

#### A. THE MORTALITY, EPIDEMIOLOGICAL AND HEALTH TRANSITIONS

In discussing the three transitions, Gigi Santow began by underscoring that the global mortality decline that had occurred during the twentieth century had been a striking achievement. The almost universal decline in death rates that had been registered by the 1960s led demographers to coin the term “mortality transition” to refer to the passage from high mortality, associated in large part with the high prevalence of infectious and parasitic diseases, to lower mortality, stemming from the control of such communicable diseases. Since the distribution of deaths changed in terms of both causation and age structure as the expectation of life at birth moved from about 40 to about 60 years, the mortality transition was said to have been accompanied by an “epidemiological transition”, a term that focused attention on the changing relevance of different causes of death and, especially at the early stages of the transition from high to low mortality, put particular emphasis on the declining role of communicable diseases and on the growing share of mortality due to non-communicable diseases, primarily cardiovascular disease and cancer. In recent years, analysis of the experience of different groups of countries from the perspective of the epidemiological transition revealed that still further declines in mortality had been possible because of a reduction of mortality caused by cardiovascular disease and, in particular, ischaemic heart disease. Partly in recognition of the importance of behavioural changes in achieving reductions of mortality due to non-communicable diseases, the term “health transition” was coined to draw attention to the social and behavioural factors underpinning the mortality and epidemiological transitions. Santow noted that such a term was sometimes used as a synonym of the “mortality transition” but that it differed from the “epidemiological transition” in laying greater emphasis on the social, cultural and behavioural factors affecting health rather than on medical interventions.

Analysing the experience of different groups of countries from the perspective of the different transitions, Santow remarked that the developed market-economy countries were the first to undergo the mortality and epidemiological transitions and that, although there was considerable evidence about the paths that those countries had followed to reach the very low mortality levels that characterized them today, there was still some debate about the factors responsible for the first phase of their mortality decline which began long before the discovery of antibiotics and the introduction of other effective medical interventions. In contrast, in the case of developing countries it was generally agreed that it was precisely the availability of medical tools to combat or prevent infectious and parasitic diseases and of insecticides to reduce their spread that was largely responsible for the very rapid declines of mortality that most developing countries had experienced by 1980. Similarly, the countries with economies in transition had been the beneficiaries of medical and other public health interventions that had reduced mortality due to communicable diseases to very low levels. However, the countries with economies in transition had not yet managed to reduce mortality due to non-communicable diseases and, in some cases, even increases in mortality due to such causes had been recorded. The experience of these countries indicated that there was no guarantee that, once started, the mortality and epidemiological transitions would necessarily lead to ever decreasing mortality levels. Reversals were possible and likely, especially in contexts where key factors underpinning the health transition were overlooked, including social and individual behaviours associated with increased risk of morbidity or death.

According to Santow, the three transitions provided a general framework to establish priorities for future policy-relevant research. They implied, for instance, that useful lessons could be learned from past experience, by drawing parallels between the experience of today’s developed countries at

early stages of the mortality transition and the state of developing countries today or, alternatively, by documenting contrasting experiences. Consideration of the three transitions also implied that more emphasis had to be put on the analysis of health status rather than on the terminal outcome, death, and that key research issues were the study of risk factors, the analysis of differentials among population subgroups, and the reasons for the continued existence of inequality in health status. Santow remarked that considerable effort had been devoted to the study of mortality at the extremes of the age range—in childhood and at advanced ages—where the risks of dying had been or were still high. Yet a focus on health status rather than death demanded that more attention be paid to the middle of the age range, especially between ages 15 and 60.

