The world is experiencing an epidemiological transition – and the most vulnerable are being left behind

Professor Dirk Blom, President of the International Atherosclerosis Society, calls for global collaboration and support to expand access to healthcare and preventive measures, ensuring that vulnerable populations are not left behind in addressing the burden of CVD

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Today, we are experiencing an epidemiological transition. Where infectious diseases and food scarcity have traditionally represented the greatest threat to health for much of human history, today, more deaths are caused by cardiovascular disease (CVD) than any other illness.

While famine and communicable disease continue to pose a threat in many countries and regions, advances in sanitation, vaccination, and antibiotic therapies – combined with an oversupply of calorie-dense foods and decreasing physical activity – mean that non-communicable diseases (NCDs) are today's leading cause of mortality.

This transition is most advanced in high-income countries – but the threat is rapidly growing in lower- and middle-income countries (LMICs) as well. These LMICs face double, even triple burdens with high rates of infectious disease, NCDs, as well as war, violence, and trauma.

In the face of an epidemiological transition, the urgency is high to ensure LMICs are not left behind. But how can we achieve this?

Innovations can greatly improve outcomes – but only when they are accessible

Given that NCDs are the primary cause of mortality in high-income countries, they have attracted significant research funding, and the last few decades have seen major advances in the prevention and management of these disorders.

Take ischemic heart disease as an example. There have been significant advances in risk factor control; for instance, the identification and treatment of hypertension and the widespread use of increasingly effective cholesterol-lowering medications, such as statins. Coronary care units and cardiac interventions, such as stenting, have resulted in a dramatic reduction in mortality for patients admitted with heart attacks.

Yet, as is so often the case, life-saving interventions remain out of reach for much of the world's population. On the individual level, statins are prescribed to less than 10% of eligible individuals for primary prevention of cardiovascular disease in many LMICs.

GLP-1 receptor agonists, such as semaglutide, have proven efficacy in reducing obesity, managing diabetes, and reducing cardiovascular risk. Yet they, too, remain largely inaccessible in LMICs.

Supporting greater access to technologies we know work will be crucial to improving CVD outcomes in LMICs. In the face of ongoing funding cuts to many global aid programs, it has seldom been more urgent for the international community to come together to support programs that can expand access, educate healthcare providers about their benefits and use, and support the highest-quality care for patients, no matter where they are.

Population interventions to address the root causes of CVD

Unfortunately, the remarkable innovation in medical care has often not been matched by equally successful population interventions that address root causes such as sedentary lifestyles and poor-quality nutrition. The ever-rising rates of overweight and obesity in almost all regions of the world bear witness to this failure.

NCD mortality continues to increase relentlessly in most LMIC as populations continue to be exposed to risk factors, with limited access to mitigating interventions. For example, smoking rates have risen in many LMICs, at least in part due to aggressive marketing strategies by tobacco companies – in response to declining smoking rates in high-income markets.

Particulate matter air pollution, too, is an often-underestimated risk factor linked to the eight leading causes of death worldwide and is the leading environmental risk factor. Many LMICs lack the capacity to regulate and monitor air pollution effectively, often prioritizing development over environmental regulations.

Inadequate control of risk factors at the population and individual levels results in high rates of irreversible complications of atherosclerotic cardiovascular disease (ASCVD), such as heart failure or stroke. Such complications often occur in younger, economically active patients in LMICs.

A successful healthcare system needs to go beyond simply reducing mortality rates – the aim should be to allow for healthy ageing through effective policy implementation, preventive care, and appropriate disease management.

Achieving change through collective action

Tackling the world's health inequalities is a momentous task, given the uneven spread of resources across the globe. The recent reductions in developmental aid and health system support to LMICs by several high-income countries have further destabilized the global health system.

No single actor can solve these problems single-handedly, but we can all make important contributions.

The International Atherosclerosis Society (IAS), for example, brings together scientists, clinicians, and policy experts working to reduce the impact of cardiometabolic disorders, particularly ASCVD, in their respective countries.

One of the aims of IAS is to empower clinicians and scientists through locally relevant education and knowledge sharing, and we partner with patient support organizations to lobby for access to screening, diagnosis, and therapy for patients with severe, heritable disorders associated with a very high risk of ASCVD.

These efforts will hopefully be a small contribution towards achieving the goal of 'better health for all'. But if we navigate the epidemiological transition together, we can help to avoid leaving LMICs behind.

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