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Health Systems in the 21st Century — Evolution or Revolution?

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The ancient Chinese curse to live in changing times applies more to the health system in western countries than ever before. A number of factors are contributing to a period of immense challenge and opportunity. In the past, health systems have evolved through evolution with gradual change, and this will probably be the major modus operandi for changes in the health system in the years ahead, but the pace of change will need to be greater than before, and there is a possibility that at some stage more revolutionary change in the organisation of the health system in Australia may be required.

Underpinning changes in health are the needs of the individual and of society with regard to health. A large part of these are synonymous but there are some potential differences and points of conflict.

The individual needs to be assured that they will receive appropriate care for illnesses as they develop them, including good outpatient care and appropriate and adequate hospital care when required, at a time when the system is beginning to understand the growing issues around prevention of illness and maintenance of health. The Australian people needs to be assured that the health dollar is being used wisely. This implies that treatments offered to patients are scientifically verified and

have enough benefit to justify their cost. The conflict lies around the latter area. There may be very expensive treatments that have a very modest improvement in terms of quality of life or duration of life that an individual would be very interested in trying, but it may be difficult for society to justify the expense in terms of the objective improvements in health benefits expected. For example, a very expensive cancer treatment that only prolongs life for a few weeks or months, or a treatment for degenerative neurological disorder that results in a very marginal improvement in patient wellbeing but costs the community many many thousands of dollars may not be justifiable as part of a public health budget.

Many western countries, including Australia, are rapidly changing with regard to their health needs. First, we have an ageing population with a plethora of illnesses that have a higher prevalence in older age groups. Of necessity this will increase the resources needed in the health system to ensure adequate levels of care. Some of the disorders that are more prevalent in ageing people, such as dementia, are not dealt with rapidly and impose a health burden that may go on for years and years.

Another major area affecting health is the emergence of new treatments and technologies. Massive investment has gone on in medical research over several decades, and this is starting to come through to the clinic. This takes the form of new medications, many of which may fall into the category of designer drugs. An increasingly complex and effective range of devices is also coming onto the market place. If one were to look at an area in the past where a new advance has made a spectacular difference to treatment that has come out of Australia, the striking example is the bionic ear, following Graeme Clark's pioneering work in Melbourne with the development of an effective multi-channel electrode for Cochlear stimulation. Thousands of previously deaf people around the world now have good functional hearing as a result of this device. The development of the device has revolutionised the approach to deafness across the world. It is likely

that over the next decade similar advances will be made in other areas. The pharmaceutical industry has developed increasingly effective treatments for some conditions, such as high blood pressure, but a great deal of work needs to be done in improving treatment for many degenerative disorders and for cancer. It is likely that as treatments emerge, in many cases they will have incremental benefits, and more than one treatment may need to be used in an individual patient. As genetic advances translate into effective treatments the treatments may be unique to an individual patient. Therapies of this type are likely to be much more expensive than the conventional pharmaceutical remedies that have been used in the past.

With new advances of the type referred to above a cost benefit analysis is essential before society, even the most wealthy, can make a decision to fund a particular treatment from public funds. The National Institute for Clinical Excellence (NICE) in the United Kingdom provides an excellent model for how such an approach can be developed in a way that is supported by professions, patient groups and government. At its heart is an evidence-based approach where one looks objectively at all of the evidence for benefit in clinical outcome. It is necessary for an organisation of this type to have developed a framework whereby new individual treatments need to show a particular threshold benefit before they are recommended for public funding. This is a reasonable approach and ensures that everyone in a particular population has access to new treatments that have significant benefit. The difficulties arise with therapies of less major benefit where public funding may not be justified but where it may be entirely justifiable for a private individual to pay for such a therapy themselves if they make a decision that they wish to invest in a treatment that has a more marginal but nevertheless some benefit, which is not paid for from the public purse. Some societies may not allow individuals to do that, arguing that a level playing field is appropriate in health, but many will, and this will be one aspect of a hybrid health system.

What then are the key aspects of the Australian health system that may need reform in the years ahead?

Australia has an outstanding health system, with good clinical outcomes, excellent outpatient treatment both in medicine and other disciplines, and a good public and private system. While at times the system may be stressed, there is little doubt that our health outcomes measure up well with similar countries in the western world.

Going ahead, some of the changes that are likely to be needed in health system organisation will require a higher degree of integration of the health system than we have at the moment. Currently, looking at medical practice in the main, outpatient treatment is largely given through an excellent family medicine system delivered by general practitioners (GPs), funded on a individual patient service basis through the Federal Government. Public hospital funding is generally through the State system, and private hospital funding in large part through a medical insurance system. Looking at the public funding only, it is clear that there are different channels in the main for funding of the public hospital system and outpatient care in the community. It is likely that we are going to need a higher degree of linkage between outpatient and hospital care in the years ahead, which may require more alignment of funding approaches.

