



## ISSUES IN MEDICINE

## Chronic conditions — the new health challenge

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An estimated 90 000 people die daily from chronic, non-communicable conditions such as cardiovascular disease, diabetes and asthma. Another 8 000 people die daily from HIV/AIDS. More than 24 million people are coping with schizophrenia, and over 150 million are clinically depressed.<sup>1</sup> Although these conditions have different causes, the demands they place on patients, families, health care systems and governments are remarkably similar. From a health care perspective all can be considered chronic conditions in that they persist across time and require some degree of health care management.

Globally, chronic conditions are on the rise and will increasingly present a major public health challenge in the 21st century. Non-communicable conditions and mental disorders accounted for 59% of total mortality in the world and 46% of the global burden of disease in 2000. This disease burden is projected to increase to 60% by the year 2020; heart disease, stroke, depression, and cancer will be the largest contributors.<sup>2</sup> In the next 50 years the number of people requiring daily care will more than double in the Caribbean and Latin America, and more than triple in sub-Saharan Africa.<sup>3</sup> Chronic conditions

will not only be the leading cause of disability throughout the world by the year 2020;<sup>2</sup> if not successfully managed they will become the most expensive problems faced by our health care systems.<sup>4,6</sup> In this respect, they pose a public health and economic threat to all countries.

To complicate matters, many developing countries are experiencing dramatic increases in chronic, non-communicable conditions while continuing to face acute infectious diseases, malnutrition, and poor maternal health. Botswana is a prime example of this 'double burden' of disease. Botswana's HIV/AIDS epidemic is well known — an estimated 330 000 people in Botswana are infected with HIV/AIDS, including 39% of the population aged 15 - 49 years.<sup>7</sup> What is less well known is that simultaneous to the HIV/AIDS epidemic, Botswana's Ministry of Health is reporting a notable increase in non-communicable diseases such as cancer, diabetes and hypertension.<sup>8</sup> This double burden is placing new, long-term demands on Botswana's health care delivery system. To address the changing burden of disease, Botswana's Ministry of Health has recently created a team dedicated to non-communicable disease surveillance, prevention and control.

Similar trends can be seen in India. Although India's HIV/AIDS rate is relatively low, affecting only 0.8% of the population aged 15 - 49 years, due to India's large population this translates into 3.8 million people infected within this age group.<sup>4</sup> India's Economic Survey 2001 - 2002<sup>9</sup> recognised that HIV/AIDS is one of the most serious public health concerns in the country, while at the same time an epidemiological transition is underway resulting in an increase in non-communicable diseases. Cardiovascular deaths alone are projected to double in the next 20 years.<sup>2</sup> And, while it is commonly believed that non-communicable diseases are more prevalent in higher income groups, data from India's National Sample Survey 1995 - 1996<sup>10</sup> showed that tobacco intake and alcohol misuse are highest in the poorest 20% of the population. The prevalence of non-communicable diseases is therefore projected to increase most rapidly in the lower socio-economic groups in coming years.

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### Determinants driving this increase

Globally, birth rates are declining, life expectancies are increasing, and populations are aging. Longer lifespan is due to advances in medical science and technology, but also successful public health and development efforts during the



past 100 years. One consequence of these changes in demographics is an accompanying increase in the incidence and prevalence of chronic health problems. As infant mortality declines, and life expectancies and the possibility of exposure to risks for chronic health problems rise, chronic conditions become more pervasive. Thus, increased tobacco use, unhealthy diets and physical inactivity combine to cause both premature death and increased disability. The importance of addressing risk factors using a life course perspective has been covered elsewhere.<sup>11,12</sup>

Much has been written on the effects of globalisation on health and health systems.<sup>13-15</sup> From a chronic conditions perspective, the so-called 'death of distance'<sup>16</sup> means that diseases and their risk factors are now spreading much more rapidly than previously imagined. This has been described extensively in relation to tobacco<sup>17</sup> and more recently in relation to diet and alcohol.<sup>18,19</sup> Overall, changes brought about by globalisation are posing new challenges to governments and other health stewards, which must grapple with protecting the health of their populations in a context of cross-national marketing, privatisation and deregulation.

