Crisis, what crisis? Revisiting 'possible futures for physiotherapy'

David A Nicholls, GradDipPhys, PhD, MA
Duncan A Reid, DHSc, DipMT, DipPhys, BSc
Peter J Larmer, MPH(Hons), MNZSP, DipMT, DipAcup
School of Physiotherapy, Auckland University of Technology

ABSTRACT
In 2005, Nicholls and Larmer argued in this journal that the culture of physiotherapy practice in New Zealand was undergoing radical transformation brought on by the rapidly changing economy of health care. In 2007, a paper by Reid and Larmer picked up on many of these arguments in its analysis of the changing face of private practice in New Zealand. Since that time, there is evidence that the profession is beginning to take stock of its position and explore new directions. This paper expands on our earlier writing to further examine some of the issues raised and outline some of the challenges now emerging for physiotherapists. We consider the impact of our ageing population on workforce reform, shifting governmental priorities and the rise of new public health, and finally the effect these changes are having on education and practice. **Nicholls DA, Reid DA, Larmer PJ (2009): Crisis, what crisis? Revisiting 'possible futures for physiotherapy'. New Zealand Journal of Physiotherapy 37(3): 105-114.**
Keywords: Ageing population, workforce reform, health priorities, public health, interprofessional education

INTRODUCTION

In 2005, Nicholls and Larmer argued in this journal that the culture of physiotherapy practice in New Zealand was undergoing radical transformation brought on by the rapidly changing economy of health care (Nicholls & Larmer, 2005). In the paper, the authors argued that cultural, demographic, economic, political and social pressures were challenging physiotherapists to reform their practices, their notions of what physiotherapy had been in the past, and what it might be in the future. Proposing four possible directions for the profession, the authors argued that unless physiotherapy successfully navigated its way through these issues, it faced a bleak future.

In 2007, a paper by Reid and Larmer developed many of these arguments in its analysis of the changing face of private practice in New Zealand (Reid & Larmer, 2007). Predating the 2009 Accident Compensation Commission (ACC) crisis, these authors argued that physiotherapy needed to explore alternative funding models, explore opportunities for enterprise and innovation, and respond proactively to the clear reform agenda evident in health care systems within the developed world.

Since that time, there is evidence that the profession is beginning to take stock of its position and explore new directions. Information has emerged that provides new impetus for professional reform, and so this paper seeks to unpack and expand on the issues raised in our earlier writing. In the paper we have tackled three broad areas: the ageing population, shifting government priorities, and practice reform. After exploring what some have somewhat erroneously called the 'demographic timebomb', our second section explores shifting government priorities, the impact of new public health and we touch briefly on the effect of ACC reforms. Our third and final section looks at the changes taking place in inter-professional and collaborative learning and practice that are contributing to important curriculum reforms for our next generations of practitioners.

BACKGROUND

In their 2005 paper, Nicholls and Larmer argued that there were a number of challenges confronting health care providers. These included:

1. An increasingly ageing population.
2. The increasing burden of chronic illness.
3. The emergence of information and communication technology supporting new forms of care delivery.
4. A shift in emphasis from services centred on the healthcare professional to patient-centred services.
5. Technological advances in healthcare that will promote changes in the demand for services.
6. Issues in relation to education, training, regulation, accreditation, pay and reward (Alexander, Ramsey, & Thomson, 2004).

It is now clear the extent to which these changes will affect the provision of health care, and the nature of the health care services designed to meet public need have been vastly underestimated. Taking the ageing population as our exemplar, we have sought here to provide a sketch of some of the tensions facing the profession. Whilst, on the one hand, this may look a challenging set of issues, we would not want the reader to be daunted by the future prospects for the profession. On the contrary, it is our belief that there has never been a more exciting time to practise physiotherapy.

Our ageing population

For some years now, we have known that the ageing of the 'baby boomer' generation (i.e. those born in the 20 years after the end of World War Two), would dramatically transform the demographic

profile of developed countries. Since the 1950s life expectancy for both men and women in New Zealand has increased by 8.8 and 9.6 years respectively (Zodgekar, 2005, p. 70). The median age of the population is moving upwards in most developed countries, and the percentage of the population of people over 65 is increasing dramatically as Western societies reduce early age mortality and prolong life.

> *Mortality trends in New Zealand are similar to those experienced by industrialised nations generally. There has been a general increase in living standards, improvement in living and working conditions, and elimination of, or substantial reduction in, malnutrition, which, together with advances in medical science and health services, have resulted in an almost continuous decline in mortality and a corresponding increase in life expectancy (Zodgekar, 2005, p. 70).*

Significantly, this ageing of the population is changing the social dimensions of developed countries (Population Division - Department of Economic and Social Affairs - United Nations Secretariat, 2007). New Zealand's population is ageing particularly rapidly with the number of people over 65 predicted to increase from 18 per 100 today, to 45 per 100 within the working lifetime of today's new physiotherapy graduates. Those over 80 years of age represent the fastest growing sector in the population with the population of most advanced elderly expected to treble from 95,700 in 1996 to 314,200 in 2031, with an estimated 1.34-1.37 million men and women over the age of 60 in 2031 (28.5-28.9% of the population) (Population Division - Department of Economic and Social Affairs - United Nations Secretariat, 2007; Statistics New Zealand, 2007).

As Zogdekar states, 'The importance of this is in helping us understand the social impact of the mortality decline, particularly in a society where considerable medical care and full retirement benefits are provided after age 65' (Zodgekar, 2005, p. 71). An ageing population might be less of a concern for nation states if reductions in mortality rates had been accompanied by equivalent improvements in morbidity, but as Koopman-Boyden (1993) pointed out, this has not been the case (Koopman-Boyden, 1993). Consequently, large sections of the population can expect to experience extended periods of chronic illness for increasing proportions of their lifetime. Thus an ageing population presents a number of inter-related challenges for physiotherapists in New Zealand, the first of which are the real increases in the numbers of people who depend upon health care services to maintain their independent functioning in the community.

