New Zealand Association of Economists

2011 Annual Conference

Wellington

June 29th-1st July

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Funding the long goodnight: the market for longterm care

Abstract

The paper outlines the challenges posed by demographic change to the pension and long-term care systems in New Zealand. In this context, the evolving approaches to provision of long-term care in New Zealand and its funding are described. One under-researched area is the use of the emerging technology to both save costs and provide better care. With means-tested subsidies for profit and not-for profit institutional care, New Zealand is in danger of being locked into an outmoded model of care. A new paradigm is required that emphasises a move away from a 'sickness approach' to funding towards an imaginative one that is both visionary and sustainable.

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Introduction

Demographic change, in particular the ageing of the population, is an international problem (Colombo, Llena-Nozal, Mercier, & Tjadens, 2011). The first section of this paper discusses the demographic change in New Zealand, and the challenges to the pension and long-term care systems. One under-researched area in the provision of long term care is the use of the emerging technology to both save costs and provide better care. With means-tested subsidies for profit and not-for profit institutional care, New Zealand is in danger of being locked into an outmoded model of care. A new paradigm is required that emphasises a move away from a 'sickness approach' to funding towards an imaginative one that is both visionary and sustainable. These issues, and the possible policy response, are the focus of the second half of the paper.

What are the policy implications of relying on government-funded private for-profit provision of at-home and institutional longterm elder-care; or government-funded not-for-profit provision; or government-driven annuity-funded provision; or privately provided technological support of at-home care? This paper contributes to developing a holistic view of the risks to individuals and society of increased longevity in order to assess the best public policy responses to share the risks of excess longevity, and to address catastrophic long-term care costs (Murtaugh, Spillman, & Warshawsky, 2001).

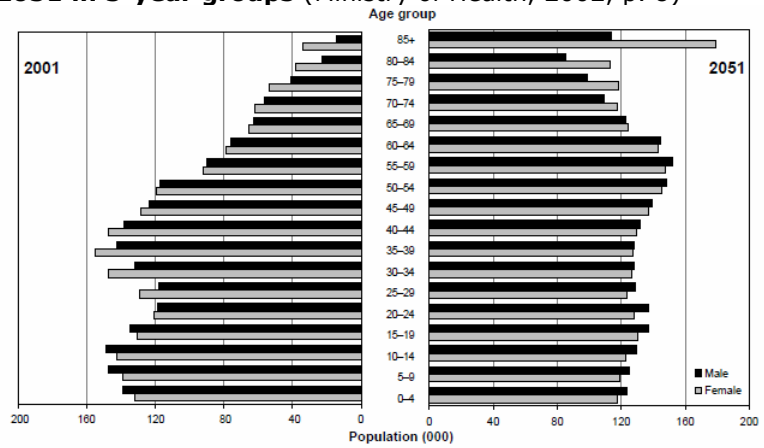
Background

Demographic change, in particular the ageing of the population, is an international problem that is often stated but not well understood. Jackson (2007, p. 12) describes as "these remarkable trends" the four technical dimensions of the phenomenon:

> *numerical ageing (the absolute increase in the numbers of elderly), structural ageing (the increasing proportion of the population that is 'old'), natural decline (which occurs if/when deaths exceed births) and absolute decline (which occurs if/when migration is insufficient to replace the 'lost' births and increased deaths).*

Jackson (2011)[2] warns that New Zealand's problems stem from a numerically and structurally ageing population, as shown in Figure 1, and they may be worse than have so far been recognised. She argues that New Zealand's ageing is not the conventional kind: migration is contributing to it, not mitigating it; baby-boomers are going to live longer than the 'average' estimates Treasury and the Department of Statistics currently use for their projections; and a consequence of having the longest and deepest 'baby-boom' will be the most profound numerical ageing of the OECD (Jackson, 2011).

Figure 1. Population structure 2001& projected for 2051 in 5-year groups (Ministry of Health, 2002, p. 8)



Source: Statistics New Zealand, Census of Population and Dwellings 2001 and Population Projections (base 1999) for 2051.

[2] See http://docs.business.auckland.ac.nz/Doc/2011-Wake-up-call-Jackson.pdf

For many elderly citizens, New Zealand Superannuation is the main source of retirement income. Paying for the pensions and health care of increasing numbers of increasingly long-lived elderly is likely to impose impossible tax burdens on the young, who will be in short supply and great demand. Competition for labour will force wages and costs upwards; increased costs will impact on elderly consumption, leading to demands for more spending on age-related support. A major risk here is Jackson's (2011) "fertility-taxation spiral": if taxes are increased to compensate for higher wages and subsequent increases in New Zealand Superannuation, fertility may fall further, accelerating structural ageing.

As well as an increased dependency ratio, increased numbers of elderly imply higher health costs, relating to both injury and illness. The *Older People's Health Chart Book 2006* (2007) reports that while older females had both longer life expectancy and longer healthy life expectancy than older males, hospitalisation and mortality rates for unintentional injury were significantly higher in older age groups of both sexes than in those aged 50–64 years. Also, disability was more prevalent with increasing age: rates of moderate and severe levels of disability were markedly higher among both males and females aged 65+ than among those aged 45–64 (Ministry of Health, 2007, pp. x - xiv). OECD data indicate that:

> *… in the developed countries, per capita health expenditure in the 65 and over age group is typically 3 to 5 times that for the 15 to 64 age group. … New Zealand data also show that registration rates for the main types of cancer are roughly 10 times as great for the 65 and over age group as they are for the 25 to 64 age group; and that mortality rates for ischaemic heart disease and the main cancers are 12 to 22 times as great for older people as they are for younger adults.* (NZIER, 2004a, p. i)

As well as gender, there is an ethnic dimension to ageing. Although older people are fairly evenly distributed across socioeconomic deprivation quintiles, the distribution of older Māori is skewed toward the high deprivation end of the scale (Figure 2): Māori at age 50 had shorter life expectancy than non-Māori females and males (Department of Public Health, 2008). Also, Māori (female and male) aged 50+ years were more likely than their non-Māori counterparts not to have access to a motor vehicle or to tele-communications, not to own a home, and to live in a crowded home (Department of Public Health, 2008), indicating lower socio-economic status. These data reflect recent research from the US which indicate that mortality differentials by socioeconomic status are measurable, and have generally widened from around the 1950s or 1960s through the 1990s (Waldron, 2007).

Figure 2. Age distribution of older females by ethnic group, 2001 (Ministry of Health, 2007, p. 12)

Ethnicity	Age group (years)									
	50–64		65–74		75–84		85+		65+	
	Number	%	Number	%	Number	%	Number	%	Number	%
Māori	22,962	8.5	6939	2.6	2316	0.9	462	0.2	9717	3.6
Pacific	9105	8.9	2946	2.9	1155	1.1	237	0.2	4338	4.3
Asian	12,579	10.6	3483	2.9	1293	1.1	327	0.3	5103	4.3
European/ Other	245,235	17.2	114,225	8.0	87,360	6.1	33,132	2.3	234,717	16.5

Source: Statistics New Zealand

Note: The denominator on which percentages are based is the total female population for each ethnic group.