## Why change is needed

Historically, acute and immediately life-threatening problems were the principal concern for health care systems. Advances in biomedical science and public health measures over the past century have changed this dramatically. However, most health care systems have not kept pace with the decline in acute health problems and the increase in chronic conditions. Although there are notable exceptions, such as experiences with community-oriented primary care, most health care today is still trying to manage chronic problems using acute care mentality, methods and systems.

Effective prevention and management of chronic conditions requires an evolution of health care, away from a model that is focused on acute symptoms towards a co-ordinated, comprehensive system of ongoing care. Without this type of change, health care systems will grow increasingly inefficient and ineffective as the prevalence of chronic conditions rises. Health care expenditure will continue to escalate,<sup>20</sup> but improvements in population health status will not. This is already the reality in many countries — a reality of which the public is all too aware. This health care shift not only makes financial sense: it also results in improved performance<sup>21</sup> and greater satisfaction among patients, families, and health care providers.<sup>22-26</sup>

## Key components of good health care

The World Health Organisation (WHO) has recently completed a review of best practices and affordable health care models for

chronic conditions.<sup>8</sup> Growing evidence from around the world suggests that similar strategies can be equally effective in managing many different conditions.<sup>27</sup> When patients with chronic conditions receive effective treatment within an integrated system, with self-management support and regular follow-up, they do better.<sup>28</sup> For example, health care teams that participated in a 13-month programme designed to improve care for patients with diabetes reported on average a 21% increase in patients under good glycaemic control (HbA<sub>1c</sub> < 8%).<sup>29</sup> A review of 23 studies, involving more than 3 000 patients with coronary artery disease, found that patients who received behavioural/psychosocial interventions significantly lowered their risk of dying or of having a non-fatal heart attack. Specifically noted was a 41% reduction in cardiac mortality and a 46% reduction in non-fatal cardiac events.<sup>30</sup> In an innovative programme that taught physicians new skills in communication and disease management, low-income asthma patients experienced improved health status and health care costs were lowered. Emergency room visits declined 41% for the patients of physicians who participated in the programme.<sup>31</sup> Similar outcomes have been produced for a range of chronic conditions, including cancer, congestive heart failure, and chronic mental disorders.<sup>8</sup>

Some of the common features of good health care for chronic conditions that we identified are as follows:

### Integration

Effective public health management of chronic conditions requires integration from multiple perspectives. Each level of the health care system, from single patient management to organisation of health care to health policy, must work together and share in a common vision of better care for chronic conditions. Integration, co-ordination, and continuity should occur across time and health care settings, including primary health care, specialty care, inpatient care, and long-term care in the community. Care should be integrated across all categories of chronic conditions, moving beyond traditional disease boundaries.

### Evidence-based decision-making

In all aspects of decision-making, from the management of an individual patient to broad-based policies, evidence should be used as one important basis, in combination with a close examination of issues of equity and human rights. Relevant evidence includes what is known about the magnitude and burden of chronic conditions for the defined population and the existence of cost-effective interventions to reduce the burden, strategies for enhancing healthy behaviour, and ways in which health care should be organised to maximise patient outcomes. It also includes information on current and anticipated resource needs, as well as the health care personnel skill mix.



## Population focus

Health care for chronic conditions is most effective when policies, plans, and practices prioritise the health of a defined population rather than the single unit of a patient seeking care. Population management is a long-term, proactive strategy in which resources are organised to improve quality of care and health outcomes in defined populations with well-known and well-understood health needs. This approach reduces the need for high-cost, high-intensity resources. A population focus also implies that health care systems assess and monitor the health of communities, emphasise prevention and promote healthy behaviour, assure universal access to appropriate and cost-effective services, and contribute to the evidence base for effective treatments and systems of care.

