
The community aged care model in rural and remote Australia

Review of the Literature: Report 1

presented to

Helping Hand Aged Care

by

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1 INTRODUCTION TO THE RESEARCH PROJECT

This Discussion Paper is part of a broader project exploring the viability of the community aged care model in the face of population and workforce ageing, increased demand for care services, and increasing challenges related to resource usage.

Australian aged care policy is increasingly focused on the provision of care in the home and the community. The implementation of the HACC program in 1985 was influenced by broader moves to de-institutionalisation and by the goal of prevention of unnecessary or premature institutional care for older people. The importance of providing a choice between residential or community aged care has also been widely recognised. The piloting and implementation of aged care packages, providing the equivalent of low to high residential aged care in the home has seen the continuing strengthening of the growth of community based care.

While most people would prefer to age in the environment of their own home and local community, the universal application of the community care model brings a number of implications that are not yet tested. For example, will family and friends be able to provide the level of support on which this model depends? Are occupational health and safety standards able to be met to an equivalent standard achievable in a residential setting? Will efficiencies in the allocation of staff be compromised? As clients' dependency levels grow, how can the challenges associated with keeping them safe be addressed, especially when their care packages do not support constant monitoring and surveillance?

At present, most aged care packages, whether HACC or Commonwealth funded, involve a small number of hours of service provision for most clients. This means that care package staff spend a significant proportion of their time travelling from one client's home to another. In the face of scarce resources and increased demand for aged care due to an ageing population, it is not known if the aged care system's future workforce availability can support increased uptake of community based care.

There is also a gap in available information about the aged care workforce due to population and workforce data bases not being designed to yield an accurate profile. ABS data provide a category for residential aged care but not for community aged care. To our knowledge, there has not been a Census undertaken that would yield an accurate aged care workforce profile identifying those in the residential and community care (HACC program and Commonwealth funded and regulated) sectors. The workforce involves a wide range of occupations – including registered and enrolled nurses, the various allied health occupations, geriatricians, domestic staff, home maintenance, policy and management staff, and personal care workers. In the absence of a defined aged care workforce category, developing a profile relies on estimates.

It is also not known how many of the current aged care workforce will continue to work past the usual retirement age, and if they do, how best to enable them to work effectively in the face of their own ageing-related health and other issues. Australia is experiencing skills shortages in a number of occupations and these are projected to continue for at least the next ten years, and it is not known what this may mean for the aged care workforce. The overriding question is – *Will workforce supply be sufficient to meet the demand for community care in the next ten, then twenty years?* If there is a shortfall in meeting projected

demand, apart from developing strategies to meet that gap, there is also an urgent need to identify strategies to ensure that workforce training, support, development, and deployment makes maximum use of scarce and valuable resources. This would include redesigning jobs, workplaces and care delivery. Just how this can be done is currently unknown.

Finally, it is not known how the *Baby Boomer* generation's experience of supporting their own parents in a strongly community based aged care system, will affect their attitudes to their own care when they are old. The community care model depends on the input of friends and family and the Baby Boomers are now being referred to as the 'sandwich generation' – caring for older parents while still having parental responsibilities of their own, and usually juggling this with work. The concept of Work-Life-Balance is becoming increasingly important. Will the pressures faced by many *Baby Boomers* act as a deterrent to their support for the community based care model? This is a question that requires its own research project.

With these challenges in mind, Helping Hand Aged Care (HHAC) commissioned the Australian Institute for Social Research (AISR) to undertake research with a specific geographic focus on the mid North of South Australia. This is where the bulk of HHAC's rural workforce is located¹, and given workforce efficiencies associated with travel time involved in community care provision, it makes sense to study the issue where distance and time are more pronounced – as occurs in a rural setting. The mid North region also offers a degree of diversity in setting, with town sizes vary from small to large as well as more isolated rural environments. Findings from the study will be extrapolated to the rest of the State.

1.1 Research questions

- 1 What will be the key features of population ageing over the next 10-20 years in the mid North region of South Australia?
- 2 What will this mean in terms of future demand for care, and the future aged care workforce?
- 3 Are there other forms of demographic, economic, technological and social change that need to be taken into account in projecting aged care workforce requirements? For example, will the growing demand for mining sector workforce and the relative proximity of the mid-North to mining sites be a source of competition?
- 4 What impact will internal and overseas migration have on those projections?
- 5 Taking the first four questions into account, what scenarios can be modelled for the community aged care workforce in 10 to 20 years' time, given inherent inefficiencies eg travel, petrol? How would this compare to the residential care workforce from an efficiency perspective?

