how population risk factors have changed from the early 1970s through the early 2000s. We focused on risk factors related to cardiovascular disease – demographics, smoking, heavy drinking, obesity, hypertension, and high cholesterol – although many of these risk factors predict other diseases as well. We evaluated the importance of risk factor changes using the relation between risk factors and risk of death in the succeeding ten years.

We divide risk factors into two groups: demographics, and medical factors. Demographic factors included age and sex, race, and education. Medical risk factors included smoking, drinking, BMI, blood pressure, and cholesterol. We analyzed the change in risk factors over time for both the entire population, and separately for the population aged 55-74. We found large changes in many of the risk factors. The share of the population with some college more than doubled for the older population and nearly doubled for the entire population. Smoking declined by over one-third, and heavy drinking fell as well. In contrast, BMI increased markedly and the population became more racially diverse. Even with the increase in BMI, rates of high blood pressure and high cholesterol declined. The share of people with stage 2 hypertension decreased by two-thirds, and the share with stage 1 hypertension decreased by 45 percent. The share of people with high cholesterol fell by 37 percent.

We then consider the relative influence of these risk factor trends on overall population health. Taken as a whole, we find that the population's risk profile is substantially more favorable today than it was three decades ago. Mortality risk has declined by about 14 percent, for the entire population and the population aged 55 and older. There are three reasons for this change.

The first cause is the dramatic and continuing reduction in smoking. The share of people currently smoking cigarettes has fallen by one-third since the early 1970s. Because smoking more than doubles 10 year mortality risk, reductions in smoking of this magnitude have large impacts on mortality projections.

The second factor leading to better health is the increasing education of the population. Better educated people live longer than less educated people, and so the increase in education has led to substantial improvements in longevity. For the population aged 55 and older, the impact of improved education is on par with the effect of reductions in smoking. Since education has been increasing over time, the trend towards greater education among the elderly is sure to continue. For example, 23 percent of the population aged 45-54 did not finish high school, compared to 32 percent among the population aged 55 and older.

The third factor leading to a more favorable health profile is better control of chronic disease, especially diseases that result from obesity. Hypertension control has improved markedly in the past three decades, particularly in the older population. The share of the population aged 55 and older with stage 2 hypertension fell from 31 percent to 12 percent, and the share with stage 1 hypertension fell from 32 percent to 24 percent. For the older population, the impact of this reduction for 10 year survival is twice as large as the impact of reduced smoking. Rates of high cholesterol have declined as well, although the impact of this change is not as large in magnitude. Controlling for blood pressure and cholesterol, being obese has significantly less adverse effect on health.

In sum, we show significant improvements in the health profile of the US population between the early 1970s and the early 2000s, as a result of reduced smoking, better control of medical risk factors such as hypertension and cholesterol, and better education among the older population.

DAVID M. CUTLER is the Otto Eckstein Professor of Applied Economics, Department of Economics and Kennedy School of Government, Harvard University and an NBER research associate.

EDWARD L. GLAESER is the Fred and Eleanor Glimp Professor of Economics, Harvard University, and an NBER research associate.

ALLISON B. ROSEN, is assistant professor in the Department of Internal Medicine, University of Michigan Health System.

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