Increasing dependence[1]

While life expectancy is increasing, 'the proportion of life expectancy lived free of significant disability is in fact diminishing' (Zodgekar, 2005, pp. 79-80). OECD numbers suggest that those over 65 demand three to five times the health expenditure of those aged 15-65. The New Zealand Ministry of Health 'Health and Independence report' (2004) stated that in 2001 men could expect on average 64.8 independent life years, while women could expect 68.5. Thus as people approach retirement age, many are becoming increasingly dependent on a range of formal and informal health services to maintain their independence.

Significantly, 'By 2031 it is expected that most children will enter old age (defined as ages 60-64) when their parents are still alive, and a growing number will have grandparents still alive' (Zodgekar, 2005, p. 76), and while the 'young' elderly are now less dependent than their parents and grandparents, it is clear that the capacity to care for others who are dependent diminishes with age. Thus the burden of care for older adults must fall, to a greater or lesser extent, elsewhere (Zogdekar, 2005).

The traditional 'welfare' model of formal care for dependent populations relied on a large, centrally organised workforce and the fair distribution of government funding (generated through taxation) for comprehensive health and social welfare services. This model has been slowly unravelling since the 1980s in most developed countries, in part out of a desire to rationalise health care expenditure. Part of this determination derives from the demographic changes taking place in developed countries which point to four inter-related problems:

1. The growth of dependent populations of retirees
2. The relative shrinkage of the working age population
3. The consequent relative reduction in available both skilled and support workers
4. The relative diminution in the population of tax paying adults

At the height of the welfarism in the 1950s, there were between 25-50 working adults for every retiree. There are currently only 5.4, and by 2061 the number is estimated to drop to just 2.2 working age adults for every adult over 65 (New Zealand Institute for Economic Research, 2004). What we are experiencing then is a gradual deconstruction of formal care based on a welfarist model, and its replacement with a loosely connected assemblage of systems and structures designed to meet the growing needs of dependent populations.

The rise of informal care

Formal health care services in New Zealand are currently being met by an estimated 130,000 health care workers, of which half are in 'regulated' professions. The remaining health care workforce

[1]Dependence refers to those under 14 and over 65.

is composed of more than 50,000 unregulated practitioners and service staff (orderlies, ward assistants, home support, residential care workers) and from an estimated 10,000 complementary and alternative medicine practitioners (CAMs) (Ministry of Health, 2004; New Zealand Institute for Economic Research, 2004)[2]. Physiotherapists make up a little more than 5% of the regulated health workforce and only 2.7% of the estimated total health care workforce in New Zealand despite the fact that they are one of the largest professions allied to medicine. Of the 3,500 physiotherapists working in New Zealand, approximately 55-60% operate in the private sector, treating predominantly musculoskeletal disorders. A further 30% work in District Health Boards (DHBs), mainly in tertiary care centres.

The imbalance in the distribution of physiotherapists by comparison with both the background population and, more importantly, New Zealand's dependent population is stark. Staying with the ageing population as our exemplar, according to the 2007 Health Workforce Annual Survey only 3.5% of New Zealand physiotherapists work in private hospitals and/or rest homes and only 5% include 'care of the elderly' as one of their key roles (New Zealand Health Information Service, 2007). On present estimates, there is only one physiotherapist for every 27 people over the age of eighty and there is only one dedicated gerontological practitioner for every 550 of our most dependent elderly health care service users.

"...an ageing population presents a number of inter-related challenges for physiotherapists in New Zealand, the first of which are the real increases in the numbers of people who depend upon health care services to maintain their independent functioning in the community."

Whilst the profession presently occupies itself with the crisis created by the demise of the Accident Compensation Corporation's (ACC) Endorsed Provider Network contracts and the likely impact of co-payments on private practices around the country, our most vulnerable populations of non-working age adults are receiving a patchwork of physiotherapy services to supplement the day-to-day care provided by a largely untrained, unskilled, low paid or, more commonly unpaid, workforce. Estimates vary, but a comparable Canadian study showed that more than 1.7 million adults aged between 45 and 64 provide informal care to almost 2.3 million seniors with long-term disability or physical limitation; that approximately 1 in 5 men and women aged 45 and older provide informal care; and that 39% of senior women and 45% of older men receive all of their care from informal sources (Canadian Association for Community Living, 2003). In New Zealand, a recent report showed that the average wage of care workers in New Zealand was only $10.80 per hour (equivalent to the minimum wage for the time), and that half of the providers of elderly care services canvassed in the report stated that less than 50% of their employees were adequately trained (Chal, 2004). The need for affordable, beneficial and trustworthy therapy services for all our dependent populations – young and old – is becoming a priority. As the principal state-sponsored provider of physical rehabilitation services, physiotherapists should be exploring how it might be possible to offer viable alternatives to the dysfunctional system that currently exists.

Workforce reform

The changing demography of the population will have a profound effect on the health care workforce in the next 20 years. A recent NZIER report predicted a 40-69% increase in demand for health care services by 2021, and that 'If the health and disability services maintain their share of the New Zealand working age population, demand for labour will outstrip supply by 2011' (New Zealand Institute for Economic Research, 2004, p. iii). In a society used to social welfare support, the transformation in the structure and function of formal health care will be profound if it is to meet the future needs of the population.