¹ Current provision includes 200 residential care beds, 160 care packages and a growing investment in independent living.

- 6 Are there research studies focused on workforce efficiencies and resource issues associated with home based aged care?**
- 7 Are there research studies focused on the impact of caring for older parents on the Baby Boomer generation on their expectations for care in their own old age?**
- 8 What are the gaps in existing research and what specific studies should be recommended to address those gaps?**

This Discussion Paper is framed by **Research Questions 6, 7 and 8**, and is structured into 6 sections –

- o Future demand for community aged care services in Australia
- o The role of informal care in the community care model
- o Future availability of informal carers
- o The impact of consumer-directed care on community care services
- o Studies of the community care model from an efficiency perspective
- o Community aged care in rural and remote settings
- o Strategies for achieving efficiencies in community care.

2 FUTURE DEMAND FOR COMMUNITY AGED CARE SERVICES IN AUSTRALIA

The community aged care sector has expanded significantly since the introduction of the HACC Program in 1985 and following the implementation of Veterans Home Care, and of CACP, EACH and EACH Dementia packages. In 2007, the number of community care packages was increased, raising the Australian Government's service provision target from 20 to 25 places per 1000 people aged 70 and over. **Table 1** summarises the number of clients in each of the major community care programs in Australia for the year 2004-2005. This shows that the HACC Program is the major source of community aged care.

Table 1: Number of clients in community care programs, 2004-2005

Program	No of clients in 2004-2005
Home and Community Care (HACC) – based on 82% of funded service providers, therefore, an under-statement	744,000
Community Aged Care Packages (CACP)	31,000
Extended Aged Care at Home (EACH)	1,673
Veterans Home Care (VHC)	74,620

Source: Allen Consulting, 2007: 4

Community aged care supports more **women** than men and more **very old** than younger old people –

- o 18 per cent of the female community care target population receive services, compared with 11 per cent of the male target group.
- o 51 per cent of people aged 80 and over access community care, compared with 20 per cent of people in their seventies and 6 per cent of the target population under 70 years of age (Allen Consulting, 2007: 9).

The model developed by Access Economics for the 2004 Hogan Review projects significant increases in aged care consumers between now and 2042, with the sharpest rise associated with the HACC program. Interestingly, the use of the other major community aged care program –CACPs – shows only a slight increase, mainly because of current government planning constraints which limit the number of care packages per 1000 Australians aged 70 and over (Access Economics, 2004: 10).

The most significant driver of demand for community aged care is population ageing. Changing fertility and life expectancy rates, general improvements in health and a fall in age-related disability rates, improvements in the treatment of illness and disease will see an increase in the number of people living at very old ages (Access Economics, 2004: 26; Madge, 2000: viii). The proportion of the population aged over 85 is projected to rise from 1.5 per cent to 5 per cent between 2003 and 2044 (Productivity Commission,

2005a: 7). Numerically, this means that those aged 85 and over will quadruple by 2040 (Access Economics, 2004: 27-28).

Apart from demographic change, the Productivity Commission has identified these other factors as affecting demand for aged care –

- o **Age-specific disability rates**, which are falling in Australia and most other OECD countries. This trend is projected to reduce overall demand for residential care.
- o **Wealth and income effects** – the combined effect of economic growth, net capital accumulation, increasing asset prices and greater superannuation coverage are seen as increasing the purchasing power of older people. Increased wealth and income may reduce the likelihood of disability while also increasing future demand for services, with the net impact of these opposing forces unable to be determined. However, the informal care sector will be the most responsive to changes in income levels.
- o **Institutional factors** – demand for formal care is regulated by government regulation of the availability of subsidised places and entry limited by needs based assessment. These act as rationing mechanisms and the way in which they are applied in the future is difficult to determine, being influenced by the combined impact of community expectations and government policy (Madge, 2000: viii-ix, 39).

Based on current patterns of service, the Department of Health and Ageing has estimated that the number of people aged 85 and over needing community care services will increase from 81,000 in 2002 to 140,000 in 2019 (Allen Consulting, 2007: 28, citing 2003 Departmental data). This estimate is supported by Productivity Commission projections which see the number of HACC and CACP clients more than doubling over the next forty years (Allen Consulting, 2007: 28; Productivity Commission, 2005a: 179).