The discussion expanded on Santow's description of the transitions and their utility in guiding research and policy action. It was noted that the mortality transition helped describe what had happened, the epidemiological transition focused on the proximate determinants of the changes observed, and the health transition called attention to the less proximate determinants of change, including social and behavioural factors. There was a need, however, to consider yet other factors underlying and shaping the mortality transition, such as the effects of nutrition, or of the increasing exposure to pollution, particularly of air and water, and also the genetic make-up of populations. By expanding the horizon of interest, the health transition not only highlighted the importance of considering morbidity, disability and health status in their own right but it also indicated that societal conditions played a key role in determining the well-being of individuals. Thus, the high mortality levels over the middle age range that had prevailed in countries with economies in transition since the 1960s were symptomatic of a dysfunctional social system that fostered self-destructive behaviours and risk-taking among large segments of the population. Another cause of concern was the persistence of inequality in developed

market-economy countries, where significant population subgroups continued to experience relatively high morbidity and mortality levels. Several participants suggested that a more thorough analysis of the causes of persistent inequalities within countries and even between countries was likely to shed light on the mechanisms leading to both improvements in health status and reductions in mortality. Although it was known that the causes of mortality decline were multiple and varied, a better understanding of how the different factors contributed to such a decline and of their relative importance was still needed, especially in contexts where the risk factors themselves were changing as society was transformed.

It was noted that such a comprehensive approach to the study of health and mortality was in agreement with the WHO definition of health, which emphasized three different dimensions of well-being: the physical, mental and social. Several participants noted that, although it had been argued that extending life tended to result in longer periods of illness or disability, recent studies by Manton's group as well as those by Crimmins revealed that the health status of the elderly had actually improved significantly during the 1980s. There was also evidence to the effect that persons dying in their 60s or 70s, whose deaths were generally caused by non-communicable diseases such as cardiovascular disease or cancer, tended to incur higher medical costs at the end of life than those dying at a later age, whose terminal illnesses tended to be of shorter duration. The existence of such differences underscored the need to take into account the heterogeneity of populations in studying either the determinants or the consequences of ill health. Furthermore, the effects of biological, demographic, social or economic selectivity needed to be disentangled from those of socio-economic inequality, and it was important to make explicit the causal relations or pathways through which social or economic factors affected health so that health interventions could be designed to cope with those factors

and the health sector was not marginalized or left impotent to make a difference.

Some participants underscored the fact that the continuous decline of mortality or the success registered so far in combatting an ever wider range of diseases was not irreversible. The emergence of new infectious diseases, such as HIV infection, or the growing virulence of well-known ones, such as tuberculosis or malaria, did not leave much room for complacency. The increasing levels of trade and the growing spatial mobility of people contributed to accelerate and expand the geographical diffusion of communicable diseases. Furthermore, the prospect of continued ecological change, as man's habitat was extended to previously uninhabited areas, such as tropical forests, or the destruction of ecological systems because of human activity could potentially change the epidemiology of infectious disease or bring human populations in contact with rare or unknown pathogens. Concern was also expressed about the increasing levels of interpersonal violence within societies, as outright conflicts multiplied and social disparities increased the potential for chronic strife.

In considering the role of the individual in the pursuit of better health, the issue of individual choice versus societal responsibility was debated. One participant noted that in today's developed market economies, although infant mortality had reached very low levels, the issue of the impact that parents' decisions could have on the health of their children needed to be addressed. Thus, children whose parents smoked were exposed to passive smoking that could potentially damage their health. Postponing reproduction to older ages increased the probability of conceiving a child with Down syndrome and, although a number of birth defects could be detected *in utero*, parents did not always opt for abortion when no treatment was possible. Choice was also an issue in the case of individuals adopting behaviours or practices that endangered their own health or that of others. Smoking and alcohol abuse, for

instance, had proven negative effects on health. Yet most countries had minimal constraints on the accessibility of adults to those products and many did not enforce strictly whatever provisions they had to prevent under-age persons from having access to them. Participants agreed that society had the responsibility of protecting children and adolescents from making choices that would endanger their health. Furthermore, Governments had the obligation of providing their citizens with the information needed to make informed choices. In many instances, the inaction of Government constrained the choices that individuals had, as when non-smokers had few means of avoiding exposure to passive smoking because regulations to protect them did not exist. Yet, it was recognized that even when Governments took measures to modify undesirable and risky behaviours, achieving that goal was by no means straightforward.