Attempts to address the demand for future health care are emerging in a range of different concepts and strategies, including the selective incorporation of a wider range of practitioners into established registration arrangements, the redistribution of formal health care away from tertiary centres, and strategies designed to 'empower' people to take more responsibility for their own health. These approaches come on the back of somewhat frustrated attempts to increase the productivity of orthodox health care services and reform the silo mentality of many of the established health care professions. As the NZIER report suggests;

It is unsafe to assume that the health and disability services will be able to increase their share of the total workforce in New Zealand to avoid labour shortages, nor can productivity increases be counted on, nor can better health education and monitoring be relied upon to reduce service needs. Thus, attention needs to focus on how the health and disability services workforce

[2] The total healthcare workforce is difficult to ascertain accurately because of the fluidity and flexibility associated with unregulated health professionals and support workers.

should be educated, trained, developed and deployed (New Zealand Institute for Economic Research, 2004, p. iii).

The report concluded that 'the current approach to health and disability services provision [is] unsustainable', that changes need to be made to the 'division of funding between primary and secondary services', 'occupational definitions and boundaries', 'the 'training and development of the workforce', and the recruitment and retention of staff.' (New Zealand Institute for Economic Research, 2004, pp. iii-iv). As with all dominant cultures, the orthodox health professions have been slow to respond to calls for change. In New Zealand, as much as in other countries, resistance and inertia from orthodox professional practitioners have been commonplace (Davies, 2003; Hunter, 2008; Kuhlmann & Saks, 2008). When the NZIER considered the barriers to reform in its report, it was professional patch protection, the perceived poor state of the primary sector, institutional inertia, the existence of funding and other 'silos', poor quality information about the workforce, and the lack of common training for the support work sector that they cited (New Zealand Institute for Economic Research, 2004).

A recent Ministerial Review Group's (MRG) report called for 'more flexibility in work roles and practices…to ensure that we have the health and disability workforce we need to provide quality patient-focused health and disability services throughout the country' (Ministerial Review Group, 2009). The authors argued that 'while the HPCA Act 2003 allows for changes in scope of practice and for novel types of health roles, the innovations that have occurred in other countries have not been adopted here.... this shortcoming needs urgent attention.' As Minister of Health, Tony Ryall made clear in a speech to the PHO Alliance meeting in Wellington, recently, "the three biggest problems in health today [are] workforce, workforce and workforce" (Ryall, 2009).

"...the future for professions like physiotherapy depends to a greater or lesser extent on its ability to identify with the changes taking place in health care and promote a new model of practice that no longer relies only on its established, orthodox heritage."

Clearly, given the tone of much of the rhetoric that now surrounds health care reform, the future for professions like physiotherapy depends to a greater or lesser extent on its ability to identify with the changes taking place in health care and promote a new model of practice that no longer relies *only* on its established, orthodox heritage.

Shifting governmental priorities

The 1999 and 2003 Labour governments set out 13 key short and medium term health priorities in its report 'The New Zealand Health Strategy' that make important reading for physiotherapists. These included reducing smoking rates, improving nutrition, reducing obesity, increasing the level of physical activity, reducing the incidence and impact of cancer, cardiovascular disease and diabetes, improving the health status of people with severe mental illness, and ensuring access to appropriate child health care services. This list is interesting as much for what it leaves out as for that which it includes. As Reid and Larmer (2007) pointed out in 2007, no mention is made of the one-in-five of the population that attend GP practices at some stage in their lives with chronic musculoskeletal disorders. By contrast, emphasis is placed upon problems that have traditionally been at the margins of conventional physiotherapy. Certainly, physiotherapy has long known the virtues of physical activity and its positive impact on long-term health, but in the absence of a population-based model of care, has handed much of the impetus for these issues over to other practitioners, including GPs, practice nurses, personal trainers, and those in the complementary and alternative practice sector. It is reasonable to ask here whether physiotherapy practices need to pay greater heed to the conditions that the World Health Organisation predicts will be the most prevalent by 2030 (ischaemic heart disease, cerebrovascular disease (stroke), chronic obstructive pulmonary disease and HIV/AIDS), or whether it feels its present concentration of treating the simple musculoskeletal conditions is sufficient to satisfy future governments of its continuing relevance to state-sanctioned health care services

.

The diminishing role of ACC

The Accident Compensation Corporation has had a profoundly important relationship with the physiotherapy profession in New Zealand over the last 30 years. It has been, in all likelihood, our largest funding source, and its influence has been felt in education, professional organisation and decision-making, and the theoretical and philosophical development of the profession. It has been important in bringing about a degree of separation from the profession's longstanding affinity with what might be called an 'English' model of practice3, and has nurtured the careers of some of the profession's best-known musculoskeletal therapists.

[3]An 'English' model of practice refers here to New Zealand physiotherapists' longstanding affinity with English physiotherapy examination systems, curricula, learning resources and practice principles (Nicholls, 2008).

Approximately 60% of New Zealand's 3,500 practitioners work in private practice, and for the majority of these private practices ACC is the primary source of funding. One of the striking features of ACC's influence upon the profession has been the growth and emphasis placed on the rehabilitation of clients with acute musculoskeletal injuries. Whilst this has been profitable for the profession on one level, it has also influenced the way many view the profession in New Zealand and leant credence to a belief that physiotherapists are only interested in treating self-limiting injuries, or 'the worried well' as Barsky called them (Barsky, 1988).