The majority of older Australians are expected to live in community settings (Brown *et al*, 2004: 2). In part, this reflects consumer preferences, but fulfilling those preferences becomes increasingly difficult for both informal carers and service providers when needs become more complex. A key policy question is how suitable is the community care model, from both an effectiveness and efficiency perspective, for people whose needs require intensive support.

However, for people with very high levels of need it is more efficient to provide care in a common setting having economies of scale and minimal access costs. Hard choices are emerging as the provision of high-level care at home, such as alternatives to nursing homes, can be three times the cost even without the capital component or informal carers' time included in costs (Kendig & Duckett, 2001: 72).

The preference of the *Baby Boomer* generation for home-based support first and aged care facilities last was a key finding of research undertaken by Fujitsu (2007: 4). This was based on a survey sample of nearly 1300 people aged between 55 and 65, most of whom were between 58 and 61 years at the time of the survey. 80 per cent expressed a preference for independent living (rather than communal or centralised facilities), regardless of the presence of significant health problems. Their most highly valued lifestyle factor was privacy, followed by being close to family and friends, feeling part of a community, living in

environmentally friendly accommodation, close to local communities and public transport. It was also important to be able to have pets (Fujitsu, 2007: 10-11).

The research identified the need for, but almost non-existent provision, of accommodation that combines retirement living and residential aged care into an integrated setting allowing for transition across independent, low and high care options on the same site in response to changing consumer needs. OECD analysis of international trends in ageing has identified the trend towards community care, and notes the need for adaptation of housing systems as well as an increased focus on the role of informal carers as two sources, often unrecognised, as determining the ability for frail older people to continue living at home (Jacobzone: 1999).

Critical to the ability of older people to live independently in their own homes is the design of those homes, with significant potential existing to maximise that independence and quality of life. This Discussion Paper has not overviewed studies on this issue, but notes its importance, and the need for policies that address accommodation and aged care as two sides of the coin of independent living.

3 THE ROLE OF INFORMAL CARE IN THE COMMUNITY CARE MODEL

A key feature distinguishing community from residential aged care is its reliance on informal carers. The report commissioned by Australia's Community Care Coalition is one of few that acknowledges the important role of informal care and its relationship to community care.

Many people access community care services to complement the support provided by informal carers, rather than as a substitute. It is not necessarily the case that having an informal carer reduces an individual's need for all types of formal assistance (Allen Consulting, 2007: 4).

Unpaid, informal care has been estimated to account for some **74 per cent** of support provided to older Australians and people with a disability, and 63 per cent of all informal carers live with the person in their care (NATSEM, 2004: 28).

... the role of informal carers in the Australian system is regarded, by international comparisons, to be very significant (Access Economics, 2004: 35).

Informal care is the dominant form of care for older people in most countries but is often regarded as a 'free' resource by policy makers because of its hidden costs being borne primarily by informal carers, and to a lesser extent by the public sector and society (Glendinning *et al*, 2004: 24). It usually involves care being provided by relatives who may or may not receive appropriate training for this role. Viewed internationally, formal care systems acknowledge the role of informal care through incentive systems (such as, Carer Allowances and Benefits in Australia), and systems that allow for some substitution of formal for informal care (such as, Japan's long term care insurance scheme which is designed to reduce reliance on family care giving by making community based formal care more available to older people). Governments also acknowledge the contribution made by informal care through respite and other support programs received by a target group known as 'carers'. Those providing informal care, however, may not necessarily define themselves with this title and regard their role as an accepted part of familial love and responsibility. A cross cultural study of expectations of aged care, undertaken for the SA Office for the Ageing (Kate Barnett & Associates: 1999) found that across different cultural groups the relationship between formal and informal care was conceptualised as a 'partnership of care' wherein formal service providers delivered care for which their training had prepared them while informal carers provided love and support. Both elements of the care relationship were seen as equally important but involving different sets of skills and knowledge.

3.1 Future availability of informal carers

Critical to the future of the community care model, and its ability to achieve resource efficiencies, is the availability of informal carers.

There has been a degree of debate in the literature about the future supply of informal care. Two approaches have featured, both of which have their origins in economic models (Jenkins *et al*, 2003: 5). These involve analysis of demand-side factors (population ageing and disability and the subsequent need for care), and of supply-side factors (with informal care being reliant on the number of people able and/or

willing to provide this care). While demand-side issues are more clearly understood, there are a number of unknowns associated with the supply side, in particular changing social, work and community expectations, and changing lifestyles and family composition.

