

The challenge of chronic conditions in Hong Kong

There has been a continuing epidemiological shift away from acute diseases to more chronic illnesses in developed countries since the 1960s. By 2020, the rank order of major disease burden is projected to be dominated by chronic conditions (Table).¹ Acute diseases affecting mainly children in developing countries are expected to decline significantly as global immunisation reaches most countries.¹ Therefore, chronic conditions are expected to become the main cause of morbidity and mortality worldwide, contributing two thirds of the illness burden with enormous implications for health resource allocation.¹ The demographic transition to an ageing society, the implementation of rapidly advancing technologies, and the ever upward cost spiral of health care system financing will compound the already heavy economic toll of meeting the needs of chronically ill people.

How can health care professionals contribute to meet this enormous challenge? The Medical and Health Research Network of the University of Hong Kong convened a consensus meeting in December 2001 to develop an evidence-based framework for meeting this challenge. Panel members representing a wide spectrum of stakeholders—international agencies, local government, academic institutions, health and welfare professionals, and patient groups—participated in the meeting and contributed to the content of this essay.

Needs assessment and the wider determinants of health

To provide a valid basis for such difficult policy decisions as meeting the challenge of chronic conditions, reliable and comprehensive data on the population health status are needed. A new approach to measuring health status needs to be implemented—one that quantifies not merely mortality rates but also the impact of premature death and disability.² The disability-adjusted life year is such a measure. Disability-adjusted life years express years of life lost to premature death and years lived with a disability. A 'premature' death is defined as one that occurs before the age to which the dying person could have expected to survive if he/she was a member of a standardised model population with a life expectancy equal to that of the world's longest-surviving population, Japan. Disease burden is, in effect, the gap between a population's actual health status and a reference status.¹

Recommendation 1

There is a need to invest in systematically expanding the public health knowledge base that will provide the intelligence for continued health gains, through increased funding for research and development targeted at local priorities.

In addition to identifying the overall needs of people with chronic diseases by studying the burden of illness, evidence points to the persistent inequalities in health status found within populations. This is not a problem of absolute poverty per se and therefore restricted to developing regions but one that affects disadvantaged populations in all communities. Even among high-income populations such as Hong Kong, it has been shown that income inequality produces adverse health effects for people falling on the left side of the Bell curve.³ The best approach to the reduction of inequalities is to focus on the underlying structural determinants of social and economic deprivation.^{2,3}

Recommendation 2

Minimising the excess burden of illness suffered by disadvantaged people must be a priority. Efforts should be focused on interventions that will help lead whole communities out of an inequitable distribution of resources. Intersectoral issues must be dealt with more effectively, particularly health risks that result from environmental causes in the broadest sense.

Strategies for improving clinical outcomes

Chronic conditions present different challenges from acute diseases, thus requiring a paradigm shift in disease management strategies. First, they are characterised by the presence of numerous co-morbidities.⁴ Second, most health care settings are poorly prepared to care for patients with chronic disabilities.⁴ Third, frequent readmissions to hospital for exacerbations or complications, the need for long-term follow-up and medication, and the involvement of multiple specialties are prominent features. Duplication of investigations among disparate providers is commonplace and there is often no coordinated care leading to sporadic and piecemeal services.⁵ Therefore, a more integrated approach to the management of chronic diseases is proposed.⁵ Essentially, all chronic disease management

Table. Epidemiological transition of disease

Five leading causes of death in Hong Kong		Five leading causes of disability-adjusted life years worldwide ¹	
1947	1999	1990	2020
Pneumonia	Malignant neoplasms	Lower respiratory tract infections	Ischaemic heart disease
Tuberculosis	Heart diseases	Diarrhoeal diseases	Unipolar major depression
Perinatal/neonatal conditions	Cerebrovascular disease	Perinatal conditions	Road traffic accidents
Enteritis and diarrhoea	Pneumonia	Unipolar major depression	Cerebrovascular disease
Violence	Injury and poisoning	Ischaemic heart disease	Chronic obstructive pulmonary disease

programmes involve patient and family education, promotion of self-management, care process re-engineering, adoption of evidence-based protocols, and an information technology infrastructure to support implementation and evaluation. This framework also includes improving care coordination and controlling costs through integration of services across the entire spectrum of care.^{5,6}

Recommendation 3

Health service delivery should move away from compartmentalised systems focused on episodic care to an integrated model of chronic disease management.

Moreover, primary care remains the best setting for the treatment of patients with chronic illness. It has been demonstrated that a strong primary care infrastructure produces better clinical outcomes at lower costs.⁷ While consistent evidence indicates that specialists are more knowledgeable about the management of chronic conditions,⁸ primary care remains the first point of contact and the most efficient level of service. The challenge is to ensure appropriate referrals to specialists without massive translocation of care. Shared-care arrangements hold real promise and should be more intensively examined.⁹

Recommendation 4

An integrated and patient-centred model of care delivery should have primary care, and family medicine in particular, as its centrepiece. Shared-care arrangements should be further studied and tested.