This approach shares many values and strategies with community-oriented primary care (COPC), which has been defined as a continuous process by which primary health care (PHC) is provided to a defined population on the basis of its defined health needs and via the integration of public health with primary care practice.<sup>32</sup> Within this framework, the responsibility of health services goes beyond patients seeking care, but rather extends to all members of the defined community. COPC is not a new idea, having been implemented 50 years ago in South Africa<sup>33</sup> and extended to diverse settings such as Israel,<sup>32</sup> the UK,<sup>34</sup> and the USA.<sup>35,36</sup> However, it has yet to become mainstream health care around the world.

## Elevating the roles of patient and families

When it comes to chronic conditions, patients and their families are the ultimate PHC providers. Because patients with chronic conditions will spend the majority of their lives outside formal health care settings, empowerment of patients and families will enable them to self-manage their conditions and prevent complications to the extent possible. To do so, they need accurate, unbiased information about their chronic condition, including its expected course, expected complications, and effective strategies to prevent complications and manage symptoms. They also need motivation to change and maintain healthy behaviours and behavioural skills, tools, and strategies for self-management.<sup>37</sup> When patients have these three elements, outcomes at all levels can potentially improve.<sup>38-40</sup>

## Sustained follow-up

Regular and sustained follow-up of patients with chronic conditions has several advantages. It promotes early detection of complications or changes in disease status, thus preventing unnecessary emergencies and related health care waste. It also provides a forum to monitor patients' progress with self-management and to provide additional support as needed. Because chronic conditions are long term, disease monitoring

and self-management support can be spread over many patient interactions.<sup>20</sup>

## Flexibility/adaptability

Health care systems need to be prepared to adapt to changing situations, new information, and unforeseen events. Changes in disease burden, as well as unpredicted disease crises can be assimilated into systems that are designed to adapt to change. Routine surveillance, monitoring, and evaluation are key for systems to be able to adapt to changing contexts. At the patient level, modern information technology can also be used to monitor illness and care indicators and alert health care workers when they need to intervene. When these processes are embedded within health care systems they have the potential to become constantly evolving, adapting learning systems<sup>41</sup> that foresee and respond flexibly to changing health care demands.

## Where to begin

Although the magnitude of change required might seem overwhelming, and initiating such a change in thinking may seem unrealistic, in reality even small changes in the right direction can have a large impact on processes and outcomes of care.<sup>42</sup> A few places to begin are outlined below.

## Support a paradigm shift

Changing thinking about health care for chronic conditions is an essential yet seemingly daunting task. The acute care model dominates most health-related information and education — whether destined for physicians, allied health professionals, or patients — and the media reinforce these attitudes through its portrayal of health care. Even true innovators may feel overwhelmed by the tide of opposition that they encounter when promoting new ideas for chronic condition management. Yet to make real change, these innovators must continue to work to influence the views of patients, health care workers, and most importantly, policy-makers. In the classic publication, *Diffusion of Innovations*,<sup>43</sup> Everett Rogers demonstrated how the voices of a few can create a dramatic impact on beliefs and behaviour of the general population.

## Align incentives

Most people have an intuitive understanding of the importance of financial incentives — whether they be directed at administrators, health care workers, or patients — in changing clinical practice and health behaviour. Clinical evidence supports this notion, demonstrating the relative ease of changing clinical practice patterns through shifting reimbursement policies.<sup>44-46</sup> Given the importance of financial incentives in shaping behaviour, health care decision-makers must ensure that providers are not 'punished' economically for



engaging in innovative care strategies. Rather, economic incentives should be used to promote desired clinical care processes and positive patient outcomes. Particular attention should be given to creating incentives for both health care workers and their patients that promote preventive services and self-management.