Changing demographic patterns and increasing life expectancy at advanced ages brings a number of implications for family care by adding to the complexity of family structures. Potentially four generations may supersede three generations as the predominant structure, of which two may need to be supported by the two younger generations (Jacobzone, 1999: 6). At the same time, greater demands for autonomy on the part of both parents and children will transform traditional patterns of relationship and interdependence (Jacobzone, 1999: 8).

Carer willingness and availability will also vary across different groups of carers and across the stages of life – for example, grandparents providing care for grandchildren to support their own children’s participation in paid work, parents combining child rearing with paid work, and older retired couples supporting each other.

What is not known is the future willingness of informal carers to accept this responsibility. ABS surveys of carers show that the key motivator is a wish to provide the best possible care and to fulfil family obligations. Therefore, factors which would work against this include increasing rates of relationship breakdown, reduced family formation among young adults, widespread changes in the traditional role of women as carers, and separation of parents from adult children. In the past decade or so, there has been a 64 per cent increase in lone person households and this trend is predicted to continue (AIHW, 2004: xv). *Section 2.2* provides further information on this issue, based on modelling by NATSEM.

Two other factors that affect motivation to provide informal care are the costs (direct and indirect) to informal carers, and participation (or need to) in paid employment.

3.1.1 Costs to carers

Informal carers carry a number of direct and indirect costs, which will have an impact on the motivation to provide care. Carers Australia and others have documented these well. More than half of carers experience declines in their physical health and two-thirds believe that their mental and emotional health has suffered from providing care. One-third have been physically injured in the course of providing care and 30 per cent face difficulties in attending to their health and other appointments because of their caring duties (AMP:NATSEM, 2006: 17, citing previous research findings).

3.1.2 Women and paid employment

Women, the traditional source of informal care, now comprise a significant part of Australia’s skilled workforce with a higher proportion having diploma or associate diploma qualifications than males. Female labour force participation increased from nearly 54 per cent to nearly 58 per cent between 1999 and 2007 while male participation fell slightly. The labour force participation of people of working age is projected to rise from 76.2% in 2006-07 to 78.1% in 2046-47, with female participation rates expected to increase across age groups but particularly for older women (TOCC, 2007: 12, citing Treasury data). The degree to which

this trend is likely to affect the future supply of informal carers has been modelled in Australia, and those findings are discussed in *Section 3.1.2*.

Substitution of informal for formal care can be driven by the increasing paid employment of women, and is often influenced by government employment and economic policy. In countries like Denmark and Japan, reducing reliance on informal care is a deliberate strategy to enable women to participate more fully in the paid workforce (Glendinning *et al*, 2004: 26). There are interesting ramifications to policy choices that provide entitlement to formal care through cash as opposed to services. Glendinning and her research team concluded from their analysis that cash payments tend to be used as an incentive to use informal care while entitlements in the form of services tend to encourage formal service usage (Glendinning *et al*, 2004: 26).

Interestingly, OECD research identifies a tendency for countries with extensive provision of formal home care but only limited financial support for informal care (for example, the Scandinavian countries) to have higher employment rates for women aged 50 to 59, compared with countries that have extensive financial support for informal care through cash allowances and limited or average provision of formal home care services (for example, the United Kingdom). This research was not able to determine the cause and effect pattern of this tendency (Lundsgaard, 2005: 34).

The participation of carers in the workforce reflects their caregiving responsibilities and vice versa. There is an inverse relationship between primary carer labour force participation and the amount of time spent in providing informal care (AIHW, 2004: xiii).

More recent research by the Taskforce on Care Costs (TOCC: 2007), based on a partnership with Families Australia and Carers Australia, has examined the impact of aged and disability care on the workforce participation of carers. This confirmed earlier surveys undertaken by the Taskforce in 2004 and 2006 in finding a direct relationship between work and the cost of care.

- o One in four carers had reduced their paid work hours because they could not afford to purchase formal care, with little difference existing in relation to care of older people and care of people with a disability.
- o Furthermore, 34% of carers surveyed believed that their careers had suffered because of competing work and caregiving responsibilities, and 67% stated that they would refuse a job or promotion if it prevented them from fulfilling those responsibilities.
- o 44% had selected work roles below their skill level in order to have the flexibility they needed to balance their responsibilities (TOCC, 2007: 22-23).

Indirect costs arise from forgone earnings due to the need to leave work or reduce their paid hours.