Age distribution of older males by ethnic group, 2001 (Ministry of Health, 2007, p. 12)

Ethnicity	Age group (years)									
	50–64		65–74		75–84		85+		65+	
	Number	%	Number	%	Number	%	Number	%	Number	%
Māori	21,537	8.4	6150	2.4	1671	0.6	237	0.1	8058	3.1
Pacific	8604	8.8	2352	2.4	753	0.8	96	0.1	3201	3.3
Asian	11,574	10.8	3360	3.1	900	0.8	180	0.2	4440	4.1
European/ Other	240,978	17.7	106,755	7.9	60,345	4.4	13,953	1.0	181,053	13.3

Source: Statistics New Zealand

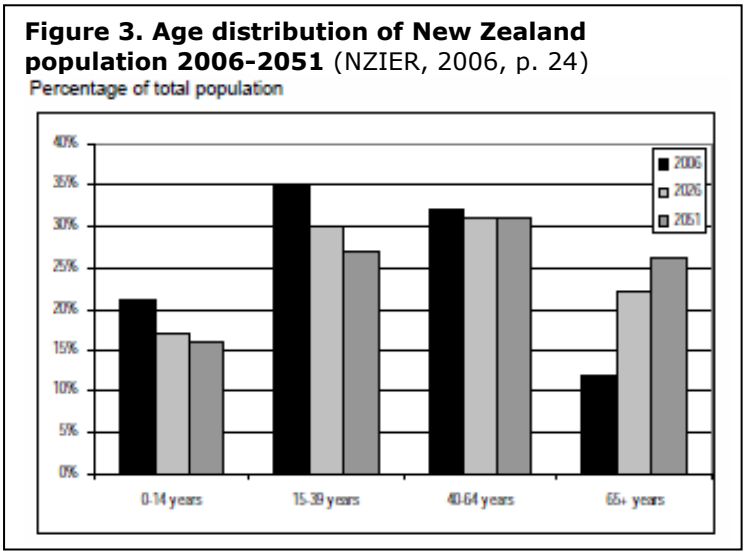
Note: The denominator on which percentages are based is the total male population for each ethnic group.

Residential long term care (LTC) is financed through a mix of general taxation and private payments. Despite government promises since 1999, and although the asset limit has progressively increased, subsidies available for

LTC residents over the age of 65 years remain subject to income and asset testing (St John and Dale, 2011). Ashton and St John (2005, p. 2) write:

> *… the "problem" of long term care has been deferred, rather than resolved. An important opportunity has been lost to introduce a longer term insurance-based solution which is fiscally sustainable, and which integrates long term residential care with care provided in the home.*

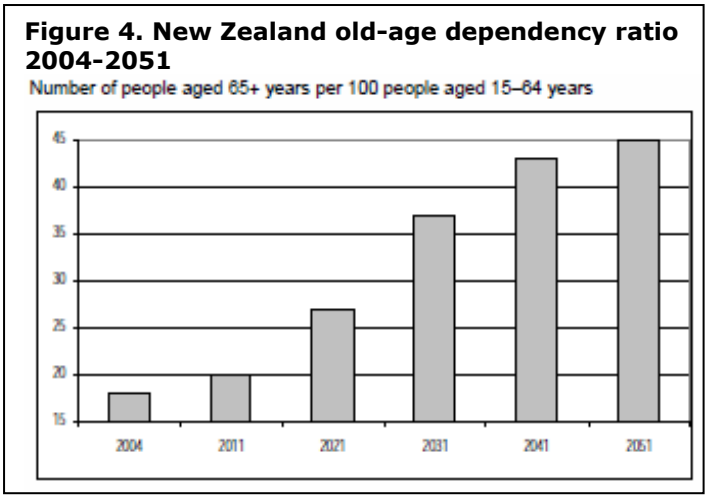
Figure 3. Age distribution of New Zealand population 2006-2051 (NZIER, 2006, p. 24)



On low growth projections, the number of people in New Zealand in residential LTC was expected to increase by 83% - 105% over the next 20 years (NZIER, 2004b). Two years later, as shown in Figure 3, NZIER (2006, p. i) was predicting that by the late 2030s, 25% of the population would be aged 65 and over, compared with 12% in 2005. Although the working age population would continue to both increase and become older over the next 20 years before gradually declining, the higher fertility and younger population would afford some protection from demographic changes with population ageing (NZIER, 2006, p. i).

On a less positive note, it was recognised that the old-age dependency ratio would increase dramatically (Figure 4), and private expenditure on superannuation and healthcare would be likely to decrease and change in composition (NZIER, 2006, p. i), while public expenditure is likely to rise significantly (Makhlouf, 2011; OECD, 2011).

Figure 4. New Zealand old-age dependency ratio 2004-2051



In New Zealand, 74% of people aged 65–74 live at home without requiring any assistance. The proportion of people needing home assistance or residential care increases with age:

> *Around half of people aged 85 and over live at home with assistance and 27% live in residential care. While the percentage of people aged 65 and over in residential care at any point in time is relatively low (around 5%), it has been estimated from overseas data that 25 to 30% of people who reach the age of 65 can expect to spend some time in long-term care before they die.* (Ministry of Health, 2002, p. 5)

Problems associated with funding individual costs associated with demographic change are compounded in New Zealand by the lack of sophisticated annuity or decumulation products required for the translation of lump-sums into an income stream (St John, 2009). Although participation in KiwiSaver is voluntary, it enjoys government subsidies and provides a lump-sum without mandated purchase of an annuity. This contrasts with countries like Chile, where annuities are mandated, supplied and indexed by the state;

and the UK which has until recently had mandatory purchase of annuities when saving has been incentivised (Pensions Policy Institute, 2010).

Re-introducing wide ranging tax incentives for saving in New Zealand in order to mandate annuities will not be sensible because tax concessions have disadvantages that almost certainly outweigh any advantages (Hughes, 2005; McLeod, 2001; Rashbrooke, 2008; The New Zealand Treasury, 2001). Tax concessions are expensive, complex, distortionary, regressive, and worst of all, they seem not to increase saving. Because New Zealand does not have a legacy of tax-favouring accumulation apart from property and, more recently, Kiwisaver, it is in a unique position to explore innovative solutions to the 'babyboomer' problem. This may give us more scope to design well targeted subsidies for annuities that achieve social and personal objectives (St John, 2009; St John & Dale, 2011).

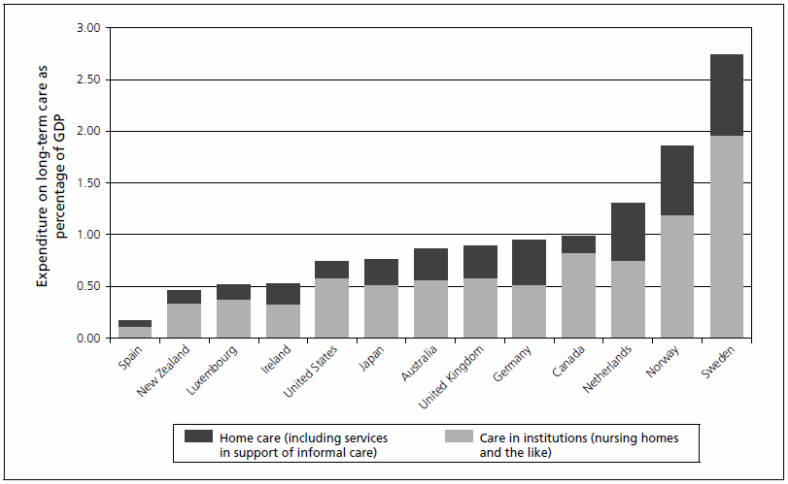
For-Profit and Not-for-Profit provision of long-term care

Provision of care, whether long or short term, has been increasingly marketised as paid work has become the behavioural standard for participation and belonging in Western nations. Unless the carer is paid, child-rearing and care of disabled and elderly people is no longer valued as 'work' or as a contribution to the family's and the community's social capital.