Box 1

New Zealand physiotherapy practices are now starting to explore alternatives to numbers-based treatments approaches promoted by ACC. A number of practitioners are also stepping outside the security of the public health system, developing 'bleeding edge' practices that allow them to incorporate orthodox and complementary approaches in their practice (Kleinke, 1998). Some of these practices are now negotiating individual packages of care for individual service users. These have particular relevance for people learning to live with chronic degenerative illness where movement is a vital feature of their ability to remain healthy (osteoarthritis, multiple sclerosis, dementia, for instance). These packages of care often provide the following:

- Goal directed rehabilitation backed up by individual care, assessment, treatment (e.g. mobilisation and exercise) extending over many years
- Episodic periods of specifically targeted intervention
- Community based programmes, sometimes in groups to provide less expensive but equally important maintenance and management of the condition
- Long term care and planning-engaging with other providers and health care systems such as PHOs

In 2008, ACC paid more than $125 million for physiotherapy services. Between 2000 and 2008 the percentage of claimants treated by physiotherapists has increased by 74% (Accident Compensation Corporation, 2009). During that time, ACC's concern has shifted from the rehabilitation of acute injuries to the costs of chronic long term conditions that have kept people from returning to full employment. ACC now recognises that its greatest liability lies with the 12,000 clients with long-term incapacity who now make up what the Corporation calls its 'long tail'. It is reasonable to argue that physiotherapy's failure to adequately respond to this shift has prompted a radical revision in the profession's relationship with ACC.

At the heart of the problem lies a treatment model based on the numbers of treatments offered to patients. The current national benchmark for physiotherapy treatments in private musculoskeletal practice across all conditions is around 5-6 treatments (Accident Compensation Corporation, 2009). Anyone providing significantly beyond this is considered an 'outlier.' However, basing clinical decisions on a prescription of this sort cannot possibly reflect best management for most, if not all, presenting complaints. There is evidence, for example, that for post operative ACL reconstruction patients should be encouraged to have a supervised strengthening programme for up to a year (Holm et al 2000). This type of approach would be quite a different mindset for practitioners and clients who have both come to expect a short-term treatment 'allowance' from their provider.

Given the shifts taking place in health care then, it might be argued that the profession's symbiotic relationship with ACC needs to be reviewed. It is clear from the government's recent pronouncements about physiotherapy and ACC, and the rising tide of critical commentary about the relationship from within the profession, that there is now an eagerness to pursue new funding models that do not tie the profession to such a uni-dimensional market. In the absence of suitable international comparators, it will be New Zealand physiotherapists themselves who will need to uncover new ways of working with emerging or existing funding streams (see Box 1).

Social determinants of health

Governments of every persuasion have always placed the health of the nation at the forefront of their political thinking. Even the most liberal reformers have tinkered with the structure of health care services. New Zealand's own reforms have often been world leading (Cheyne, O'Brien, & Belgrave, 2005; Dow, 1995). New Zealand governments have often promoted individual agency in health care decision-making (not least because New Zealand has a large, remote, rural population), but there has also been a realization of the importance of social determinants of health and illness; the structural (i.e. cultural, economic, environmental, institutional, political or societal) factors that either create the conditions for health and wellbeing, success and achievement or, conversely, illness and suffering (Kelleher & MacDougall, 2009).

Kelleher and MacDougall (2009) define five key social determinants of health:

- Class and socioeconomic gradient
- Early child development
- Poverty, deprivation and social exclusion
- Poor health literacy
- Gender inequality (Kelleher & MacDougall, 2009, pp. 54-57).

The presence of these factors determines a great deal about the health of the population, even before we take into account a person's responsibility or behaviour. Evidence is widespread, linking poor health with unemployment, poor living conditions, poverty, poor quality education, crime and discrimination. An awareness of these factors led Howden-Chapman (2005) to argue that while

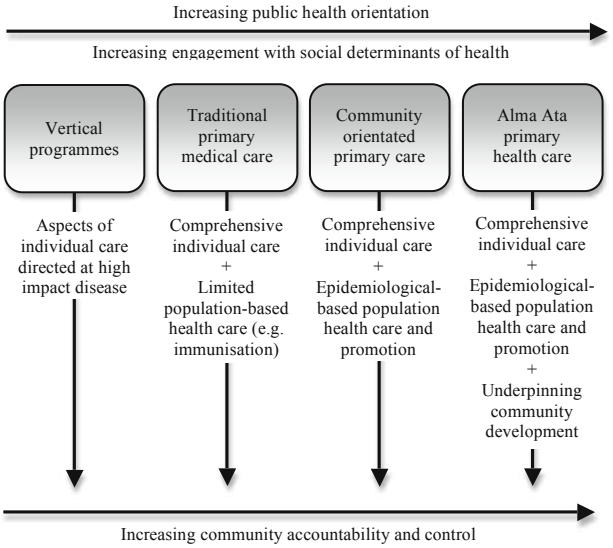
personal responsibility and agency were important, health professionals should be working to establish:

- Low unemployment
- Clean health environment
- Safe working conditions
- Low disparities in income and wealth
- Affordable, available education and health services
- Low crime
- Favourable economic conditions
- All ethnic groups feel able to participate in society
- Recognition of Treaty partnership (from, Howden-Chapman, 2005, p. 54);

Different political parties take different ideological positions on the degree of central government intervention in establishing these factors, but governments in most developed countries recognise that the role of government agencies (like doctors, nurses and physiotherapists) plays a vital role. One of the critical questions for central government's support for future physiotherapy may depend in part upon how well the profession can demonstrate its contribution to these broader social questions. We might ask ourselves where will future physiotherapy contribute to reducing domestic violence, improving public transport, eliminating racism and improving the built environment. Ignorance of these factors may well see others promoted as the preferred providers of physical rehabilitation in the future, and the physiotherapy profession marginalised.