- o Carers are less likely to be working than non-carers and if working, to be working fewer hours.

- o The annual opportunity cost of caring has been estimated to be \$9,300 for a primary carer and \$2,600 for other carers.
- o Added to this is forgone superannuation payments which affects retirement income (AMP:NATSEM, 2006: 17, citing previous research findings).
- o Not surprisingly, carers are poorer financially than non-carers, with median gross weekly income being some 25 per cent less than for those without caring responsibilities, and primary carers being the most disadvantaged.
- o One-third of primary carers are in the households whose income places them in the poorest one-fifth of households nationally. While some income differences are explained by older age, comparison of those of working age still shows significant disparities between carers and non carers (AMP:NATSEM, 2006: 11-12).

These findings highlight the importance of **workplace conditions** in providing appropriate leave and flexibility. In assessing the future of community aged care, the degree to which workplaces support informal care is a variable which must be taken into consideration. In addition, broader **legislative provision** to prevent the discrimination of employees needing time away from the workplace to manage the care of older people is another critical factor. While some protection exists through State Government anti-discrimination legislation, at Federal level, there is a significant gap regarding caregivers (TOCC, 2007: 18).

In 2006 the British Government expanded legislation which provided carers of children with the right to flexible work practices to include carers of adults. The Australian Human Rights Commission has recommended that the Federal Government enact a *Family Responsibilities and Carers' Rights Act* which would include a right for carers to request flexible working arrangements and a corresponding duty for employers to reasonably consider such requests, and to provide protection from discrimination for employees with caregiving responsibilities².

Workforce participation and retention for mature aged workers is now a high priority for governments in the face of workforce skills shortages and ageing. At the same time, government policy promotes aged care in the community, which is reliant on a supply of informal carers, most of whom will be mature aged or older.

The dilemma is finding a balance between the dual pressures of work and care [but] leads TOCC to conclude that there is a lack of balance between these two pressure points (TOCC, 2007: 14).

3.2 Modelling the future supply of informal carers

The possibility of a reducing supply of informal carers has been identified by a relatively small number of researchers (TOCC, 2007: 12-13; Percival & Kelly: 9-11, 2004: Glendinning *et al*, 2004: 24; Jacobzone, 1999: 9).

² AHRC (2007) *It's about time: women, men, work and family*, Australian Human Rights Commission

Yet despite its importance, this is an area where there appears to have been little research done to establish whether the contributions made by carers of older persons are likely to change over the coming decades. That this contribution might change is made more likely as many areas of Australian life are currently in flux – such as, demography, family economic circumstances and social and work preferences – could affect the supply of informal care (Percival and Kelly, 2004: 1).

With this gap in mind, Carers Australia commissioned the National Centre for Social and Economic Modelling (NATSEM) to develop a model that would project the future demand for and supply of carers of older people in Australia (Percival & Kelly: 2004). The model developed used two principal data sources – ABS population projection series (2003) and the survey of Disability Ageing and Caring (1998). This included changes in population demographics, living arrangements and labour force participation numbers.

The modelling was based on a number of premises, including that need for care is set by the number of people with conditions requiring assistance with key daily activities. Of this group, only some will have a preference for informal care, and only some of these will have a carer available (Percival & Kelly, 2004: 4-5).

- o NATSEM's modelling projected the number of informal carers of older people to **increase** between 2001 and 2031 from 198,000 to 312,000 – an increase of some **57 per cent**.
- o This includes greater growth in the numbers of **co-resident** carers whose numbers are projected to increase by **71 per cent** (reflecting the ageing of carers themselves) while **non co-resident** carers are expected to fall from 37 per cent of all carers in 2001 to 31 per cent in 2031.
- o By 2031, older carers will constitute **56 per cent** of all carers, up from 42 per cent in 2001.
- o Gender composition will change slightly as the proportion of male carers is projected to grow from 29 per cent to 32 per cent in this period.
- o Interestingly, anticipated changes in household composition (eg more single person households) and increased female labour participation rates, were projected to have only a **minor** impact, reducing carer availability by some **5 per cent** (Percival & Kelly, 2004: 28-29, 36).

