

The Economic Determinants of Health and Illness

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Health and illness are inextricably intertwined with economic activity. Changes in how we earn, what we earn, and how we spend our earnings are important determinants of not only how we live, but how we die. In this country, the connection between work and health has been further strengthened by the link between employment and health insurance. As the structure of both the domestic and world economy evolves over the next 10 years in response to rapidly changing technology, the nature of work and working conditions will change. This article speculates on what those changes mean for how we earn, what we earn, and how we spend our earnings, and discusses implications for our health and health care in the future.

How We Earn

Economic activity has always been an important determinant of health and illness. In "The Changing Face of Death," Ponting traces these connections in the simple economies of early societies. The transformation of nomadic hunting and gathering societies to more sedentary agricultural ones was accompanied by an increase in infectious diseases — the result of increased proximity and the transfer of disease from newly domesticated animals to their human caretakers. In the cities that formed as trading centers for agricultural surpluses, waste disposal created additional health hazards. The first outbreak of bubonic plague, which devastated the population of Europe, was trade related: cargo ships carried plague-infected rats from China to the European continent.

Just as economic activity affects health, major changes in health can profoundly change the nature and level of economic activity. Smallpox and other diseases brought to Mexico by Spanish conquistadors reduced the population of the Aztec state from 25 million to 1 million by 1600 and collapsed the once economically powerful Aztec society. Similar social and economic

devastation occurred later in North America when Europeans brought disease to native populations.

Twentieth-century workers in developed countries are virtually guaranteed they will not succumb to the infectious diseases that shortened the lives and killed the children of their ancestors. They are likely to spend their working hours in sedentary jobs surrounded by some combination of dangerous equipment, toxic chemicals, and high stress. Insurance provided by their employers is likely to pay for the sophisticated medical care they receive for the cancer, stroke, and heart disease that result from this way of earning a living. Over five decades of its expansion, employer-sponsored health insurance has financed dramatic growth in medical resources and technology, with profound effects on health and health care.

What We Earn

Researchers have established a clear association between income, employment, and health status. Lower income groups have higher death rates, even after controlling for the somewhat higher rates of risky behaviors, including smoking, obesity, and physical inactivity.

However, a growing body of research suggests that income inequality may be a more important determinant of health than is absolute income level. The reasons for this relationship are not yet clear. Lynch and Kaplan assert that inequitable income distribution within a jurisdiction may be indicative of a wide range of social processes and policies that systematically underinvest in human capital. This underinvestment in social infrastructure (e.g., education, health care and public health, the physical environment) may have health consequences.

In support of this notion, Kaplan and colleagues found that states with a more equitable income distribution had higher spending on education per capita, more library books per capita, lower proportions of their populations without health insurance,

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lower rates of violent crime, and lower proportions of their populations in jail, even after adjusting for differences in the absolute level of income. They posit, but do not examine, other possible associations between income inequality and health such as lower rates of immunizations or less adequate tuberculosis control programs, fewer public health initiatives aimed at smoking, diet, and exercise, and less strict environmental standards.

Other research suggests a direct connection between health status and the diminished feelings of self-worth, hierarchical position, and control inherent in an environment with large disparities in income across individuals and groups. Whatever the underlying reasons for decreased health status in areas with high income inequality, the relationship is clear: Lynch and Kaplan find a correlation of $-.62$ ($P = .0001$) between income inequality and age-adjusted mortality within the 50 states, even after accounting for absolute levels of income.

How We Spend What We Earn

We need look no further than the major causes of mortality to see the connection between what we do with what we earn and how we die. Accidents, chronic lung disease, pneumonia and influenza, diabetes, suicide, cirrhosis, and HIV, along with heart disease, cancer, and cerebral vascular disease, were the leading causes of death in the United States in 1994. Behind these disease categories are the habits and activities of Americans at the turn of a new century: smoking, drinking, drugging, eating unhealthy food, being sedentary, living and playing among toxins and microbes, having unsafe sex, driving on crowded highways, and keeping firearms. Moreover, we are increasingly likely to engage in these activities in isolation as the demands of job and family erode our ability to create and maintain stable and supportive communities.

