

Chronic heart failure: time to recognise this major public health problem

The Canberra Heart Study findings are a wake-up call to those unaware of the extent of the condition

Chronic heart failure is a major and growing public health issue that affects all Western countries. Accordingly, many countries (eg, Scotland¹ and Sweden²) systematically monitor its population prevalence and overall impact on the health care system. However, public awareness of the condition remains low.³ Unfortunately, in Australia, apart from sporadic initiatives such as the NSW Chronic Care Collaborative, heart failure remains the “Cinderella” of health issues — hardly registering on the radar of key health care providers, regulators, relevant government bodies and the general public. For example, less than one in five eligible patients receives specialist heart failure management after hospitalisation for acute heart failure.⁴ Undoubtedly this is at least partly explained by the fact that we do not know the true magnitude of the problem in Australia. It is time for us to recognise heart failure as a major public health issue that cripples hundreds of thousands of Australians and places a substantial burden on the health care system.

The facts from overseas population studies are plain and startling. Depending on how the condition is defined, anywhere between 3% and 9% of the adult population has heart failure, and a similar proportion has “silent” left ventricular dysfunction.⁵ Moreover, the incidence of heart failure is still rising. Indeed, it is the only cardiovascular condition not to experience a substantial decline in both incidence and prevalence over the past 20 years (taking into account the progressive ageing of populations).¹ There are several reasons for this increase. Firstly, the incidence of heart failure increases with advancing age. In Australia, the proportion of people aged over 65 years (in whom heart failure prevalence is >10%) will double over the next 50 years.² Secondly, improvements in diagnostic techniques such as echocardiography have enhanced the ability to make a definitive diagnosis. Thirdly, treatment of heart attack has improved to the extent that patients who previously died of large myocardial infarctions are now able to survive. Finally, heart failure treatments themselves are keeping patients alive for longer and thus contributing to an ever-expanding pool of affected Australians.

Can overseas data on prevalence be extrapolated to the Australian population? While the answer to this question is a qualified “yes”, specific issues in Australia relating to treatment approaches, access to diagnostic and health care services and the ethnic mix of the population may affect prevalence figures.⁵ Moreover, given the public health importance and impact of heart failure, it would seem reasonable to develop an Australia-specific response based on known rather than speculative facts. Thus there is an urgent need for a large-scale, definitive, Australia-wide epidemiological study to ascertain aetiological factors, diagnostic approaches and management of this condition in the Australian community.

In this context, the Canberra Heart Study,⁶ published in this issue of the *Journal* (page 151), is an excellent start in helping to determine the true magnitude of the heart failure problem in Australia. The findings of this well conducted community-based

study are a wake-up call to those unaware of the extent of the condition. Not only were 6.3% of the population surveyed found to have overt symptomatic heart failure, but there was a high proportion of patients with subclinical heart failure (left ventricular dysfunction in the absence of symptoms).⁶ The study also noted a significant proportion of patients with so-called “preserved systolic function” heart failure (ie, symptoms of the condition but with preservation of systolic ventricular function and pointers on echocardiography to impaired relaxation of the ventricle during diastole).

The Canberra Heart Study is not without some methodological problems (eg, a relatively small sample size, and thus few positive diagnoses for heart failure; under-participation of elderly women, who may well have added to the burden of diastolic heart failure). Moreover, as with any study of heart failure, the definition of the condition is always fraught with uncertainty, although it appears to have been quite reasonably addressed in this analysis.

Complexity in diagnosing heart failure is one of the main reasons for under-recognition of the condition. Indeed, there is no single agreed definition, and the forthcoming update of the current National Heart Foundation/Cardiac Society of Australia and New Zealand guidelines on heart failure⁷ will propose a further modification to earlier definitions. Heart failure is a syndrome — a cluster of signs and symptoms that require detailed investigation before arriving at a presumptive diagnosis. There are no definitive tests to confirm the diagnosis. Furthermore, as presenting symptoms may be non-specific, heart failure can masquerade as, and be masked by, many other conditions, particularly in elderly people. A recent Australian analysis describing barriers to diagnosis and management of heart failure in the primary care setting points to some of the difficulties of making a definitive diagnosis.⁸

Nevertheless, it is important that a definitive diagnosis be made because, at least for systolic left ventricular dysfunction (whether symptomatic or not), appropriate management can have a great impact on disease progression, symptoms and survival.

Heart failure management is complex, involving a multidisciplinary approach, polypharmacy in drug prescribing, and ancillary modalities that may include exercise, device therapies (eg, cardiac resynchronisation, implantable defibrillators) and surgical procedures.

Early detection of subclinical heart failure (to prevent progression to symptomatic disease) and treatment of known risk factors will be major foci of research and clinical interest in the evolution of future heart failure management strategies.

In summary, the authors of the Canberra Heart Study⁶ have done the Australian community a great service in providing epidemiological data to show that heart failure truly is a major public health issue in Australia. The problem requires the type of national response that has been initiated in other Western countries. This regional study should be regarded as the critical

... heart failure remains the
“Cinderella” of health issues ...

stimulus for a national study that would provide a broader, more detailed analysis of the epidemiology, health care burden and management of heart failure in Australia. Without this, Australia will continue to fall behind other Western countries in improving the nation's health by focusing on prevention and treatment of this highly debilitating and deadly condition.