In order to measure the availability of carers, NATSEM calculated a ratio of older persons needing care (that is, aged 65 or more with a severe or profound disability and living in private dwellings) to people likely to provide care. Between 2001 and 2031, it is projected that this will fall from 57 primary carers for every 100 older people needing care, to **35 carers for every 100** needing this care. Put another way, by 2031 the percentage of older people in private dwellings needing care but without a primary carer is projected to grow from 57 per cent to **65 per cent**. (Percival & Kelly, 2004: 30-31). These projections raise concerns about the capacity of community care to meet future need where increased dependency levels arise, and it needs to be remembered that these are likely to underestimate the challenge, given the number of 'hidden' carers, and number of people needing formal services but not receiving them.

This would indicate a choice for government aged care funders to meet this need through increased residential care or increased intensive (and therefore costly) community care services.

There may be a greater demand for institutional care due to an inadequate supply of primary carers. However, many older people are likely to continue to prefer options that support and allow them to stay in their own homes and this points to an increased need for services which provide supportive environments for people requiring community based support (Percival & Kelly, 2004: 37).

The model developed by Access Economics to project future demand for and supply of long term aged care indicates that growth in the provision of informal care as the **sole** form of care (that is, without the addition of formal care services) will **decline** over the next few decades. This is in response to a projected decline in the availability and willingness of informal carers and a fall in excess demand as relative health status improves (2004: 62).

Earlier research by the Australian Institute of Health and Welfare constructed a number of scenarios to assess the future supply of informal carers – using a narrower timeframe from that of the NATSEM study. By projecting changes in part-time and full-time labour force participation (including increased female participation), changes in living arrangements for older age groups, changes in the age and gender composition of the population, this research found that the number of carers will continue to **increase – by 27 per cent** between **1998 and 2013**.

This research found that population ageing alone will bring an increase in these numbers that is likely to be greatest for those aged 60 or more. Even in the face of women’s increased workforce participation - much of it being part-time rather than full-time (AIHW, 2004: xiv), carer numbers were found to increase among people of working age – albeit depending on the availability of other family and community supports (Jenkins *et al*, 2003: 31-32). These findings support those of the NATSEM modelling work.

4 THE IMPACT OF CONSUMER-DIRECTED CARE ON COMMUNITY CARE

Consumer-directed care (CDC) is a strategy that is designed to provide service users with more scope to direct their own care while improving the flexibility of the community care system. It is not regarded as a replacement for the community care system but as a parallel provision that is part of a reformed system (Allen Consulting, 2007: 49, 55). Available in the disability sector since the early 1990s, the Australian Government has expressed interest in exploring its applicability to the aged care sector (ACSA, 2008: 2). The CDC model has been found to increase the use of community care through providing support that increases the capacity of informal care to support older people at home (ACSA, 2008: 15; Glendinning *et al*, 2004: 13, 20).

Models of consumer-directed care range from those with minimum service provider input to those providing a significant degree of assistance in choice and monitoring of services. These include –

- a) the cash or voucher model
- b) assisted choice of provider (wherein clients are assisted by case managers to engage their provider of choice)
- c) monitored choice of service and provider (this extends the assisted choice of provider approach, with case managers not only assisting in engaging providers but also monitor the quality and effectiveness of service provision according to an approved care plan (Allen Consulting, 2007: 54).

In Australia, models could range from direct payment through money or vouchers provided to the consumer or their nominated informal carer, to the direction of funds through existing community packaged care providers. The emphasis is on providing **choice** to the consumer (ACSA, 2008: 2-3). Many overseas countries have been providing consumer-directed care models for the past two decades, and while the model has not been implemented in Australia, it can be seen as an extension of a continuum that builds on the consumer participation ethos promoted by many Australian service providers. This point is also made by Anna Howe in her review of CDC's applicability for Australia.

There are many ways of enhancing consumer direction in community care by giving individuals and their family members a greater say in planning and delivery of formal services, short of cashing out the cost of services (Howe, 2003: 17-18).

Citing Howe's research, Aged and Community Services Australia agrees -

... a strong message from the literature and from the sector [is] that consumer choice is already integrated to a considerable extent into community care delivery in Australia (ACSA, 2008: 7).

For example, the Carer Allowance can be seen as part of a CDC model, albeit that it is a payment to a carer rather than the person in their care (Howe, 2003: 10-12).

The CDC model is based on an assumption of sufficient service supply to enable consumer choice. However, in the face of lengthy waiting lists for many aged care services, and resource restrictions which limit the

total number of hours of formal care possible per consumer, serious concerns arise regarding the viability of this model.