A Changing World

Predictions about the future are the stuff of reputations made and lost. Nevertheless, numerous changes to our economic structure seem inevitable over the next 10 years. These changes have important implications for our health and health care.

A Global Economy

International trade and tourism will grow. It is unlikely that the United States, despite its size and economic clout, will be able to convince developing nations to adopt similar food safety and environmental standards. Thus, expanding international interactions will bring greater exposure to new infectious and food-borne diseases, and to chemical toxins. Increased economic activity worldwide will also result, at least in the short run, in increased environmental degradation and the accompanying health consequences — both locally and globally.

Burgeoning Information Technology

The electronic information explosion will continue to

affect every aspect of our work life (and our play). Among other changes, it fosters individual entrepreneurship. The once nearly universal marriage between work and salaried employment is giving way to a wide range of short- and medium-term arrangements. Contracting and self-employment will become even more common as an expanded Internet connects buyers and sellers easily without the need for a corporate intermediary or the capital costs of a large inventory.

An obvious barrier to these changes is the current link between employment and insurance. In today's economy, workers who leave their salaried employment also leave behind their employer-paid health insurance. Individuals — even healthy ones — who try to replace their group coverage with privately purchased insurance face many obstacles. Prior to the passage of the Health Insurance Reform Act of 2000, all carriers had stopped offering new individual policies in most of Washington's 39 counties.

However, the economic gains from restructuring the economy to take full advantage of advances in information technology will be enormous, and they will ultimately result in a new means of delivering and financing health care that is not dependent on an employer/employee relationship. The specifics of these new means will depend upon a variety of factors such as the strength of the economy and the political environment.

The most important feature of health insurance in the year 2010 is that it will be much more accessible to individuals without regard to employment status. One way to achieve this result is increased public financing of people with high risk for medical problems so that private markets can more profitably serve healthy people. Another is mandatory universal coverage through which those at high risk are subsidized by many healthier people who cannot drop their coverage to get better rates in a lower-risk pool. However, these changes in health care financing are not likely to have a large impact on health. Most researchers agree that the gains to the general population from additional health care are small. The health status of certain underserved subgroups of the population may improve, as will the health status of those who cannot get life-saving procedures without adequate coverage.

Information technology will also directly affect health and health care as more consumers are able to gather and assess their own health information and manage their chronic illnesses from their home computers. Electronic medical records will enable restructured health care systems to provide better service, particularly in light of increased research and information dissemination opportunities afforded by electronic record data.

Widening Income Disparities

Rapid technological change has the short-term effect of increasing income disparities as innovators make large profits at the expense of those who cannot or do not change. If, as the work of Kaplan and Lynch suggests, these disparities lead to reductions in investments in social infrastructure (the

recent passage of I-695 by Washington voters may suggest that this is already happening), declines in health status for less-favored groups may follow. While the technological gains may ultimately result in an increased standard of living for most economic participants, the transition period involves unequal gains and losses.

More Stress, Less Community

A rapidly changing world puts pressure on existing social structures that provide stability and a sense of community. New social structures appropriate to the new world will evolve. In the transition, however, people are left with more stress and less support. More stress, according to research findings, means more disease and more demands on the health care system. If these demands come primarily from those at the lower end of the socioeconomic spectrum, our mechanisms for arbitrating social justice will be tested.

Was Malthus Right?

The ultimate question about economic activity and health is the one Malthus posed in 1798: Will our planet be able to support any level of economic activity in which we choose to engage? Our global economy already affects every ecosystem on earth. Just as social scientists are beginning to understand the connection between socio-economic status and health, natural scientists are beginning to understand the connection between human health and the health of the physical systems on which we depend. If our future economic activity — by either its nature or its volume — unduly taxes these natural systems, the health of all populations will be jeopardized.

The next 10 years will bring significant change to the U.S. economy — in how we earn, what we earn, and how we spend our earnings. The impact on our health and health care will be both profound and predictable as the shape of our future comes more clearly into focus.

Recommended Reading

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