> *Care is no longer simply a question of private household preferences. It has become instead an arena for social conflict, both implicit and explicit, marking out important new social divisions and underlying tensions.* (Fine, 2005, p. 248)

Consequently, increasing expenditure on LTC for ageing populations has become an international issue of great concern. Figure 5, showing expenditure on home care and services as well as institutional care as a percentage of GDP, indicates that other countries spend a higher percentage of GDP on home care than New Zealand.

Figure 5. International expenditure on long term care
(Source: Booth & Mor, 2007, p. 19)



Booth and Mor's research (2007, p. 18) shows a recent decline in the number of people in nursing-home care in both the USA and New Zealand as emphasis is shifted to community-based care. A 2010 review of New Zealand's residential aged care services (Grant Thornton NZ Ltd, 2010, p. 5) confirms this decline in the per capita use of aged residential care but argues that it will be more than offset by growth in the number of elderly people with higher, more complex needs. Thornton's (2010) analysis suggests, firstly: by 2026, between 12,000 and 20,000 extra residential care bed numbers will be required because of the estimated 84% increase in the 65+ population, from 512,000 to 944,000. Secondly, financial returns currently generated for subsidised residential LTC

operations are insufficient to support building new capacity and replacing ageing stock.[3] Thirdly: despite doubling of the full time equivalent (FTE) workforce employed in the sector in the last 20 years to 33,000, demand is expected to increase by 50% to 75% by 2026 (Grant Thornton NZ Ltd, 2010, p. 5).[4] What the report doesn't appear to consider is increasing provision of in-home LTC.

Across the OECD, whether it is For Profit or Not-for-Profit, and whether it is provided in institutions such as nursing homes or hospitals, or in the home of the recipient, LTC is costly. In the US in 1998, for example, approximately 44% of the $141 billion in Medicaid benefit payments were for hospital care and institutional services; and 12.5% was for home healthcare services (Shick & Balinsky, 2005, p. 427).

Large, rapid annual increases in costs of home healthcare services have caused governments to consider different delivery methods. This search has unfolded beside the fierce debate about the advantages and disadvantages of For Profit health care delivery. There has been extensive research on the two models of provision of long-term elder-care. In the 1980s, for example, Nyman and Bricker (1989) found For Profit providers in the US had higher efficiency scores, without sacrificing quality of care, and with 4.5% fewer labour resources per patient day than a Not For Profit home. They also found the Not For Profit managers less competent and less efficient than their For Profit equivalents. Then, by 2005, researchers were finding Not For Profit provision of care to be superior.

Harper (2011, p. 26) quotes a large study by McGregor et al (2005) examining staffing ratios for direct-care and support staff in 75% of nursing homes in the province of British Columbia. Of the 167 long-term, publicly funded, Not For Profit (65% of the total number) and For Profit (35%) facilities they examined, a single operator owned 76% of the For Profit homes, and the remaining For Profit homes were part of a chain. Both Not For Profit and For Profit facilities are provided with similar public funding, with amounts varying by the level of functional dependence of the residents. All staff in Not For Profit and For Profit facilities were members of the same bargaining association and received identical wages (McGregor et al., 2005).

McGregor et al. compared the mean number of hours per resident-day provided by direct-care staff (registered nurses, licensed practical nurses and resident care aides) and support staff (housekeeping, dietary and laundry staff) in Not For Profit versus For Profit facilities, after adjusting for facility size, based on bed numbers and level of care (McGregor, et al., 2005). They found the average number of hours per resident-day was higher in the Not For Profit facilities than in the For Profit facilities for both direct-care and support staff, and for all levels of care. This finding suggests that public money purchases significantly fewer direct-care and support staff hours per resident-day in for-profit long-term care facilities than in not-for-profit facilities (McGregor, et al., 2005). It is of concern, therefore, to discover that "the for-profit sector in Canada is expanding at the expense of the non-profit sector" (McGregor & Ronald, 2011, p. 1).

Concern is expressed by academic investigators, the lay press, and policy makers about the form of ownership of nursing homes because it may affect the quality of care, its

[3] Approximately half of current stock is now over 20 years old (Grant Thornton NZ Ltd, 2010, p. 5).
[4] The Thornton review considered four possible solutions: improving the current approach, enhancing professional services in the community, an individualised funding approach, and developing low income community housing (Grant Thornton NZ Ltd, 2010, p. 5). This paper goes further and suggests solutions may lie in developing a market for annuities, in designing a new funding model for health care, and in public-private partnerships in designing and deploying technological solutions to in-home care.

structure, process, and outcome determinants. In Europe, the type of ownership of nursing homes varies, and countries such as Poland with previously dominant public healthcare systems are now seeking privatisation. In the UK, where more than half of healthcare beds for older people are in independent nursing homes, most of which are operated by For Profit institutions, they are catching up to the US, where two thirds of nursing homes are investor-owned For Profit institutions. In Canada, just over half the nursing homes are in For Profit ownership, and Not For Profit care is evenly split between facilities owned by charities or privately, and by government or the public; and both For Profit and Not For Profit nursing homes may have both public and private funding. Yet Comondore, Devereaux, Zhou, Stone, & et al. (2009, p. 2732) conclude:

> *This systematic review and meta-analysis of the evidence suggests that, on average, not-for-profit nursing homes deliver higher quality care than do for-profit nursing homes. Many factors may, however, influence this relation in the case of individual institutions.*

As well as the issue of the private or public funder receiving fair value for money spend on LTC, Harrington, Woolhandler, Mullan, Carrillo, & Himmelstein (2001) speak for the 1.6 million Americans who reside in nursing homes:

> *… **the quality of care largely determines the quality of life**. Most patients in acute-care hospitals will return to their homes and families, regaining command of their sleep schedules, food choices, hygiene, and mobility. They can generally change physicians and hospitals if dissatisfied. But most nursing home patients cannot go home again; many are too impaired to exercise meaningful choices or protest poor treatment… Poor-quality care has long plagued the nursing home industry. Two thirds of the nation's nursing homes are investor owned. Several small studies suggested that For Profit facilities deliver poorer care, compared with Not For Profit and public facilities.* (emphasis added, Harrington, et al., 2001, p. 1452)

Closer to home, in January, Australia's Productivity Commission produced a draft report "Caring for older Australians" (2011), and invited submissions. Issues raised in the recent US and Canadian research cited above were repeated in submissions, for example:

> *aged care is not a service people normally want to buy and many may not access support they need. Yet the consequences of not using the care they require constitutes not informed choice but market failure, as there are typically negative impacts on many others…. If left to the market, services are often not provided in some areas, such as rural or remote areas, or in low income locations or to groups who have special needs…. many elderly and frail people may be vulnerable to exploitation and need protection…. Other research on the impact of open market competition in long-term care show strong evidence of cherry picking by providers, with some profitable client groups targeted while others are ignored, the harmful effects of inappropriate service use, and many problems of over-servicing by service providers.* (Fine, 2011, pp. 2 - 3)

In New Zealand, rest homes and long stay hospitals are the two main types of long term residential care facilities. Most residential care is provided by the private sector, including Not For Profit religious and welfare homes, including some run by nation-wide organisations; and For Profit small, owner-operated facilities, as well as large, multi-site, institutions.[5] The range of support services available for elderly people living in their own homes includes community health services (e.g. district nursing), personal care and household activities assistance (e.g. bathing and dressing, cleaning, and meal preparation), home-delivery of meals, and a wide range of equipment, appliances and aids (Ashton & St John, 2005, p. 4).

