
Health in a Changing World

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1 Introduction

Every change in the physical and social environment has an effect on health and on the capacity of individuals and societies to cope with health problems. This applies to climate change. A lot of research has been done to catalogue the potential health effects of climate change. This body of work has been assessed by the Intergovernmental Panel on Climate Change (IPCC) and is set out in its Third Assessment Report (IPCC 2001). A recent report by the World Health Organisation provides a more detailed assessment (WHO 2003). Both reports stress difficulties of precise and localised projections but conclude that climate change will present major and largely unfamiliar challenges.

The reports outline a number of potential impacts. The distribution of organisms and of animal vectors may change, resulting in the spread of malaria and other infectious diseases (see Pachauri, this *Bulletin*). Health may be affected by changes in nutrition (see Devereux and Edwards, this *Bulletin*) and access to clean water (see Burton and May and Denton, this *Bulletin*). Climate-related extreme events may have deleterious health consequences. The social stresses associated with adjustment to climate change reduce a country's capacity to deal with illness. This article does not review these changes and the ways that health systems may have to adapt to cope with them. Instead, it sets these health-related challenges in a broader perspective with the aim of generating discussion about how climate change might "fit" with our evolving notions of what kind of policy interventions enhance development, poverty alleviation and the ability to cope with major transitions.

2 Changing understandings of health and development

During the period of post-World War II reconstruction in Europe and early decolonisation in Asia and Africa, the prevalent understanding was that development occurred gradually as a result of cumulative investment in physical and human

capital. There were debates about the relative merits of capitalism and command economies in organising this investment and distributing the benefits of economic growth, but there was broad agreement on a vision of development highly influenced by the experience of reconstruction and the success of the Marshall Plan.

It has subsequently been recognised that development is not a smooth process; households, communities and entire societies have to deal with a variety of shocks. Successful development is associated with the ability and good luck to avoid shocks and the capacity to cope with their effect. This has led to a much greater interest in uncertainty and the social arrangements to deal with it such as insurance, credit, social security and emergency services.

More recently, it has become clear that societies also have to cope with irreversible long-term transitions associated with the rapid pace of demographic, social, environmental and economic change. Two dramatic transitions during the past 20 years were associated with the rapid spread of the market economy and the introduction of HIV into the human environment. Both irreversibly altered social and biological realities. We need to give much more attention to the ways that countries and the international community cope with changes of this kind. Climate change is likely to be another example of this kind of irreversible transition, involving both abrupt changes and slower evolution.

Understandings of national and international health policies have evolved with the changing development paradigm. The dominant international strategy for reducing the burden of disease during the third quarter of the twentieth century was to create a network of frontline health facilities and train health workers to staff them. The aim of this primary healthcare strategy was to ensure that everyone in the world had easy access to certain basic services. The modern version of this strategy has been most forcefully articulated in the report of the Commission on Macroeconomics and Health (2001), which calls on governments to invest in

human capital by funding a number of cost-effective health interventions.

It is now understood that major social and economic disruptions associated with war, crop failures and displacement of populations increase the risk of outbreaks of infectious diseases and reduce the capacity of societies to cope with ill-health. This, in turn, exacerbates the economic and social impact of the adverse event. The major response to these eventualities has been a series of disaster relief interventions. There is a growing international concern about the possibility that infectious diseases can spread. This has created an argument for richer countries to invest in public health services in low income countries as a way to reduce the risks to their own population.

There has been a change in understanding of the inter-relationship between sickness and poverty. Poverty is now seen as a dynamic process in which household responses to shock are important. An episode of ill-health can be an important factor in a sequence of events leading a household into destitution. Poverty reduction strategies increasingly, therefore, include measures to help households cope with the financial cost of sickness, such as safety nets for the very poor and health insurance and better access to credit for the rest of the population. There is an ongoing debate about the relative roles of these new initiatives and of basic primary health care in protecting poor households and about how public funds should be allocated between them.

3 Coping with major transitions

Societies vary a great deal in their capacity to cope with irreversible change. For example, almost every country has been exposed to HIV, but they have responded differently. All the advanced market economies have been able to limit its spread. They have also financed costly care for people with AIDS without creating an excessive financial burden on communities or national budgets. There is a general expectation in these societies that health will continue to improve. Unexpected events, such as the recent outbreak of Severe Acute Respiratory Syndrome (SARS) in China and “bird flu” in East and South-East Asia, create high levels of anxiety, but so far the advanced market economies countries have been able to cope without major disruption.

Other countries have had quite different experiences. Some have not been able to stop the

spread of HIV. Their health services are under great pressure. The cost of treating people with AIDS is an enormous burden for households, communities and governments. Many of the worst-affected countries face other major challenges. For example, several in southern Africa have experienced chronic economic crises associated with attempts to implement structural adjustment programmes aimed at integrating their economies into the international economy. These programmes were implemented during a period of economic and social disruption associated with the struggles to end apartheid and the subsequent transition to a non-racist society. During the same period, these countries experienced periodic droughts and crop failures. In several countries government administrative systems have been greatly weakened and there are governance problems. The situation in several countries can be characterised as chronic economic and public health crisis, punctuated by periodic acute exacerbations. This is not true of all countries with high HIV prevalence. Botswana is a counter-example.