Social welfare agencies that once focused only on concerns that were immediate to them, are now realising the health benefits of their actions. A recent study investigating the effects of Housing New Zealand's decision to provide better insulation in houses in lower socioeconomic areas, for example, showed a 40 - 50% reduction in the visits to GPs and hospital emergency departments through wheezing, colds and respiratory problems amongst children, and a comparable reduction in days off work and school (Howden-Chapman, Matheson, and Crane et al, 2007). One might ask when did Housing NZ become a health provider? But the impact per dollar spent has arguably been much greater than physiotherapists' collective (and expensive) efforts to ameliorate the downstream effects of respiratory illness from within tertiary centres and GP surgeries. A similar effect may be seen with ACC's decision to cut funding for a falls prevention programme that it once sponsored (Robertson et al 2001a,b). Time will tell whether such short-term measures will have long-term consequences. What opportunities now exist for physiotherapists to take an active role in areas like spatial and urban design, legislative reform, criminal justice, primary and secondary education, Treaty negotiations, and workforce planning to improve people's movement and function before they arrive at our clinics and departments?

Figure 1: Models of health care delivery



Adapted from Crampton, 2005

Moving forward

Although the range of issues now confronting the profession appears overwhelming, many of these issues have confronted the profession before or have been developing for some time. In the past, physiotherapy had the luxury of effectively ignoring many of these issues because it was comfortably insulated within a social and political system that was happy to support it (orthodox health care and education). The profession's preferred way of understanding health and illness (through a biomedical or more accurately biomechanical lens) also allowed it to deploy a very restricted view of the full variety of perspectives available. In fact until recently, many physiotherapists would have been convinced that there only was one way to view health and illness. This perspective has allowed physiotherapists to pay only lip service to cultural, economic, political, psychological and social dimensions of health. Generations of students were trained to marginalise or at best ignore these 'other' ways of viewing health. As such, it would appear that many of our present anxieties about our future as a profession relate to the fact that we can no longer afford to take such a narrow view, and the profession recognises the need to embrace a broader range of perspectives. The problem is, of course, how to do this, since much of this thinking is alien to us.

Fortunately, models and frameworks now exist amongst our sister professions to guide the change that the profession must embrace. These models have emerged from over a century's work in philosophy, political economy, and sociology, and there is a new generation of educators emerging with exposure to these ideas through their higher degree study. Importantly, these models, whilst not speaking directly to physiotherapy, allow us to imagine how physiotherapy might be different in the future. In New Zealand, reform is taking place

on a number of levels, and we will examine three of them here:

Given the preceding arguments, our focus now turns to three important changes in health care that have direct relevance for future physiotherapy practice:

1. New models of health care delivery
2. Interprofessional practice
3. Curriculum development and on-going professional development

New Models of health care delivery

One of the most important shifts affecting physiotherapy relates to new models of health care delivery. Figure 1 describes a model of health care delivery constructed by Crampton (2004) which is designed to reflect the change taking place. On the left is the current framework that a significant number of physiotherapists work within; individualised care for a patient presenting with a disease, illness or impairment. Whilst this approach may have served physiotherapy well in the past, there is growing evidence that future health care will need to shift towards a model of care akin to the Alma Ata model on the right. The Alma Ata model was proposed by the World Health Assembly and UNICEF in 1975 and ratified at the International Conference in Primary Health Care in Alma Ata, the capital of Kazakhstan. The Alma Ata model of primary health care encourages greater individual responsibility for health care but does not preclude the need for people to access traditional individualised care services (the ambulance at the bottom of the cliff). What it does, however, is to shift the focus towards prevention (the fence at the top of the cliff), by placing greater emphasis upon maintaining health and wellness through local health care decision making; shifting the balance of power away from the established professions, and embracing a more diverse appreciation for the meaning people give to health.

"Interprofessional practice itself sits comfortably alongside new public health care and the social determinants of health, but it requires that health professionals relinquish their traditional power base, and see themselves instead working in collaboration with the communities they serve."

Part of the transition towards greater community involvement in health care decision-making has been the development of Primary Health Organisations (PHOs) in New Zealand. First established in July 2002 as part of the Labour government's Primary Health Care Strategy (Ministry of Health, 2001), there are at present 81 PHOs commissioning services for discrete populations of people. While these organisations have begun to transform the funding and delivery of health care services, the engagement with allied health and particularly physiotherapy has not been significant. However the PHO model holds enormous potential for growth in physiotherapy input. For example, the long-term management of chronic heart failure and diabetes, or in the provision of clinically-astute exercise rehabilitation programmes for people with chronic degenerative joint disorders, or in return to work for people with neurological disability, possibilities exist for a massive expansion in the application of conventional physiotherapy expertise to a wide range of new and exciting health care needs. To take advantage of the opportunities offered by a primary health care approach, physiotherapists must begin to take their skills and abilities into their communities and look at local need; build relationships with local commissioning bodies and adapt their services to the needs of the population immediate to them.

One example of a clinic moving this way is the 'Sore Knees' project undertaken by Shore Care Physiotherapy (Potts, 2009). This clinic has partnered with the local Les Mills Gym and local general practitioners to offer an individualised assessment followed by a comprehensive gym programme for people with osteoarthritis of the knee.

The project mirrors a similar project undertaken at AUT University's Akoranga Integrated Health (AIH) clinic. This clinic has developed an interprofessional project centred on people with a chronic health condition, especially mild to moderate osteoarthritis of the knee and hip. These people enter the project via a single assessment triage undertaken by a nurse practitioner. Following the generic holistic assessment the person's priorities of care are discussed with an interprofessional team of undergraduate students from a range of disciplines (physiotherapy, occupational therapy, podiatry, nursing, and psychology). Once the treatment has been planned and discussed with the person, a student 'navigator' is assigned to the person. This navigator may or may not be the main treatment provider, but their role is to stay with the person while they undertake other aspects of their care. In this way the students not only get to see where their discipline fits into the larger care plan but also see how the other disciplines interact.