[5] Rymans and MetLifeCare are probably the two largest private For Profit providers of LTC. The New Zealand Aged Care Association (NZACA) represents over 550 aged care providers, who operate more than 80% of all LTC beds in New Zealand. See: http://nzaca.org.nz/about/about-us.htm.

In most countries, residential care provision is complicated, and the state's health costs are increased, by individuals being more frail and disabled than they were a decade ago; and by changes to safety standards and building codes resulting in greater challenges to those designing or upgrading facilities. In many countries, including New Zealand, LTC provision is also complicated by poorer health outcomes for the indigenous populations (Ministry of Health, 2007, 2010b, 2011). Ageing populations and the growing need for residential care beds, combined with an ideological shift in the 1980s toward 'market' solutions, have led governments, in need of additional financing sources to address this demand, to seek non-traditional solutions such as partnering with the For Profit sector. Such proposals assume For Profit businesses are performance-based and thus more efficient than the Not For Profit businesses.

In addition, two of the four factors McGregor and Ronald (2011, p. 26) suggest have contributed to increase the role played by the For Profit sector in residential LTC in Canada could apply in the New Zealand situation. One factor is that for over 30 years Canadian governments have failed to keep up with investments in public infrastructure, including residential care facilities and hospitals, as well as roads, bridges, and schools, so the public asset base has fallen behind, creating a substantial backlog in demands to repair, renovate and renew buildings and equipment. Another relevant factor is governments' aversion to budget deficits and debt, combined with competitive pressures to lower the tax burden. A consequence was government reluctance to engage in large-scale public borrowing to finance expensive but necessary infrastructure (McGregor & Ronald, 2011, p. 26). Certainly, added to those factors would be New Zealand's increasing preference for private provision of LTC in the guise of increased "choice".

Possible solutions to the funding dilemma

The realities of self-funding LTC vary from person to person and from country to country. One set of possible solutions touched on here are self-funding via: saving and investment; a combination of employment and pension income; an annuity (St John and Dale, 2011); or a reverse mortgage. Another possible solution is importing unskilled labour to provide the LTC, and a further set of possible solutions are technology-based, and these are covered in the next section.

Self-funding of long term care

In *Healthy Wealthy Working* (2010, pp. 65 - 66), Enright and Scobie report on their comprehensive national survey of those aged 55 to 70 (with an acknowledged over-sampling of Māori). Their primary objective was to assess the effect of health and wealth on the retirement decisions of older workers. The results suggest that, once the effect of a wide range of other influences has been controlled for, New Zealand Superannuation has a significant "deterrence effect" on labour force participation. In addition:

> *The results confirm that those working had a lower living standard than those retired…. Likewise, Māori, those working, on a benefit or New Zealand Superannuation and in poorer health were forced to reduce costs on essential items more frequently. …. Furthermore, relative to working Europeans, working Māori expect to have higher living standards in retirement. This reflects the fact that moving from a low wage to New Zealand Superannuation for many in the lower income brackets constitutes a rise in real income.… In all the estimated models, health status is significantly associated with the decision to work….. In addition to the effect of health, substantial absolute effects on the probability of working stem from a respondent's marital status. …. Both males and females … are more likely to be in full-time employment if they are widowed or have dependants.* (Enright & Scobie, 2010, pp. 65 - 66)

A report by Perry (2010) on *The material wellbeing of older New Zealanders,* provided for the Retirement Commission Review, found that while there is evidence of a small group whose living standards are very restricted, most older New Zealanders have sufficient income and assets to provide a reasonable standard of living. These current relatively good outcomes for older New Zealanders are due to the mix of public provision, mainly universal provision of New Zealand Superannuation, and to the private provision built up by most of the current cohort over their lifetime, primarily mortgage-free home ownership (Perry, 2010, p. 2). Interestingly, in Spain, an increase in means-testing, which includes the private home, has highlighted the unwillingness of the wealthy to surrender their home to fund their LTC (Costa-Font, Mascarilla-Miró, & Elvira, 2006). A similar reluctance could be expected here in response to a policy change toward a higher level of self-funding of LTC.

Another possibility for self-funding LTC is through 'Early Baby Boomers' remaining in work longer than their predecessors, the 'War Babies'. A new global reality is that many older people are remaining in work for longer, partly through choice, and partly through necessity. In the US, the labour force participation rate of men 60-64 rose from 55.5% in 1990 to 58.6% in 2006. For those aged 65-69, the increase was even greater: 26.0% to 34.4%. The trends for women have been similar (Michaud & Rohwedder, 2008). This benefits the economy, and the workers themselves, at least financially. As well as better health, the increase in labour force participation by those aged 65+ in the US is explained by the shift in employer-provided pensions from Defined Benefit to Defined Contribution,[6] and the elimination of the Social Security earnings test, allowing more earning to be retained (Michaud & Rohwedder, 2008, p. 2). However, the US still has some way to catch the participation rates in countries like Japan and New Zealand.

The participation rates in New Zealand in 2006 for those aged 50-69 were 56% for females, and 72% for males compared to 58.6% in the US (Burtless, 2008). A survey of pension-age New Zealanders by the Centre for Social Research and Evaluation (CSRE) (2009) found that the majority of 65 year olds were currently in work, and only a small proportion intended to stop work completely within the next year, although relatively few thought they would work beyond the age of 70. The findings support results from other research showing that many people prefer to gradually transition out of work rather than to abruptly end workforce participation and rely solely on their New Zealand Superannuation income. Nearly two-thirds of those surveyed said they worked because their income without paid work was insufficient, although those without a partner were more likely to mention this than those who were part of a couple; and around a quarter of the people working for financial reasons were paying off a mortgage on their home (Centre for Social Research and Evaluation, 2009, pp. 53 - 54). People with caring responsibilities have a statutory right to request flexible work,[7] and a wide range of older people would find it helpful if more employers supported flexible working hours.[8]

[6] The shift from DB to DC generally results in increased for the saver.
[7] The Employment Relations (Flexible Working Arrangements) Amendment Act 2007 gives employees with caring responsibilities a statutory right to request flexible work. See http://www.dol.govt.nz/worklife/flexible/act.asp.
[8] The CSRE survey also found 36% of all 65 year olds provided some unpaid care for children, or for sick, disabled or aged people. Such carers were less likely to be in full-time work and more likely to be not working than their peers not providing care. One third of the non-working carers said they would like to have a job, and the majority of those not working said there were factors that would make work an option for them in the future. It appears that some older carers may benefit from help and support with their caring responsibilities, their own health, and finding suitable employment (Centre for Social Research and Evaluation, 2009, pp. 54 - 55).