One way of improving outcomes for public health systems, both in terms of improved clinical outcomes, including reduced complications, and more efficient outcomes in terms of dollar cost, is to develop a system where health bodies outside the public hospital system commission health services from individual hospitals against a set of agreed outcomes. This system of health commissioning works well in the United Kingdom where originally primary care trusts (aggregations of GPs) had a major commissioning role, and now aggregations of primary care trusts have the same role. This can lead to a system where there may be some competition between different hospital organisations for public health dollars that are

delivered against carefully negotiated performance criteria and, of course, if the criteria are not met then funding can be moved elsewhere in future rounds. This is one model that ensures a competitive market place in what is essentially a public market, and can result in considerable improvements in the efficiency of the hospital sector in the setting of improved clinical outcomes.

A second reason why community care and hospital care needs to be linked more effectively relates to improvements in individual case management. In health — and this is especially the case in aging populations — a minority of patients use the majority of health resources. If one can manage the top 10% (and possibly the top 20%) of health resource users efficiently, it greatly improves patient outcomes and also reduces the demand on the hospital system. This may involve through improved information technology (which we are starting to see develop), an ability to identify the top users of health resources, and to make sure that for each patient in that category an individual management plan is in place that does all it can to maintain their quality of life and keep them out of hospital. This may involve access to a range of outpatient resources, including well-designed background information about various aspects of their condition, access to a nurse in the home, or allied health services in the home; and if the patient has a major event that may require hospitalisation, in the absence of other resources it may be possible for some of these events to be managed by a hospital in the home approach. Approaches of this type need to be coordinated closely by the family doctor and can be regarded as providing additional resource to the family doctor. Optimising management of chronic illness through approaches such as those outlined above reduces unnecessary hospitalisation and potentially greatly improves quality of life for people with chronic illness by ensuring that preventative approaches are fully applied in their case and that they are looked after wherever possible in a home environment. Approaches of this type are at the core of high-quality management of ageing populations.

With an approach of this type it is clearly inappropriate to have sharp divides between the hospital sector and patient management in the community, and more integrated approaches to health organisation may be advisable.

As greater understanding of disease pathogenesis is being developed through the revolution in medical science currently underway, the ability to detect early those individuals who might be at risk of certain conditions, including cancer or vascular complications, is increasing, and the range of preventative measures that may be possible is also getting ever larger. As time goes by it is clearly going to be necessary to expend a greater percentage of health resources in prevention of illness and maintenance of health than we do at the moment, where almost all resources are expended on the treatment of established illness.

Turning to the funding of the hospital sector itself, great progress has been made in Australia, especially in the State of Victoria, through the development of activity-based costing. This enables rational development of hospital funding to align with complexity and level of workload, and has been fine-tuned greatly since its introduction several decades ago. Victoria has a very strong position internationally in this area. Extension of a similar model to other states is clearly something currently being considered that should be beneficial.

Another issue in healthcare going ahead is whether a thriving private sector is a good thing or not for advanced countries such as Australia. To meet fully the health demands of an ageing population is likely to be beyond the resources of even the most advanced western government, and a hybrid system involving public and private components is likely to be optimal. Clearly, the public system should provide a high base level of care, where all major conditions are well treated for the population at large. The private system may provide additional resources for treatment of a range of conditions and possibly provide cover for treatment of some conditions that are not funded through the public purse, but it is unlikely that these would be significant as similar criteria will be applied by

any private health insurer to the funding of illness as would be provided by Government authorities through a NICE-like approach.

The mix between private and public health care will vary from country to country. Australia has developed quite a good mix in recent times although it is likely that expansion of both public and private capacity in the system will be needed in the face of increasing health demands from ageing populations in the years ahead.

I have canvassed some of the key issues and opinions in health systems in the early 21st century in this short chapter. The challenges have been set out, and some of the issues that we will need to address by informed public debate over the next few years as we continue to further improve and reform an already health system identified. If sensible changes are made at an appropriate time, the process will be one of evolution, with constant strengthening of our system in a way that builds on strength. If we don't take some reform of the health system in the not-too-distant future, however, the gap between the capacity of the system to deliver and the needs of the community may start to widen, and a revolutionary approach may be necessary. Examples of this, such as the establishment of the National Health Service in the United Kingdom by Aneurin Bevan and colleagues in 1948, that have been successful are relatively few.

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