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Unhealthy sign: *A patient at a hospice for those dying of Aids in Thailand. Communicable diseases such as HIV/Aids and vector-borne diseases still pose serious threats in the country, where morbidity rates due to non-communicable diseases show a steadily increasing trend*

Addressing the complexity of health issues in Asia

There exist unique opportunities to deliver healthcare much more effectively in new ways

THE rising prosperity of Asia's growing economies has brought major advances to the region, but also serious health challenges. For example, despite having an annual growth rate averaging 5-6 per cent for the last 20 years, India with an estimated 136,000 deaths still has the highest burden of maternal mortality in the world.

Many Asian countries also face the double burden of rapidly increasing chronic diseases alongside a substantial load of infectious diseases. In Thailand, morbidity rates due to non-communicable diseases show a steadily increasing trend, while the country continues to be classified as high-burden for tuberculosis. Other communicable diseases such as HIV/Aids and vector-borne diseases (for example, malaria) still pose serious threats. Like all countries, they wrestle with finding an appropriate balance between delivering quality healthcare, providing adequate access and managing costs.

Given the dramatic pace at which Asia is enhancing and scaling up its health services, it will need new models that would address these challenges more effectively. There are also unique opportunities to leap-frog health system development, to deliver healthcare much more effectively in new ways.

The successful implementation of innovative models of quality high-volume, low-cost cataract and cardiac surgery in India are good examples. The growing use of mobile phones as an integral part of health delivery, as well as payment systems, is another. To learn about and to innovate and evaluate new models, we need much better and more relevant research, to provide the knowledge base to inform policy and action.

One of the greatest challenges to health research lies in its complexity – how do we gain a more holistic understanding of the "tangled web" of issues interacting together in a very complicated manner.

For example, rapid economic growth in Asia has spawned an epidemic of chronic disease. It is estimated that by 2015, 12 million people in the Western Pacific region will have died of non-communicable diseases. This is an increase of 1.7 million persons from the year 2008. Associated environmental degradation and pollution add to the burden of environmentally-related diseases.

Widening income gaps create health financing challenges that limit access to healthcare. Out of the total health expenditure in China, less than half is borne by the government. And out-of-pocket expenditure accounts for over 90 per cent of private expenditure on health. The exodus from rural to urban areas also exacerbates the situation while increased international travel increases the potential for epidemics to spread rapidly around the world.

This "tangled web" may be addressed in part by multi-disciplinary, internationally collaborative research. By forging links between people working traditionally in different spheres relevant to healthcare, this work may be used to pioneer new approaches to tackle daunting but important health challenges.

As a basis for this form of collaboration, a conceptual framework that integrates both the biomedical aspect of health with a larger systems approach to healthcare organisation and delivery is needed. Each point on such a framework may represent the areas of research that can inform policies. In addition, it also illustrates the complexity of relationships between various areas and the need to tackle them simultaneously. Further, the political and social milieu will dictate how the scientific evidence thus obtained is applied in a policy context.

The integration of different models of health (bio-medical, socio-economic and behavioural) rather than studying each in isolation appears to be the way forward. Admittedly, the solutions to such a complex and over-reaching subject would necessarily be complex in turn. We cannot hope for a single silver bullet to solve all potential problems, yet efforts to focus research towards health policy formulation and implementation would yield valuable results.

TAN CHORH CHUAN

The next hurdle lies in implementing the findings of this integrative research. The ability to estimate the impact of an intervention on both the community as well as the system would significantly enhance the policy-making capacity of governments.

For example, given a hypothetical situation in which a strain of avian influenza 10 times as virulent as the last was to be spread, a number of questions would arise. Are schools to be closed? Are workplaces to be shut down? What would be the estimated economic cost as a result of the shutdown or the culling of birds?

The answers to these questions may be estimated using data to model and simulate these scenarios and would greatly inform policy and practice. This sort of activity can have enormous practical applicability keeping in mind the differing contexts of various health systems.

To be able to deliver these aspirations, we need to take an integrative research approach that cuts across different disciplines and aims to connect and synthesise relevant research findings and insights from diverse fields. The NUS Initiative to Improve Health in Asia (NIHA) was born out of this need. The recently held NIHA Forum at NUS in November 2010 brought together policymakers, thought leaders and academics from around the world to help identify the most important healthcare priorities in different parts of Asia and thereby assist in shaping NIHA's research and education agenda.

This agenda will enable Singapore-based researchers to work alongside others on topics of high relevance to Asia. NIHA would also look to create key databases that will be a major resource and to develop and use research methodologies particularly around modelling and simulation.

While the health challenges for Asia are daunting, they also present unique opportunities to innovate, implement and develop at scale, much more effective systems of health promotion and care delivery. We hope that through the efforts of programmes such as NIHA, and healthcare stakeholders in Asia and around the world, we can contribute to developments that could potentially improve the health and lives of the millions of inhabitants in Asia.

The writer is the president of the National University of Singapore. This article is based on a speech by Prof Tan at the inaugural NUS Initiative to Improve Health in Asia (NIHA) Forum on Nov 29, 2010. The forum was attended by over 85 academics and policy experts who discussed key health challenges and health policy issues within an Asian context