Importantly, self-funding of long term care for those who earn lower incomes is an unlikely prospect. Low incomes make saving for retirement, and purchase of any sort of insurance, whether for possessions now or for LTC in the future, problematic. New Zealand Superannuation is the security net providing for aged people in this predicament. However, focus in this paper is not on the welfare of this group, but rather on the middle 40% of the population with some choice and control over their income, including saving and spending decisions. An option for this middle 40%, and for those with a more adequate asset base, is purchase of an annuity. This topic is covered in St John and Dale, (2011).

Another option for self-funding LTC is through a reverse mortgage, but as with annuities, New Zealand lacks a viable market for these products. The Retirement Commission's "sorted" website provides some guidelines and recommendations about home equity release as well as a useful calculator.[9] The Safe Home Equity Release Plans Association (SHERPA), a not for profit association supported by New Zealand's leading providers and distributors of Home Equity Release Plans,[10] provides a list of full providers and associates (Figure 6).

Figure 6. SHERPA Full Members

Bluestone Equity Release carry a comprehensive and clear set of "FAQS" on their website,[11] including information about the value of the equity in the property that can be released (from 15% to 45%, dependant on the age of the borrower and the value of the property); as well as their 'No Negative Equity Guarantee', meaning that provided the terms and conditions of the loan have been met, the borrower or their estate will never owe more than the value of the property and the borrower will not at any time be asked to sell the property. They also provide information about dispute resolution. *Dorcherster Life* offer loans secured against property, rather than specifically reverse equity loans.[12] *Sentinel* advertise themselves as home equity specialists, and describe the "Sentinel Lifetime Loan" as designed to "last the rest of your life", with freedom to repay at any time without penalty as long as the loan is on a floating interest rate. "Unlike traditional loans there are no monthly repayments - in fact there is nothing to pay until you decide to sell the house or upon your death, moving into long term care or moving out of your property for any other reason."[13]

Another solution to the problem of an ageing population and increased dependency ratios is to import unskilled labour from other countries to supply the increasing at-home and institutional care that is required. This option is not seriously considered here, as the care of the frail and elderly is skilled work. Providing training for young people to enter this field would be a wiser and probably far more successful course.

[9] See and http://www.sorted.org.nz/life-stages/60plus/equity-release/things-to-consider.
[10] See: http://www.sherpa.org.nz/.
[11] See: http://www.bluestone.net.nz/.
[12] See: http://www.dorchesterlife.co.nz/.
[13] See: http://www.sentinel.net.nz/cms_display.php?sn=45&st=1.

Given the increasing numbers of long-lived and frail retirees, as well as recognising the skill involved in "caring", and providing training, and urgently establishing viable markets for annuities and reverse equity, there is a need for investigation into technological solutions to support the quality of life and independence of the aged members of our communities.

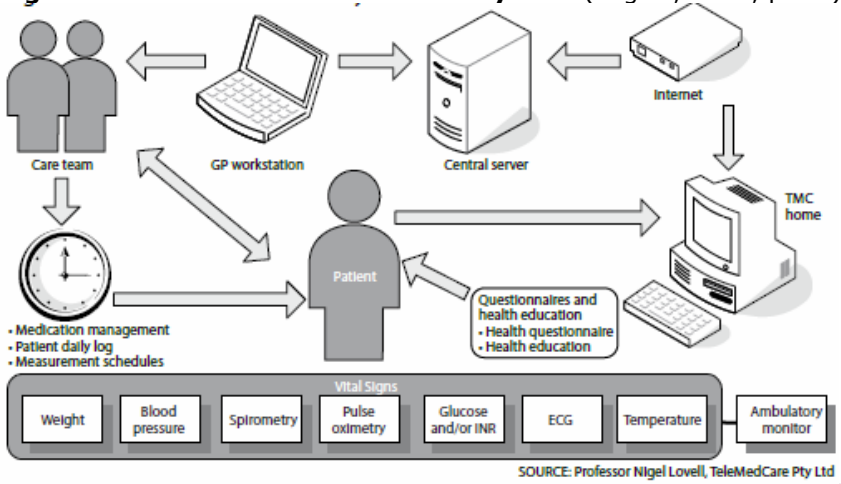
Efficient technological solutions

In New Zealand, Grey Power appear locked into the institutional model of LTC, and are recommending the establishment of an independent Aged Care Commission and Commissioner (AgeConcern, GreyPower, LabourParty, & GreenParty, 2010). The Aged Care Association is calling for aged LTC residential contracts to allow consumers the choice of premium-only facilities as their solution to the problem of inadequate provision.[14] Sadly, the unanticipated long-term results of this proposal could range from cash-depleted residents being evicted to the less well-off elderly being unable to find a facility.

In stark contrast, and perhaps as a consequence of the research and publications by their Productivity Commission, Australia's 'greying' citizens are calling on the Government to develop and deploy appropriate smart technology to enable them to remain at home longer, thus easing the strain on the national healthcare system and providing cost-effective solutions to meet their needs (Tegart, 2010). For Australia to address these dual challenges and achieve the potential savings and benefits, Tegart (2011)[15] calls for even more national focus on the research and development, commercialisation and deployment of smart technology (Figure 7).

> *To enable successful ageing-in-place, technology must provide solutions to issues such as personal health monitoring, telehealth, shopping, cognitive training and education. Information communication technology (ICT), particularly wireless communication, can be used to address these challenges in the context of housing for older people and, crucially, is a key enabler of social communication. Many technological solutions already exist but are not being utilised to their full potential, for example, individual devices are not compatible for linking to a common control system. Other barriers include poor design for ease of use and maintenance, a lack of consultation with users about their needs, high cost and a lack of policy on financing.* (Tegart, 2011)

Figure 7. Schematic of a telehealth system (Tegart, 2010, p. 27)



While smart "enabling" technologies can be retro-fitted into existing homes, Tegart (2011) suggests that future homes will need to be designed especially in order to incorporate the required systems and to provide for the life-long needs of the occupants. Thus, as well as modification of the Building Code, incorporation of the "telehealth" solution will require national and

[14] See *Aged Care INsite* at: http://www.insitenewspaper.co.nz/pages/section/article.php?s=Breaking+News&idArticle=20355

[15] See Medical News at http://www.news-medical.net/news/20110309/Smart-technology-for-healthy-longevity.aspx.

international protocols for the connection of wireless devices; improved awareness in industry and business of the potential markets for technology for the aged population; and national policies for funding elderly-friendly homes.

A similar approach to 'telehealth' is the 'mHealth' model,[16] which extends health interventions beyond the reach of traditional care by utilising mobile communication devices in conjunction with Internet and social media to enhance disease prevention and management. As Wagner et al. (2001) confirmed, the traditional model of episodic care in clinic and hospital-based settings is suboptimal for improving chronic disease outcomes. However, siloed approaches have plagued development of health information systems, creating expensive barriers to entry and hampering health care innovation.