Interprofessional practice

A second important driver of change in the profession is the move towards interprofessional practice. As Lissauer (2003) argues; one of the most important health care reforms that has taken place

over the last 30 years has been the reform of the health workforce. Prior to the oil crisis of 1973/4, health care services were dominated by a welfare model in which doctors controlled all facets of health care decision-making. The oil crisis led many western governments to look for ways to constrain the spiralling costs of publicly-funded health care, and ever since, successive Western governments have pursued reform agenda (with varying degrees of success) (Hunter, 2008). Collaborative, interprofessional, or interdisciplinary working has been a major plank of this reform agenda:

> *One of the key debates for the future is likely to centre on the value or otherwise of developing and expanding the shared elements of knowledge and skills between different professional groups. Hitherto, professional status has often been linked to claims of a distinctive approach, shared by all members of a profession and grounded in a unique theoretical perspective. In future the emphasis may shift away from distinctiveness and towards an interest in shared competencies and aspects of knowledge between those professionals working within a provider network or involved in the care of a particular patient group and towards an increasing permeability between separate professional career pathways (Lissauer, 2003, p. 25).*

To emphasise the global nature of this transformation, the Director General of the World Health Organisation, Margaret Chan, recently stated that 'New approaches are necessary to transform how current and future health workers relate to one another and work within the community' (WHO, 2008, p7).

Interprofessional education and collaborative practice occur whenever two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes; or when multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings (WHO, 2008). These notions are fundamentally different from traditional orthodox health care practice where clinicians merely worked alongside each other. Interprofessional practice itself sits comfortably alongside new public health care and the social determinants of health, but it requires that health professionals relinquish their traditional power base, and see themselves instead working in collaboration with the communities they serve. It necessitates a shift in power away from conventional models of health that rely on expertise in the hands of a select few. Thus, reform on this scale depends on a 'bottom up' approach that begins with the education of prospective practitioners.

One of the first barriers to developing interprofessional and collaborative practice is in the design and configuration of tertiary education programmes. Most undergraduate physiotherapy programmes still emphasise the need to develop professionals with distinctive, rather than complementary knowledge, skills and attitudes. In recent years measures have been taken to bring students from different disciplines together – in the development of a common first semester or year, for example. But students at this stage of their training have only a rudimentary appreciation for their professional identity, and so such programmes are probably more economically advantageous to the university than pedagogically advantageous to the student (particularly if such experiences are not repeated in subsequent years). Once students enter their discipline-specific papers they tend to branch away from the other disciplines and professional silos develop.

Clearly, teaching students about the distinctive characteristics of the profession they aspire to is vital for professional socialisation, but all too often this has led to protectionism and negative concerns of horizontal and vertical encroachment, deprofessionalisation and the emergence of what Donald Light called 'countervailing powers' (Dent, 2003; Light, 1993; Lupton, 1995). What is needed is a more nuanced approach to professional education that allows for improved inter-professional collaboration and understanding, develops innovation and enterprise across a much more diverse set of health providers, challenges traditional notions of health and illness, and makes porous some of the boundaries between lay knowledge and expert opinion, orthodox and alternative, mainstream and marginal.

Box 2

In recent years, both New Zealand physiotherapy schools have revised their curricula in line with both the published literature (which is calling for greater evidence-based practice, interprofessional practice and workforce readiness), and professional opinion which is calling for new ways of imagining physiotherapy practice in the future.

For the last two years, physiotherapy lecturers at AUT have been developing a new curriculum model designed to reflect physiotherapy's core values and specialist knowledge and skills, whilst expanding into areas of innovation and enterprise, medical humanities, population and public health and social sciences. To incorporate these dimensions into a curriculum has involved a great deal of curriculum innovation and reorganisation of teaching and learning philosophy. The curriculum removes the traditional subject blocks (anatomy, pathology, etc.) and replaces them with themed concentrations (community/ambulatory, rehabilitation, acute/complex, for example). These concentrations frame papers which blend content from a number of areas (pure and applied sciences, humanities, social sciences, etc.). The intention is not so much to anticipate what students will need to know to be effective practitioners beyond 2020, but rather to equip them with the knowledge, skills and attitudes necessary for them to adapt to whatever need arises in the field of physical rehabilitation.

Curriculum reform

Reform of the undergraduate curriculum offers one of the most potent ways to re-define how people approach physiotherapy practice. In the past, universities have been criticised for being slow to change, particularly in the field of medicine, which has been seen as superior and somewhat removed from the needs of the people (Beeston & Simons, 1996; Bithell, 2005; De Souza, 1998; Noronen & Wikström-Grotell, 1999). Because physiotherapy has historically lacked a unique identifying philosophy – preferring instead to remain close to biomedicine – it has also been slow to respond to changing societal values and needs. Whilst only anecdotal, it is our experience as educators that the core physiotherapy curricula have remained largely static for most of the profession's history. Much of the emphasis on learning is placed in the same papers run (anatomy, physiology, kinesiology, pathology, clinical reasoning, clinical experience), and progress through a course of study has largely remained unchanged, despite massive cultural, educational and social and upheaval. Unless the physiotherapy profession is prepared to embrace educational reform, it cannot hope to respond to the future health care needs of the population.

In recent years, a dramatic shift in the delivery, if not the philosophical underpinnings, of physiotherapy education has taken place led by North American schools. Concerned for the profession's social standing and ability to compete with other professions with doctoral qualifications (particularly chiropractic), new 'doctoral entry' programmes have become commonplace. Whilst this is not the place to enter into a detailed commentary on these changes (which have also been influential in Australia), our view is that these moves envisage the future of physiotherapy as high cost, elite, technical specialists. Whilst this response might have immediate appeal, it entirely fails to reflect that changes taking place in health care demographics, economics, politics and culture, and may, ironically, prove to have the opposite effect to that which was intended by bringing about the decline of physical therapy in these states.