The very different experiences of the post-Communist transition to a market economy have underlined the importance of change management strategies to economic development and health. Many parts of the former Soviet Union have experienced negative economic growth and a substantial worsening of health status (McKee and Zatonski 2003). China, on the other hand, has experienced rapid economic growth and its average health statistics have not worsened. Some authors attribute this to China’s success in preserving the integrity of its institutions as almost all the rules of the economic game were changing (Stiglitz 2002).

The story is more complicated than this. China is experiencing rising inequalities and there are serious problems of environmental degradation. There are inter-regional differences in health status and growing problems in the health system, associated with the lack of an appropriate institutional framework (Bloom forthcoming 2005). The Chinese government acknowledges these problems and has begun to address them. It is too early to reach a final verdict on China’s success with transition management.

The recent outbreak of SARS has illustrated once more the possibility of exogenous changes to our environment (Liu 2003). The first lesson to affected countries and the international community was the

size of the economic impact of a relatively minor epidemic. The second lesson was the importance of China's capacity to mobilise its population to prevent the spread of the virus. China was able to control population movements quite effectively. It established a surveillance network that reached almost every village to identify suspicious cases. It succeeded in preventing the spread of the virus to poor rural areas, where the health system is much less well organised. It is impossible to imagine the consequences of spread of such a virus to countries, where health systems are poorly organised and people's capacity to resist infection is reduced by chronic malnutrition and infection with HIV.

These examples illustrate the great differences in the capacity of societies to cope with major challenges. As with individual households, repeated shocks can make societies less resilient and eventually lead to institutional decay. These differences in national and sub-national capacities are one reason for the growing inequalities between those who are benefiting from development and those who are being left behind. In some areas, the only institutions people can rely on are associated with family and local institutional arrangements (Duffield 2001). Households that do not have sufficient resources to cope with major shocks and living in places where institutional arrangements are fragile are much more vulnerable to unexpected occurrences.

4 Implications for the response to potential health impacts of climate change

What does all this have to do with the national and international response to climate change? As outlined earlier, there may be a case for examining in more detail how different societies cope with major shocks and transitions.

As the IPCC and WHO reports make clear there is a strong case for investment in measures to reduce the rate of climate change and the danger of deleterious impact. All things being equal, the faster the change the greater the risk of a negative health impact. This applies particularly to fragile societies, where climate change is one of many factors contributing to chronic crisis and deteriorating health status. There is also a case for investment in measures to mitigate the impact of changing patterns of ill-health associated with changes in climate. For example, it may be necessary to act early to prevent the spread of mosquitoes that carry malaria. Given

the low level of functioning of formal institutions in certain countries, it may be prudent, in some instances, to target policy support interventions at households and local institutions.

Most health-related challenges associated with climate change are less easy to predict. Countries need ways to identify new health-related problems as soon as they arise and to mobilise a response to them. They also need to invest in strengthening their capacity to adjust to change. This includes a health system capable of organising effective preventive programmes, providing effective health care at a reasonable cost and responding to crises that could affect health. Given the limited amount of money likely to be available to the various funds established by the climate regime (see Greene and Bezanson, this *Bulletin*), they are unlikely to be a major source of funding for health services. The negative health impacts of climate change will have to be factored into the development of effective health systems and services – adding to funding pressures that many countries already face. Climate change is one of a number of factors that make it essential that countries create effective health systems and a capacity to respond to shocks.

An international agreement that defines basic standards of monitoring for health-related events to ensure ample warning of potentially dangerous events could also be considered. This could be complemented by agreements on basic standards of public health that all countries should provide. These could include minimum norms for clean water and the disposal of human wastes and measures to prevent a variety of public health hazards, including unregulated provision of dangerous health services and drugs. Recent experience suggests that it is pointless to establish government responsibilities without identifying sources of finance. The climate regime is fortunate in having certain earmarked funds, but there are insufficient resources to meet existing, let alone future, demands. There is an urgent need for high income countries to establish mechanisms to share the cost of meeting minimum health standards in low income countries.

It is difficult to implement even a basic public health system in countries without functioning government administrative systems, competent regulation, robust systems of finance of core services and mechanisms to make providers of health and other services accountable to the population.

Countries must have these core capacities in order to respond effectively to routine shocks and unexpected events. We need to know more about the factors that enable households, communities and societies to respond to shocks and irreversible changes and about successful strategies for increasing their ability to respond effectively. This knowledge can inform strategies for improving resilience.

Malawi's experience illustrates the need for an integrated approach for addressing the impact of climate change and other changes. During the crop failure of 2001 there was a debate about the relative roles of HIV and food shortages in mortality rises. It is difficult to see the policy relevance of this debate, although it may have been important to national and international agencies with specific mandates and earmarked funds. One could easily have added

the regional impact of the post-Apartheid transition and the post-democratic transition in Malawi in the list of causes of the poor response to shocks. In future, we may also debate the contribution of climate change. It is less important to identify the impact of specific factors than to understand the systemic nature of that country's crisis. The situation in southern Africa illustrates how successive shocks have a cumulative effect on societies that are ill-equipped to manage them. We must ensure that a concern about the impact of climate change does not spawn new institutions and policy responses linked to demands for specialised funds that lack sufficient resources. The response should be part of a broader effort to establish national, regional and international capacity to understand change and mitigate its negative impacts.

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