Estrin and Sim (2010, p. 759) describe mHealth currently as "a patchwork of incompatible applications ("apps") serving narrow, albeit valuable, needs, and thus could benefit from more coordinated development; and they suggest that "a public-private partnership to define and instantiate an "open" mHealth architecture, in the context of economic incentives and enabling policies, could support medical discovery and evidence-based practice about managing and preventing chronic disease".

To determine and adjust treatment for chronic diseases, clinicians depend heavily on patient reports of symptoms, side effects, and functional status that are given at clinic visits that are months apart. Patients can use mHealth to collect and share relevant data at any time, allowing more rapid access to optimal treatment, and overcoming problems of recall accuracy. Given the early stages of development, there are relatively few mHealth legacy systems and entrenched silos to overcome. A modest, coordinated investment is needed to develop and deploy this architecture, informed by early pilots. A shared underlying architecture will enable much-needed scalable, affordable, and systematic research to determine which apps work best and for what populations and diseases.This could foster an economically and socially rewarding mHealth marketplace that uses the best health care evidence (Estrin & Sim, 2010).

> *Approximately 25 years ago, government and industry invested in expanded access at a crucial time in the Internet's development.[17] The resulting networks and ubiquity of access provided fertile ground for technologies, ideas, institutions, markets, and cultures to innovate. The payoff from this investment created a commercially viable and largely self-governing ecosystem for innovation. The same can be done for global health. Government, commercial, and nongovernmental entities involved in health IT and innovation should cooperate to define and instantiate architecture, governance, and business models and to steer initial mHealth investments into open architecture.* (Estrin & Sim, 2010)

Historically, health or care systems "have been organized to respond rapidly and efficiently to any acute illness or injury that comes through the door" (Wagner, et al., 2001, p. 64). The clinician's focus is on rapid definition of the immediate problem, exclusion of more serious alternative diagnoses, and initiation of professional treatment. After the initial presentation, the full clinical course often lasts for days or weeks, without urgency or energy for developing patient self-management skills or tracking programs. The language reveals treatment of an illness, injury, or problem, not a person, so the patient's passive role is perpetuated.

Despite the global issues of rapid ageing of populations, and growing prevalence of chronic disease, most hospitals and general practices continue to function on the logic of

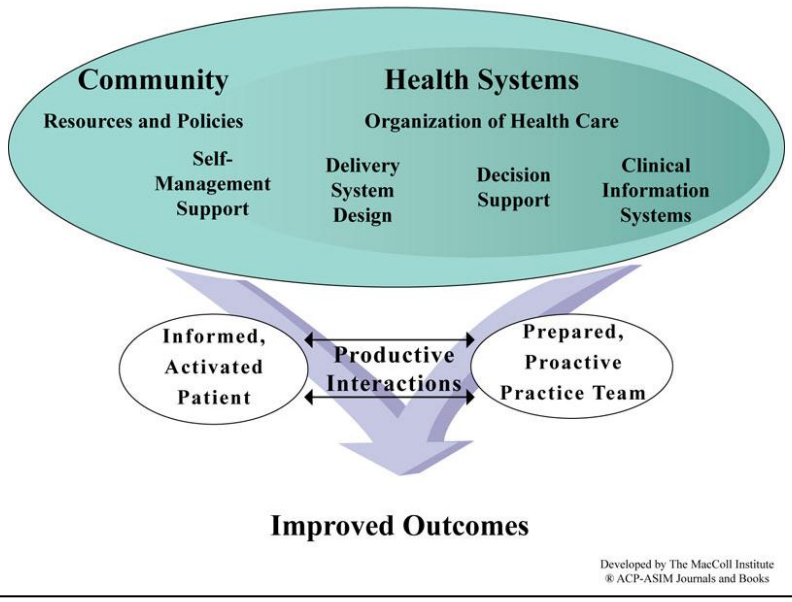
[16] mHealth Alliance; www.mhealthalliance.org.
[17] National Research Council, *The Internet's Coming of Age* (National Academy Press, Washington, DC, 2001).

"acute" and "sickness" systems. However, improvements in the quality of chronic illness care or LTC of the elderly will require more than evidence about efficacious tests and treatments. They will require evidence about system changes that produce better care, and methods to implement such changes (Wagner, et al., 2001, p. 64).

All the issues around changing to a "wellness" system are compounded by the funding formula used by governments for most health spending. Hospitals, for example, are funded on their through-put, on the annual number of cases treated and their complexity. Improvements or change to a wellness model will require governments to adopt a different system for funding healthcare, as the number of hospital or GP visits should decrease once the patient's support systems are functioning and their self-management skills are developed.

While there is, and always will be, a need for sound, robust acute care, a paradigm shift is required for the sustained and effective management of people with life-long or end-of-life conditions. A New Zealand-based For Profit provider, HSA Global, has recognised the opportunity for positive change, and has pilot projects underway in New Zealand, Singapore and Australia. Their projects are based on Wagner's Chronic Care Model (CCM)[18] developed at MacColl Institute for Healthcare Innovation.[19] The CCM (Figure 8) is designed to create a patient-centred, proactive health care team by promoting productive interactions between the patient and the care team, and enabling the model elements (clinical information systems, decision support, self-management support, delivery system design, the community and organizational leadership) to work together. The CCM transfers nicely to the LTC needs of the frail elderly.

Figure 8. Wagner's Chronic Care Model (Wagner et al., 2001)



Chronic illness is a long term or life-long condition. It has some useful parallels with ageing, especially that it benefits from patient involvement, often does not require 24 hour care or support, and it is a permanent condition. Globally, chronic diseases (including diabetes, asthma, and obesity) account for 46% of the disease burden.[20] Chronic illness is a significant health burden in New Zealand.[21] In addition, rapid ageing of the population and the greater longevity of people with many chronic conditions means optimal management of these individuals is becoming critical,

[18] Source: http://www.improvingchroniccare.org/index.php?p=Chronic+Care+Model&s=124.
[19] The MacColl Institute is a division of the Group Health Research Institute, a non-proprietary, public-domain research institution within Group Health, a health care system based in Seattle, Washington.
[20] World Health Organization, Facts related to chronic disease; www.who.int/dietphysicalactivity/publications/facts/chronic/en.
[21] In New Zealand, chronic illnesses are the leading cause of hospitalizations, use 70% of health funds, and account for 80% of all deaths. Approximately 70% of hospital/GP patients have one or more chronic illnesses (National Health Committee, 2005).

and it is now understood that for effective and efficient management of chronic illness a change in systems is required (Wagner, et al., 2001).

The point is emphasised here that while ageing is not a 'chronic illness', it requires a similar approach, and LTC of the aged benefits from co-operation between an 'informed, activated patient', and a 'prepared, proactive practice team'. MidCentral DHB in New Zealand has started using Wagner's Chronic Care Model[22] as a framework to plan and develop services for clients with long term conditions (Gibbs & Taylor, 2008).