Political economy in chronic disease management

Given the enormous challenge of managing chronic diseases, the current level of politico-economic discussion about this issue seems strangely circumscribed and muted. If health care professionals and the public are not engaged by these problems, bureaucrats and legislators will not have the political will or need to address them.

Recent evidence from the World Health Organization Commission on Macroeconomics and Health encourages a radical rethink about the relationship between health, economics, and politics.¹⁰ The Commission maintains that globally, by 2020, additional health investments of US\$66 billion per year will generate at least US\$360 billion per annum. Approximately half of this will be the result of direct economic benefits and the other half a consequence of the indirect benefits from greater individual productivity. The commitment of increased resources may be a necessary condition for intensifying health interventions, but the Commission recognises that such a commitment alone will not be sufficient—political and administrative commitments are key co-requisites.

It is vital to consider the audience that must be convinced by this evidence. The decisive audience is not the policy-makers but the public, especially the substantial number of

people with chronic diseases who stand to gain or lose the most from the politico-economic discourse of how best to structure policies to deal with the burgeoning implications of chronic conditions. Patients should be empowered not only to take personal responsibility for their illnesses but, more broadly, to take an active role in the political economy of how best to formulate macro-level policies.

Recommendation 5

Health care professionals, policymakers, and the public should be encouraged to actively participate in the politico-economic discussions on policy formulation relating to chronic disease management, supported by rigorous evidence.

Conclusions

The burden of chronic diseases is high and will increase further. The issues outlined constitute an agenda for Hong Kong. Some of the latest evidence has been presented and a series of broad recommendations for helping the community deal with the onus of chronic conditions have been laid out. How best to implement these measures remains a puzzle, however, and requires the collective wisdom and dedication of frontline workers. The tasks are set for us.

Acknowledgements

The consensus meeting was convened as a satellite session of and co-hosted by the Third International Symposium of the Asian and Pacific Parkinson's Disease Association and the Medical and Health Research Network, The University of Hong Kong. The Third International Symposium of the Asian and Pacific Parkinson's Disease Association was sponsored by the Hong Kong Jockey Club Charities Trust and co-sponsored by the World Health Organization and the Movement Disorder Society.

Panel members (in alphabetical order)

M Baker (European Parkinson Disease Association)
C Chan (Faculty of Social Science, The University of Hong Kong)
S Chan (Department of Nursing Studies, The University of Hong Kong)
WS Chan (Department of Statistics and Actuarial Science, The University of Hong Kong)
I Chi (Sau Po Centre on Ageing, The University of Hong Kong)
D Fang (Health and Medical Development Advisory Committee, Government of the Hong Kong Special Administrative Region)
SL Ho (Division of Neurology, University Department of Medicine, The University of Hong Kong)
A Janca (WHO Collaborating Centre, Australia)
JS Kim (Department of Neurology, Yonsei University College of Medicine, Seoul, Korea)
PY Lam (Department of Health)
CH Leong (Hong Kong Academy of Medicine)

* GM Leung (Department of Community Medicine, Medical and Health Research Network, The University of Hong Kong)
S Leung (Panel on Health Services, Legislative Council; Women's Commission)
WL Lo (Hong Kong Medical Association; Legislative Council)
N Slewett (National Parkinson Foundation Inc., US)
P Thompson (University Department of Medicine, University of Adelaide, Royal Adelaide Hospital, Australia)
R Yeung (Department of Community Medicine; Medical and Health Research Network, The University of Hong Kong)
YL Yu (Hong Kong Medical Journal)

*(On behalf of the Panel)
GM Leung, MD, MFPHM
Department of Community Medicine and Medical and Health Research Network
Faculty of Medicine Building
The University of Hong Kong
21 Sassoon Road
Pokfulam
Hong Kong

References

1. Murray CJL, Lopez AD, editors. The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Cambridge: Harvard University Press; 1996.
2. The world health report 1999—making a difference. Geneva: World Health Organisation; 1996.
3. Wilkinson RG. Unhealthy societies: the afflictions of inequality. London: Routledge; 1996.
4. Wagner EH. Meeting the needs of chronically ill people. *BMJ* 2001; 323:945-6.
5. Cheah J. Chronic disease management: a Singapore perspective. *BMJ* 2001;323:990-3.
6. Leung GM. Hospitals must become “focused factories”. *BMJ* 2000; 320:942-3.
7. Starfield B. Primary care: is it essential? *Lancet* 1994;344:1129-33.
8. Harrold LR, Field TS, Gurwitz JH. Knowledge, patterns of care, and outcomes of care for generalists and specialists. *J Gen Intern Med* 1999;14:499-511.
9. McGhee SM, Leung GM, Hedley AJ. Efficiency is dependent on the control of supply. *Hong Kong Med J* 2001;7:169-73.
10. Sachs JD on behalf of the Commission of Macroeconomics and Health. Macroeconomics and health: investing in health for economic development. Geneva: World Health Organization; 2001.