## Link to WHO's ICCC project

The WHO is addressing the challenge of shifting health care for chronic conditions through the Innovative Care for Chronic Conditions (ICCC) project. This project was created to bridge the gap between that which is typical, namely health care systems that are fragmented and focused on acute symptoms, and that which is achievable, namely co-ordinated, comprehensive systems of care for chronic conditions. The ICCC project's objectives include synthesising and disseminating the latest evidence, creating enabling tools and methods, linking innovators in chronic condition care worldwide, and building local knowledge and capacity. Our Internet-based Observatory on Health Care for Chronic Conditions provides a gateway to learning about the project.<sup>47</sup>

## Conclusion

Chronic conditions will present a major public health challenge in the 21st century, but most health systems are not equipped to meet these changing demographic patterns and resultant health care demands. The evidence for transforming systems of care is clear, and failure to change health care systems accordingly is irresponsible and unjustified. Countries and their health care leaders have a choice — they can continue the misguided course of acute, episodic, and unplanned care, or they can re-orient their health care systems to promote population health, with subsequent social and economic benefits.

By shifting services from an acute care model towards one that emphasises co-ordinated, planned care, health care systems can maximise their effectiveness and efficiency. In situations where large-scale reform is not feasible, small changes are often more practical, and fortunately can have a dramatic impact on the quality of care and health outcomes. Most importantly, it is crucial for all readers to begin now in doing what is possible, within their scope of influence, to improve health care for chronic conditions.

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## OPINION

### Value can be added to the health care system

A B van As, M Blecher

*'Health is infinite in its needs but limited in its resources.'*

Recently there has been an increasing global trend towards assessing governmental institutions, universities and hospitals from a business perspective.<sup>1,2</sup> Added value, which in the business sector is measured mainly in monetary terms, is usually assessed indirectly in governmental institutions.<sup>3,4</sup> South Africa's changing health system has unquestionably achieved important successes.<sup>5,6</sup> However, we wish to argue that in the process of prioritising, insufficient attention has been directed to value for money, effectiveness and efficiency. This has been compounded by weaknesses in implementation and planning, lack of creativity in designing incentive frameworks, and shortfalls in management and information systems.

#### The South African health care situation

Provincial budgeted expenditure for public sector health care in South Africa amounted to R33.2 billion in 2002/03 (source: National Treasury, Intergovernmental Fiscal Review, 2003),

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R911 (\$100) per capita per year, and around 3% of gross domestic product (GDP). In contrast, contributions to private medical schemes amounted to R37 billion in 2001 (R5 270 (\$585) per capita and 3.7% of GDP).<sup>7</sup> Approximately 16% of the South African population has private medical aid and this group has access to health care systems comparable with the world's best.

Nevertheless, South African indicators of health and wellbeing are poor for a middle-income country.<sup>8</sup> This is usually attributed mainly to extreme inequity. South Africa's Gini co-efficient, a commonly used international indicator, is one of the highest globally, and this has led to substantial emphasis on redress. Child mortality for the various provinces is likely, at least in part, to reflect the unequal distribution of health services (Fig. 1).

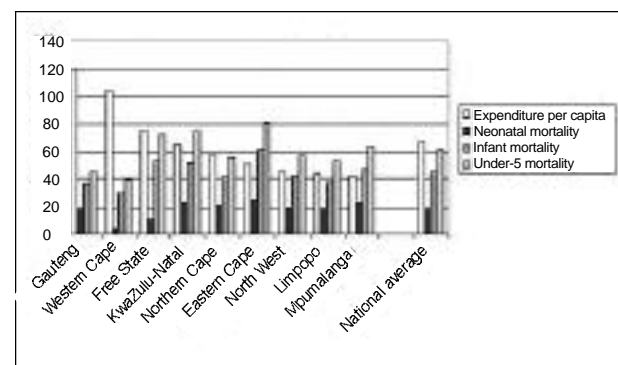


Fig. 1. Child mortality rates (neonatal, infant and under-5, /1 000) and public expenditure on health services (rands per capita per year) in South African provinces in 1998.