Henry Krum

Director, NHMRC Centre of Clinical Research
Excellence in Therapeutics
Department of Epidemiology and Preventive Medicine
and Department of Medicine
Monash University and Alfred Hospital, Melbourne, VIC
henry.krum@med.monash.edu.au

Simon Stewart

National Heart Foundation Chair of Cardiovascular Nursing
Division of Health Sciences, University of South Australia, Adelaide, SA
and Professor of Health Research, University of Queensland

1 Stewart S, MacIntyre K, Capewell S, McMurray JJV. Heart failure and the aging population: an increasing burden in the 21st century? *Heart* 2003; 89: 49-53.

2 Schaufelberger M, Swedberg K, Köster M, et al. Decreasing one-year mortality and hospitalization rates for heart failure in Sweden. Data from the Swedish Hospital Discharge Registry 1988 to 2000. *Eur Heart J* 2004; 25: 300-307.

3 Remme WJ, McMurray JJV, Rauch B, et al. Public awareness of heart failure in Europe: first results from SHAPE. *Eur Heart J* 2005; 26: 2413-2421.

4 Driscoll A, Worrall-Carter L, McLennan S, et al. Heterogeneity of heart failure management programs in Australia. *Eur J Cardiovasc Nurs* 2005; 7 Oct [Epub ahead of print].

5 Clark R, McLennan S, Dawson AP, et al. Uncovering a hidden epidemic: a study of the current burden of heart failure in Australia. *Heart Lung Circ* 2004; 13: 266-273.

6 Abhayaratna WP, Smith WT, Becker NG, et al. Prevalence of heart failure and systolic ventricular dysfunction in older Australians: the Canberra Heart Study. *Med J Aust* 2006; 184: 151-154.

7 Krum H, on behalf of the National Heart Foundation of Australia and Cardiac Society of Australia & New Zealand Chronic Heart Failure Clinical Practice Guidelines Writing Panel. Guidelines for management of patients with chronic heart failure in Australia. *Med J Aust* 2001; 174: 459-466.

8 Krum H, Tonkin AM, Currie R, et al. Chronic heart failure in Australian general practice. The Cardiac Awareness Survey and Evaluation (CASE) Study. *Med J Aust* 2001; 174: 439-444. □

The Oxford Health Alliance: old problems, new approaches

One way to tackle social forces that lead to disease is to recruit the putative culprits

The world is in the grip of an epidemic of non-communicable disease. We have known this in affluent nations for decades, but have not understood just how large a problem it has become in developing economies.¹ Chronic diseases such as cardiovascular disease (CVD), type 2 diabetes, cancer and obstructive pulmonary disease are increasingly undermining prospects for a stable economic future, especially in lower- and middle-income countries^{2,3} and the poorer segments of society in the developed world.

The origins of these diseases are largely social. What and how much we eat, how physically active we are, and whether we smoke are individual behaviours that we might wish to change but which emerge from a maze of causes, including our job, school, suburb, education, religion, car, and money. Philosophers refer to “wicked” problems — ones of great complexity to which there are no simple or stable solutions⁴ — and non-communicable disease is as wicked as the White Witch, and then some. If only there was a vaccine, if only there was one drug, if only. . .

Yet an inventory of our assets in dealing with these diseases is far from depressing. We Australians have quit smoking in droves; we have developed medical and surgical approaches that stabilise risk and more than halved mortality from CVD.⁵ We have moved death from heart disease from middle to old age. Supermarket shelves relax with the reduced weight of “lite” foods. The success bears scrutiny. Some of it is medical (antihypertensives, lipid-lowering therapies, coronary artery bypass surgery, newer antidepressants, chemotherapy), but not all. Some of it is due to relentless health promotion (Life. Be in it; Quit for life), but not all. Some of it is due to regulation (tobacco tax, seatbelts, and urban planning taxes on developers devoted to healthy suburbs). Some is due to commerce and industry sensing a market advantage in selling healthy products.

On 28 November 2005, the Australian Health Policy Institute at the University of Sydney launched its membership as a major centre in the Oxford Health Alliance. The purpose of the Oxford Health Alliance is to influence the macroeconomic and policy environment to favour fitness, good nutrition and reduced smoking, accepting that these behaviours are social as well as personal phenomena that require community involvement in the widest possible sense.⁶ The Alliance seeks to capitalise on research and to build a global partnership to pursue its mission. It aims to assist institutions, including the World Health Organization, control non-communicable chronic disease. What is unique about the Oxford Health Alliance is its inclusive nature. The Alliance includes not only academia and government, but the private sector and a host of non-government organisations.

The Oxford Health Alliance was established under an academic–industry partnership between the University of Oxford and Novo Nordisk, Denmark, a company whose pharmaceutical branch produces insulin. Novo Nordisk looked with Scandinavian horror upon the rising rates of diabetes worldwide, despite these being excellent for their bottom line. In combination with Professors John Bell and David Matthews at Oxford University and Professor Derek Yach, formerly director of the non-communicable disease cluster at WHO but now working at the Rockefeller Foundation, the nascent Oxford Health Alliance has begun to explore ways to reduce the epidemic of chronic disease. John Bell is Regius Professor of Clinical Medicine at the University of Oxford. As Nuffield Professor of Clinical Medicine, he oversaw the largest research department at Oxford University, which encompassed activities spanning structural biology through to epidemiology. David Matthews is Chairman of the Oxford Centre for Diabetes, Endocrinology and Metabolism and has published extensively in the fields of insulin resistance.