During the course of economic development, populations have become increasingly urban and geographically mobile. Cities created a new ecology for disease, and colonization brought unfamiliar diseases to colonizers and colonized alike. Urban death rates were usually very much higher than rural ones, and mortality rates from infections were often catastrophically high when new diseases were first introduced to populations. That economic development led to increased rates of urbanization may explain why economic growth rates were sometimes positively correlated with mortality. However, there have also been processes of biological adaptation to the new risks. With new (as distinct from endemic) diseases, people lack the benefit of immunity acquired in early childhood, and selective process have not yet taken their toll of the most genetically susceptible sections of the population.

After citing evidence that there were important genetic differences in susceptibility to tuberculosis, Burnett and White gave examples of populations such as American Indians and Mauritians amongst whom it took—largely unaided by economic growth—around 100 years for mortality rates from TB to fall from initially very high rates to rates as low as Europeans living in similar circumstances. These changes reflect some combination of the benefits of immunity acquired in early life to disease which have become endemic, and a process of genetic selection. Diseases in which there are both genetic differences in resistance, and high death rates before people reach reproductive ages, will tend to remove the most vulnerable sections of the population from the gene pool. Although McKeown and Lowe thought economic growth was the most likely cause of the decline in infectious disease mortality, these process may account for why they also thought some diseases had become less severe.

The four explanations I have suggested—increased assets, qualitative improvement, psychosocial liberalization and biological adaptation—may have worked singly or together. Surprisingly, 30 years after Preston’s article we know very little of the balance between them.

References

5 Department for Work and Pensions. Households Below Average Income, Series.

Commentary: Missed Opportunities

James C Riley

Accepted 10 April 2006

If only we could sometimes go back and redirect the path of scholarship. Of course we cannot. Even when lives are at stake, as they are in finding the most effective policies to enhance survival, all we can do is to make the best judgments we can at each moment.

Consider some alternative paths suggested by Samuel Preston’s 1975 essay, ‘The Changing Relationship between Mortality and Level of Economic Development’ with its ISI Web of Knowledge record of 132 citations as of April 24, 2006. Preston suggests that, in the real world of living longer or dying earlier, many factors impinge, some pushing towards higher and some towards lower survival. Average income per person encapsulates a vast number of these factors; moreover, those very factors differ depending on a country’s stage of development. Survival researchers might have set out, much more determinedly than we have, to learn about how people make decisions about spending and allocating household and individual resources. Instead for the most part we have concentrated on aggregate, country-level measures of per capita income and income distribution, and tried in various...
ways to identify the most effective things that people did in high-income countries and the magic behind attaining high survival in a few low and middle-income countries. The orientations followed have produced many useful findings and insights. Still, this particular gap in our knowledge—about how people spend their incomes and how health bulks in their decisions—looks significant.

Preston infers from his 1930–60 comparison that income level and gains in income played a smaller part in life expectancy than many researchers had argued or assumed. This leads him to discuss orientations requiring more research: (i) factors affecting mortality other than income, and (ii) the mortality histories of countries not already studied closely. Considering income, Preston suggests the need for more research into how and why low-income countries, those in the range of some $200 to $800 in 1963 US dollars, managed to modify their survival positions so sharply between 1930 and 1960. At that time he apparently believed that some low-income countries benefited from medical advances made and paid for in high-income countries. Research on that issue might have shown that low-income countries obtained biomedical innovations—medicines, vaccines and equipment—slowly and sparingly rather than broadly and quickly. But at least research in that direction might have led us to look more closely at how often quite spectacularly rapid gains in life expectancy were made, not just in a few cases, such as Sri Lanka and Mauritius, but in many other countries.

Instead most of the research agendas that I see in Preston’s essay remain unfulfilled. The Comité international de Coopération dans les Recherches Nationales en Démographie tried, seizing on 1974, the world population year, to induce specialists to reconstruct the population history of each country. That was an excellent idea, but most of the monographs coming out of that project treated mortality cursorily. Demographers and scholars working in historical demography continue to focus their attention on the best studied rather than the least well-known cases. Some scholars have examined ‘routes to low mortality in poor countries’, but I cannot think of anyone who has yet studied in detail the paths to continued high mortality in the more numerous countries where survival is still abridged.

Thomas McKeown’s work, especially two books published in the mid-1970s, had greater influence than Preston’s article. One of those books, The Modern Rise of Population, attained 491 citations, according to the ISI Web of Knowledge. McKeown asserted that economic development should be expected to precede the attainment of high survivorship. Scholars continue to take inspiration from this claim even though we have, in the meantime, become aware of a growing number of contrary cases of low income countries matching the rich lands in life expectancy (Sri Lanka, Kerala state in India, Cuba, Costa Rica, Jamaica and others). Mortality research continues to focus on the successes of a few rich countries as though poor countries might actually have the option of following the routes to low mortality in rich lands. Meanwhile the problem of economic development itself remains largely unresolved; even the World Bank has begun trying to sponsor development in other forms.

Looking back over the last 30 years, it must be said that we specialists in the field of human survival have often spent a lot of our time and a lot of other people’s money on research issues that do not, in retrospect, look like having been efficacious. Too bad we cannot go back and reallocate.

References