One of the uncertainties at the heart of the problem for curriculum reform in physiotherapy is the profession's lack of an overarching philosophical framework (Roskell, Hewison, & Wildman, 1998; Tyni-Lenne, 1989). Some authors have pursued the notion of 'movement' in attempting to define the 'essence' of physiotherapy (Broberg, et al., 2003; Cott, et al., 1995; Ekdahl & Nilstun, 1998; Jorgensen, 2000; Roberts, 1994), but these models have not yet found universal acceptance within the profession. The lack of a robust theoretical framework makes it difficult for the profession to locate the values and beliefs that have guided its historical development in the past and, importantly, makes it almost impossible to make coherent, united steps towards future professional growth. Without a guiding framework, there is a risk that the profession's response to the need to reform will be fragmented, reactionary and divisive.

CONCLUSION

This paper has endeavoured extend the earlier thoughts of Nicholls and Larmer (2005) and Reid and Larmer (2007) and outline the challenges ahead for the physiotherapy profession. Health provision in New Zealand and across the world faces a significantly changing demographic profile with an ageing population, an increasing burden of chronic disease and a diminishing workforce to care for these people. Recent economic stresses and changes to a significant funder of physiotherapy services in NZ (ACC) have put the profession under the spotlight. Rather than seeing this as a crisis we have argued that this is an opportunity to not only strengthen but broaden the scope of physiotherapy, and ensure that we have a place in the provision of future health care services. However, in order to do this we will need to work in different ways (interprofessionally) and in different environments (community and PHO). Schools of education will need to educate future physiotherapist to be more responsive and socially aware, and curricula and on-going education will need to reflect these important changes. It is important that the profession is strategically focused to lobby and influence politicians and health decision makers that physiotherapy has a leading role to play in addressing the above concerns. We suggest that this lobbying needs to be led from the New Zealand Society of Physiotherapists and additionally that it is the responsibility of individual physiotherapists to be aware of and become involved in their local PHO and local community.

Key points

- The increase in the ageing population living longer with chronic disease will place significant strain on health care systems to deliver effective services
- Workforce reform is required to keep pace with these changes
- Inter-professional and collaborative practice models are part of this reform
- The future physiotherapy workforce needs to work in partnership with the communities it serves to ensure that the social and economic needs of the population are met
- Physiotherapists must strengthen their engagement with health priorities particularly at the community level
- Curricula at the tertiary education level must reflect the above needs and priorities to ensure the future workforce is equipped for the changing health environment

CORRESPONDENCE ADDRESS

David A Nicholls, Senior Lecturer, School of Physiotherapy, Auckland University of Technology, A-11 90 Akoranga Drive, Northcote, Private Bag 92006, Auckland, New Zealand. Email: david.nicholls@aut.ac.nz. Tel: 00 64 9 917 9999 x7064. Fax: 00 64 9 917 9620.

REFERENCES

Accident Compensation Corporation (2009). *Summary of Physiotherapy Claims*: ACC. Available at: www.acc.co.nz/ Retrieved 23 October, 2009

Alexander, JA, Ramsey JA & Thomson SM (2004). Designing the health workforce for the 21st century. *Medical Journal of Australia*, 180(1), 7-9.

Barsky AJ (1988). *Worried sick: Our troubled quest for wellness*. Boston, MA: Little Brown.

Beeston S & Simons H (1996). Physiotherapy practice: practitioners' perspectives. *Physiotherapy Theory and Practice*, 12(4), 231-242.

Bithell C (2005). Editorial - Developing theory in a practice profession. *Physiotherapy Research International*, 10(2), iii-v.

Broberg C, Aars M, Beckmann K, Emaus N, Lehto P, Lahteenmaki, M, et al (2003). A conceptual framework for curriculum design in physiotherapy education – an international perspective. *Advances in Physiotherapy*, 5(4), 161-168.

Canadian Association for Community Living (2003). *Economic Security for Caregivers: A Policy Development Process to Better Support Unpaid Caregivers*. Ottawa: CCC-CCAN.

Chal, J. (2004). *Disability Support Services in New Zealand: Part 1, Service Provider Survey*. Wellington: Ministry of Health.

Cheyne C, O'Brien M & Belgrave M (2005). The history of making social policy in Aotearoa New Zealand. In C. Cheyne, M. O'Brien & M. Belgrave (Eds.), *Social Policy in Aotearoa New Zealand: A Critical Introduction* (3rd ed., pp. 16-43). Auckland: Oxford University Press.

Cott CA, Finch E, Gasner D, Yoshida K, Thomas SG & Verrier MC (1995). The Movement Continuum Theory of Physical Therapy. *Physiotherapy Canada*, 47(2), 87-95.

Crampton, P (2004). *The exceptional potential in each Primary Health Organisation: a public health perspective*. Wellington, National Health Committee (2004).

Darnell, RE (2007). *Corpus: The Philosophical Meaning of Body in Physical Therapy Theory and Practice*. University of Michigan - Flint, Flint.

Davies C (Ed.) (2003). *The Future Health Workforce*. Basingstoke: Palgrave Macmillan.

De Souza L (1998). Editorial - Theories about therapies are underdeveloped. *Physiotherapy Research International*, 3(3), iv-vi.

Dent M (2003). *Remodelling Hospitals and Health Professionals in Europe: Medicine, Nursing and the State*. London: Palgrave Macmillan.