... there is considerable rhetoric about the importance of 'choice' for users of public services, the opportunities for older people to choose between different providers of institutional or home-care services are relatively small, unless they are purchasing services entirely from their own private resources – and even here choice is likely to be restricted by problems of supply. Supply problems are intrinsically related to the availability of funding... Glendinning et al (2004: 30).

Apart from having services from which to choose, meaningful consumer choice also relies on the availability of information and services to support effective decision making (Glendinning et al (2004: 14).

Furthermore, although sometimes promoted as cost-saving for the community care sector, it is doubtful if this argument can be upheld. Anna Howe raised cautions about claims that CDC achieves savings in administration and overheads by reducing the need for service providers, and notes that not all older people will be able to, or want to, manage their own care. Rather than involving cost savings, CDC is a cost-shifting model.

The first and most general response to this claim is that these costs are not 'saved' but simply shifted to the client and carer, or paid for by workers on lower wages with few benefits.... The question ... [is] whether ... benefits for recipients have been at the cost of dis-benefits to workers ... in ...terms of employment and work conditions of the home care labour force, and especially in the area of occupational health and safety.

The limitations of CDC for older cognitively impaired people who not have a close family carer are evident; such individuals account for a very large segment of those with dementia (Howe, 2003: 15-16).

ACSA too raises cautions about the model's potential efficiencies because of the range of supports required to make it effective.

Successful CDC is unlikely to be a 'cheap' option because enabling consumers to exercise real choice, in most cases, will require an array of supports, such as case management, brokerage services, fiscal agents, counsellors, advocacy (ACSA, 2008: 15).

A final concern relates to the need for informal carers to receive appropriate training of informal carers in order to ensure quality care and the safety of the carer and the client.

Nevertheless, CDC has also been identified by the OECD as having a role to play in paying informal care workers in the face of shortages of formal care provision.

Giving older persons a budget or cash to pay informal care givers can help tap into a wider pool of human resources where there are shortages of professional care workers....

With more years in retirement ... the growing number of health and active senior citizens represents a very valuable resource as informal care givers. Finding the best way of nurturing this potential thereby shifting the task of providing informal care away from working age children and towards able seniors – being spouses, neighbours and others in the local community – may well prove to be key to achieving fiscal sustainability (Lundsgaard, 2005: 4-5).

The potential of this approach to meet demand for services in rural areas is discussed further in *Section 6.4*.

5 STUDIES OF THE COMMUNITY CARE MODEL FROM AN EFFICIENCY PERSPECTIVE

This literature review found almost no studies focusing on the community care model from an efficiency perspective, and its future viability. Similarly, the Productivity Commission could identify only one study of productivity in aged care and this study focused on residential care only. This was undertaken for the Hogan Review by the Centre for Efficiency and Productivity Analysis (CEPA) at the University of Queensland and tested the importance of a range of factors in explaining differences in efficiency. Although several factors were found to be likely determinants of efficiency most of the variation in the CEPA modelling was caused by unknown factors, and of those factors found to be significant, many are beyond the control of individual operators – such as, location of facility (Productivity Commission, 2008: 180).

The research found that remotely located residential facilities were less efficient in comparison with those in other locations, partly due to the increased costs involved in employing skilled labour. Consistent with international studies reviewed by the Productivity Commission, for-profit facilities were found to be more efficient than not-for-profit facilities and for-profit providers were less likely to be operating rural and remote services than not-for-profit organisations. Facilities with higher measured quality achieved lower scores for efficiency, reflecting the higher input costs of better quality care. International studies reviewed by the Productivity Commission found that providers operating multiple facilities generally have higher average efficiency scores, mainly because of the economies of scale that can be achieved. The CEPA study was not able to distinguish between regulatory settings variable quality of management as causes of inefficiencies (Productivity Commission, 2008: 180-181).

Productivity is often measured on the basis of a single input, such as labour or capital, with labour being the most commonly used because data are readily available or because it is the most important of all inputs, and this is certainly the case in relation to aged care (Productivity Commission, 2008: 176). Labour's share of input costs in the sector has been assessed at 65 per cent for low care residential services to approximately **80 per cent for HACC funded services** (Access Economics: 2004). The Productivity Commission argues for assessment based on multiple factors which usually involve labour, capital and intermediate goods and services, especially in the aged care sector where providers can achieve efficiencies by changing their use of capital and labour inputs (2008: 176).