> *The CCM offers a systematic approach to improving health delivery. The central role of the primary care team working in partnership with secondary care colleagues is emphasised. It aims to improve the quality of health outcomes for patients based on the philosophy that care can be delivered more effectively and efficiently if patients with chronic conditions take an active role in their own health and wellness. Concurrently, providers are also supported with the necessary resources and expertise to better assist these people in managing their condition/s.* (Gibbs & Taylor, 2008)

The health system alone cannot solve the management of LTC in isolation, and influencing the wider health system and community is problematic and beyond the scope of most individual health providers. If the government had the vision, we would have the opportunity in New Zealand of exploring collaborative technological solutions to this global problem of ageing populations. We have the expertise. While the initial investment would be significant, probably requiring public-private partnerships, the incentive would be provision of high quality LTC, in people's homes, at lower marginal cost.

Conclusions and key recommendations

In New Zealand, Grey Power are recommending establishing an independent Aged Care Commission and Commissioner, and Age Concern are recommending aged LTC residential contracts allow consumers the choice of premium-only facilities, we can be grateful that other solutions to the looming problems of care are being explored here and overseas.

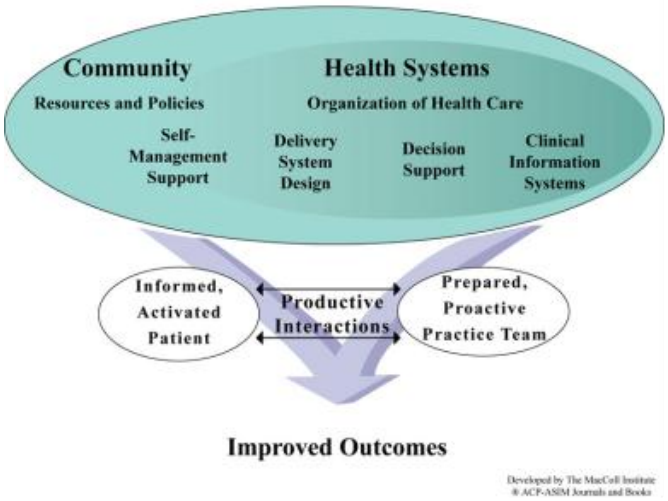
The principal barriers to progressing the new technology-based models of chronic and long term health care are ***economic***, in that 'health' is funded according to a sickness approach; ***structural***, in that traditional treatment has been developed for hospital-centred care of acute events; ***financial***, in that a large initial investment would be required to establish the technology and instruct the users; and ***imaginative***, in that vision and futuristic thinking are required to move from the present health system into a 'wellness' system.

We would suggest that public/private partnerships are required for the development, delivery and wide acceptance of the enabling technology. These will ensure the pilot projects that inform the decisions and overcome the existing silos are well-supported at the highest and lowest levels of power, and across the participating communities of health practitioners, care providers, and people requiring long term care.

[22] See Appendix 1 for Gibbs and Taylor's (2008) explanation of the elements of the CCM.

Appendix 1. Elements of the Chronic Care Model explained

Figure 12. Chronic Care Model (Wagner, et al., 2001)



The health system alone cannot 'fix' or influence the management of chronic conditions in isolation, so the *Community* element requires those within the system to form durable, useful partnerships with other organisations and entities in the wider community. Community organisations can advocate for polices to improve client care; develop interventions to fill gaps in current services; encourage members to attend self-management programmes; and provide helpful resource material (Gibbs and Taylor 2008).

The Health System element emphasises the need to create a culture within the health system that promotes and improves safe, high quality care chronic illness care, including the promotion of multidisciplinary teamwork, alignment of incentives and improving care coordination across organisations. All members of the organisation need to be motivated and ready for change for this to occur. The *Self-Management Support* element emphasises the patients' central role in managing and taking responsibility for their own health and illness. The practitioner is encouraged to use effective assessment tools and counselling techniques such as motivational interviewing or health coaching to explore behaviour change. Tools such as goal setting and individual care plans or health and wellness plans are used to assist the client to plan for the change. The practitioner may provide emotional support and further education at this time. (Gibbs & Taylor, 2008)

Essential components of the *Delivery System Design* element are health literacy (patients' ability to understand health related information) and cultural competence. This element is about effective teamwork: defined roles and delegated tasks among team members; organising practice around planned care; providing case management for complex patients; and ensuring regular follow up of clients as a standard procedure so that each client gets they care they need. *Decision Support* requires the embedding of evidence-based guidelines in the health professionals' daily practice. For practitioners, treatment decisions are then based on explicit, proven guidelines supported by research. The ability to share information with clients and providers to coordinate care is vital, as is the technology to track individuals, groups and populations (Gibbs & Taylor, 2008).

Utilising *Clinical Information Systems* software means it is possible to identify relevant sections of the community for proactive care; timely reminders can prompt guideline-based care; and monitoring and evaluation of care to individuals, groups and populations is possible. The final component is *Improved Outcomes*, which extend beyond clinical indicators and include factors important to the client such as improved quality of life and functional outcomes; and important to the funder such as monitoring costs and reduction of service usage (Gibbs & Taylor, 2008).

References:

AgeConcern, GreyPower, LabourParty, & GreenParty. (2010). *A Report into Aged Care. What does the future hold for older New Zealanders?* Wellington: Grey Power.

Ashton, T., & St John, S. (2011). *Swimming against the tide: Financing of long-term care for older people in New Zealand*. Paper presented at the Fifth World Congress of the International Association of Health Economists, July 10-13, 2005. Revised 2011.

Ashton, T., & St John, S. (2005). *Financing of long term residential care in New Zealand: Swimming against the tide*. Paper presented at the Fifth World Congress of the International Health Economists Association (iHEA). Retrieved from http://homes.eco.auckland.ac.nz/sstj003/

Booth, M., & Mor, V. (2007). Long-Term Care in the USA: Lessons for New Zealand? *Social Policy Journal of NewZealand, November*(32), 17 - 31.

Burtless, G. (2008). The Rising Age at Retirement in Industrial Countries. *Center for Retirement Research, Boston College. Working Paper 2008-6*.

Centre for Social Research and Evaluation. (2009). *To Work, or Not to Work? Findings from a Survey of 65-year-old New Zealanders*. Wellington: Ministry of Social Development.

Colombo, F., Llena-Nozal, A., Mercier, J., & Tjadens, F. (2011). *Help Wanted? Providing and Paying for Long-Term Care*: OECD Health Policy Studies, OECD.

Comondore, V. K., Devereaux, P. J., Zhou, Q., Stone, S. B., & et al. (2009). Quality of care in for-profit and not-for-profit nursing homes: systematic review and meta-analysis. *British Medical Journal BMJ, 339*(b2732), 15.

Costa-Font, J., Mascarilla-Miró, O., & Elvira, D. (2006). Means Testing and the Heterogeneity of Housing Assets: Funding Long-Term Care in Spain. *Social Policy and Administration, 40*(5), 543 - 559.

Department of Public Health. (2008). *Atlas of Socioeconomic Deprivation in New Zealand NZDep2006*. Wellington: Wellington School of Medicine and Health Sciences.

Enright, J., & Scobie, G. E. (2010). *Healthy, Wealthy and Working: Retirement Decisions of Older New Zealanders*. Wellington: New Zealand Treasury.

Estrin, D., & Sim, I. (2010). Open mHealth Architecture: An Engine for Health Care Innovation. *Science, 330*, 759 - 760.