Dow D (1995). *Safeguarding the Public Health: A History of the New Zealand Department of Health*. Wellington: Victoria University Press.

Ekdahl C & Nilstun T (1998). Paradigms in physiotherapy research: An analysis of 68 Swedish doctoral dissertations. *Physiotherapy Theory and Practice*, 14, 159-169.

Howden-Chapman P (2005). Unequal Socio-economic Determinants, Unequal Health. In K. Dew & P. Davis (Eds.), *Health and Society in New Zealand* (pp. 51-68). South Melbourne: Oxford University Press.

Hunter DJ (2008). *The Health Debate*. Bristol: Polity Press.

Jorgensen P (2000). Concepts of body and health in physiotherapy: the meaning of the social/cultural aspects of life. *Physiotherapy Theory and Practice*, 16(2), 105-115.

Kelleher H & MacDougall C (Eds.). (2009). *Understanding Health: A Determinants Approach* (2nd ed.). South Melbourne: Oxford University Press.

Koopman-Boyden P (1993). *New Zealand: Ageing Society: The Implications*. Wellington: Daphne Brasell Associates Press.

Kuhlmann E & Saks M (Eds.). (2008). *Rethinking Professional Governance: International Directions in Healthcare*. Bristol: The Policy Press.

Light DW (1993). Countervailing Power: The Changing Character of the Medical Profession in the United States. In F. W. Hafferty & J. B. McInlay (Eds.), *The Changing Medical Profession: An International Perspective* (pp. 69-79). Oxford: Oxford University Press.

Lissauer R (2003). Delivering a Patient-Centred Service: Reforming Professional Roles. In C. Davies (Ed.), *The Future Health Workforce* (pp. 14-32). London: Palgrave Macmillan.

Lupton D (1995). Perspectives on power, communication and the medical encounter: implications for nursing theory and practice. *Nursing Inquiry*, 2(3), 157-163.

Ministerial Review Group (2009). *Meeting the Challenge*: Ministry of Health.

Ministry of Health (2001). *Primary Health Care Strategy*. Wellington: Ministry of Health.

Ministry of Health (2004). *The Health and Independence Report 2004: Director-General of Health's annual report on the state of public health* Wellington: Ministry of Health.

New Zealand Health Information Service (2007). *Physiotherapy Workforce: Summary Results from the 2007 Health Workforce Annual Survey*. Wellington: New Zealand Health Information Service.

New Zealand Institute for Economic Research (2004). *Ageing New Zealand and Health and Disability Services: Demand Projections and Workforce Implications, 2001-2021, A Discussion Document*. Wellington: New Zealand Institute for Economic Research.

Nicholls DA (2008). *Body politics: A Foucauldian discourse analysis of physiotherapy practice*. University of South Australia, Adelaide.

Nicholls DA & Gibson BE (Under review). The body and physiotherapy. *Physiotherapy Theory and Practice*.

Nicholls DA & Larmer P (2005). Possible futures of physiotherapy: an exploration of the New Zealand context. *New Zealand Journal of Physiotherapy*, 33(2), 55-60.

Noronen L & Wikström-Grotell, C. (1999). Towards a paradigm-oriented approach in physiotherapy. *Physiotherapy Theory & Practice*, 15, 175-184.

Population Division - Department of Economic and Social Affairs - United Nations Secretariat (2007). The Ageing of the World's Population. http://www.un.org/ageing/popageing.html Retrieved 25 June, 2009

Potts G (2009, 10 July). Do you have, or do you know anyone with knee pain. *North Shore Times*,

Reid D & Larmer P (2007). The New Zealand Health Priorities: Where do New Zealand Private Practice Physiotherapists fit? *New Zealand Journal of Physiotherapy*, 35(2), 42-46.

Roberts P (1994). Theoretical models of physiotherapy. *Physiotherapy*, 80, 361-366.

Robertson MC, Devlin N, Scuffham P, Gardner MM, Buchner DM, Campbell AJ (2001): Economic evaluation of a community based exercise programme to prevent falls. *J Epidemiol Community Health*, 55(8):600-6.

Robertson MC, Devlin N, Gardner MM, Campbell AJ (2001): Effectiveness and economic evaluation of a nurse delivered home exercise programme to prevent falls. 1: Randomised controlled trial. *BMJ*, 322(7288):697-701.

Roskell C, Hewison A & Wildman S (1998). The theory-practice gap and physiotherapy in the UK: insights from the nursing experience. *Physiotherapy Theory & Practice*, 14(4), 223-233.

Ryall T (2009). Keynote address. Paper presented at the PHO Alliance. from http://www.beehive.govt.nz/speech/health+minister039s+speech+notes+pho+alliance+meeting

Statistics New Zealand (2007). National Population Projections: 2006 (base) – 2061. http://www.stats.govt.nz/NR/rdonlyres/152C242E-E6F8-4A7A-87C7-8C0A3E48D790/0/nationalpopulationprojections2006basehotp.pdf Retrieved 25 June 2009

Tyni-Lenne R (1989). To identify the physiotherapy paradigm: a challenge for the future. *Physiotherapy Theory & Practice*, 5(4), 169-170.

Zodgekar AV (2005). The 'Greying' of Aotearoa New Zealand: Policy Implications of Demographic Change and Structural Ageing. In K. Dew & P. Davis (Eds.), *Health and Society in Aotearoa New Zealand* (pp. 69-82). Auckland: Oxford University Press.

Zogdekar AV (2005). The 'Greying' of Aotearoa New Zealand: Policy Implications of Demographic Change and Structural Ageing. In K. Dew & P. Davis (Eds.), *Health and Society in Aotearoa New Zealand* (pp. 69-82). Auckland: Oxford University Press.