Fine, M. (2005). Individualization, risk and the body. Sociology and care. *Journal of Sociology, 41*(3), 247 - 268.

Fine, M. (2011). *Submission to the Productivity Commission's Inquiry into Caring for Older Australians*. Sydney: Centre for Research on Social Inclusion, Macquarie University.

Gibbs, K., & Taylor, M. (2008). The Chronic Care Model. *The Practice Nurse Magazine, 7*(4).

Grant Thornton NZ Ltd. (2010). *Aged residential care service review*. Wellington: New Zealand Aged Care Association.

Harper, G. M. (2011). *Report on the Dysfunctional Provision of Rest Home Care and Funding in New Zealand*. Tauranga: Global Business Examiners Ltd.

Harrington, C., Woolhandler, S., Mullan, J., Carrillo, H., & Himmelstein, D. U. (2001). Does Investor Ownership of Nursing Homes Compromise the Quality of Care? *American Journal of Public Health, 91*(9), 1452 - 1455.

Harrison, D., Byrne, A., & Blake, D. (2006). *Annuities and Accessibility - How the industry can empower consumers to make rational choices*: Pensions Institute, Cass Business School.

Horneff, W., Maurer, R., Mitchell, O., & Stamos, M. (2008). *Asset Allocation and Location over the Life Cycle with Survival-Contingent Payouts*. Michigan: Michigan Retirement Research Center, Working Paper 2008-177.

Hughes, G. (2005). Pension tax reliefs and equity. In J. Stewart (Ed.), *For richer, for poorer. An investigation of the Irish pension system*. Dublin: Betaprint Limited.

Jackson, N. (2007). Population ageing in a nutshell: a phenomenon in four dimensions. *People and Place, 15*(2), 12 - 21.

Makhlouf, G. (2011). *Does New Zealand Superannuation provide an adequate income for older Kiwis?* Paper presented at the Age Concern Conference. Retrieved from http://www.treasury.govt.nz/publications/media-speeches/speeches/newzealandsuperannuation

McGregor, M. J., Cohen, M., McGrail, K., Broemeling, A. M., Adler, R. N., Schulzer, M., et al. (2005). Staffing levels in not-for-profit and for-profit long-term care facilities: Does type of ownership matter? *Canadian Medical Association Journal CMAJ, 172*(5), 645 - 649.

McGregor, M. J., & Ronald, L. A. (2011). *Residential Long-Term Care for Canadian Seniors. Nonprofit, For-Profit or Does It Matter?* Montreal, Canada: IRPP Organisation, www.irpp.org.

McLeod, R. (2001). *Tax Review 2001. Final report*. Wellington: New Zealand Government.

Michaud, P.-C., & Rohwedder, S. (2008). *Forecasting Labor Force Participation and Economic Resources of the Early Baby Boomers*. Michigan: Michigan Retirement Research Center, Working Paper 2008-175.

Ministry of Health. (2002). *Health of Older People in New Zealand. A Statistical Reference*. Wellington: Ministry of Health.

Ministry of Health. (2004). *Health Expenditure Trends in New Zealand 1990 - 2002*. Wellington: Ministry of Health.

Ministry of Health. (2007). *Older People's Health Chart Book 2006. Public Health Intelligence Monitoring Report No. 12* Wellington: Ministry of Health.

Ministry of Health. (2010a). *Health Expenditure trends in New Zealand 1997 - 2007*. Wellington: Ministry of Health.

Ministry of Health. (2010b). *Tatau Kahukura: Māori Health Chart Book 2010, 2nd Edition*. Wellington: Ministry of Health.

Ministry of Health. (2011). *Tatau Kura Tangata: Health of Older Māori Chart Book 2011*. Wellington: Ministry of health.

Murtaugh, C., Spillman, B., & Warshawsky, M. (2001). In sickness and in health: an annuity approach to financing long-term care and retirement income. *Journal of Risk and Insurance, 68*(2), 225-271.

National Health Committee. (2005). *People with chronic conditions: a discussion paper*. Wellington: National Health Committee.

Nyman, J. A., & Bricker, D. L. (1989). Profit Incentives and Technical Efficiency in the Production of Nursing Home Care. *Review of Economics and Statistics, 71*(4), 586 - 595.

NZIER. (2004a). *Ageing New Zealand and Health and Disability Services: Demand Projections and Workforce Implications, 2001 - 2021. A Discussion Document.* Wellington: Ministry of Health.

NZIER. (2004b). *Ageing New Zealand and Health and Disability Services: Projections Demand Projections and Workforce Implications 2001 - 2021. A Discussion Document*. Retrieved from http://nzier.org.nz/publications?page=11.

NZIER. (2006). *Ageing and economic growth in New Zealand*. Osaka: Pacific Economic Outlook Structure Specialists.

OECD. (2011). *OECD Economic Surveys: New Zealand. Overview*: OECD.

Pensions Policy Institute. (2010). *Government proposals to remove the requirement to annuitise pension saving could give people greater choice at retirement but could expose them to increased risks* (Press Release). UK: Pensions Policy Institute.

Perry, B. (2010). *The material wellbeing of older New Zealanders: background paper for the Retirement Commissioner's 2010 review*. Wellington: Ministry of Social Development.

Productivity Commission. (2011). *Caring for Older Australians, Draft Inquiry Report*. Canberra.

Rashbrooke, G. (2008). Income in Retirement. *Policy Quarterly, 4*(1), 26-35.

Shick, R., & Balinsky, W. (2005). Home Health Care Services: Management and Effectiveness in Changing Times. *Journal of Health & Human Services Administration, 28*(3), 423 - 458.

St John, S. (2009). *The Annuities Market in New Zealand*. Wellington: Ministry of Economic Development, For the Capital Markets Taskforce Report.

St John, S., & Chen, Y.-P. (2010). Aging of the elderly: An intragenerational funding approach to long-term care. *European Papers on the New Welfare, 15* (October), 11.

St John, S., & Dale, M. (2011). *Funding the long good night*. Paper presented at the The New Zealand Association of Economists Annual Conference 2011.

St John, S., & Dale, M. C. (2011). *Funding the long good night: more intragenerational risk sharing*. Paper presented at the The New Zealand Association of Economists Annual Conference 2011.

Tegart, W. J. M. (2010). *Smart Technology for Healthy Longevity*. Melbourne: Australian Academy of Technological Sciences and Engineering (ATSE).

Tegart, W. J. M. (2011). Smart technology for healthy longevity. *NewsMedical,* (9 March). Retrieved from http://www.news-medical.net/news/20110309/Smart-technology-for-healthy-longevity.aspx

The New Zealand Treasury. (2001). *Treasury report: saving incentive options, consultation and analysis*. Wellington: The New Zealand Treasury.

Wagner, E. H., Austin, B. T., Davis, C., Hindmarsh, M., Schaefer, J., & Bonomi, A. (2001). Improving Chronic Illness Care: Translating Evidence Into Action. *Health Affairs, 20*(6), 64 - 78.

Waldron, H. (2007). Trends in Mortality Differentials and Life Expectancy for Male Social Security-Covered Workers, by Socioeconomic Status. *Social Security Bulletin, 67*(3).