In their research for the Hogan Review, Access Economics (2004) identified aged care supply through the key programs of HACC, Veterans Home Care, residential high care, residential low care, EACH and CACP. The model they developed then examined these factor input costs and the increases in their costs over time –

- o Registered nurses
- o Enrolled nurses
- o Other care (eg personal care assistants)
- o Non-care labour (eg domestic staff)
- o Land
- o Buildings and structures

- o Plant and equipment
- o Material inputs.

The Access Economics model assumed that most aged care providers will aim to meet demand at the lowest possible cost, with a common strategy involving substitution of some of these inputs for others – subject to a range of constraints (2004: 6).

Productivity Commission analysis of long term aged care supply and costs concludes that the labour intensive nature of such care, with little scope for substitution or increases in productivity, combined with a dwindling supply of labour force, make it likely that wage rates are likely to increase and with them, overall costs of care.

Long-term aged care services are ... generally highly labour intensive. And, while the impact of technological change on input demand is difficult to foresee, there appears to be relatively little scope for capital substitution or other means of improving labour productivity in the foreseeable future. Moreover, demographic projections imply that demand for ... long-term aged care labour will generally be increasing, at a time when the population base for the labour force is falling. This is likely to put upward pressure on wage rates (Madge, 2000: 46).

The Productivity Commission (2008: 175) identified conflicting analyses of the potential for improving productivity and efficiency in aged care, with some arguing that no room for this exists and others (particularly the Hogan Review) insisting that significant scope exists. The Commission noted that opportunities may arise from adopting more flexible workforce practices, improving management practices, using assistive and information technologies more extensively, and changing regulatory arrangements in order to facilitate both innovation and efficient resource usage (*ibid*).

The relationship between efficiency and regulation was not specifically examined by the CEPA study but the design and administration of regulation was recognised by the 2004 Hogan Review as having a significant effect on the performance of aged care providers by limiting the flexibility with which they could allocate resources. This was seen as being exemplified by the current bed allocation system shaping capital investment choice, and by the constraining of competition between providers (Productivity Commission, 2008: 182). While the Commission agreed that the work of the CEPA (2003), Ergas (2006) and the Hogan Review (2004) indicated the scope for regulatory reform to enhance productivity, it found that available research was unable to quantify this. This constitutes a major gap in the evidence base, which extends to the community care sector.

In an industry with many not-for-profit operators, large government subsidies and subject to considerable regulation, the best proxy for the behaviour of aged care operators may be that they minimise costs rather than maximise profits (Hogan, 2004: 73).

In their analysis of efficiency in long term care, Glendinning *et al* (2004: 15) defined efficiency as “... the ratio of achievement to the value of resources consumed in producing it”. These researchers noted a policy shift in focusing efficiency from the unit costs of services to considering service outcomes, and the costs and benefits to different groups of stakeholders of those outcomes. Among their conclusions is the important role of care management as a mechanism for achieving input and outcome mix efficiencies.

Care management is widely used as a means of securing input and outcome mix efficiencies in a context of fragmented services. However, evidence from the US, Australia and the UK shows that its effectiveness depends greatly on the training and flexibility of care managers; their resourcefulness in working within the local care environment; and the flexibility of agencies within that environment ... Glendinning et al (2004: 17).

A submission to the National Health and Hospitals Reform Commission in May 2008 from a coordinator of EACH and EACH Dementia services, documented the inefficiencies of the community care model from the perspective of a provider.³ This is how this Registered Nurse, in a metropolitan location in Brisbane, articulated the problem.

I have been dismayed by the wastage by myself and similar organisations as we 'criss-cross' each other across the city in our organisational cars providing services to our clients. Additionally, we compete for staff to provide these services, these staff members often travel considerable distances before even beginning their day of work in the community.... One [staff member] has commented that she knows that several elderly people in her street receive services from assorted organisations.... For example, a care worker on a typical day may travel twenty minutes to the first client to provide personal care, meal preparation, medication monitoring and housework, then twenty minutes to the next client and so on. Perhaps 4-5 clients can be seen this way in a 'normal' eight hour shift, often 2 of those 8 hours are spent travelling. More often than not the care worker will encounter similarly badged care cars from other organisations driving unnecessarily across each other's paths over Brisbane.

This service provider proposes to reduce 'resource wastage, duplication and carbon emission' by enhanced collaboration between providers that includes identifying, recruiting, training and pooling Care Workers within clusters of suburbs, and documenting this through a workforce database.

A Canadian study compared the efficiency and effectiveness of traditional home nursing visits with nursing clinics which had been purpose-built to provide post-acute care for people needing only short term treatment (for example, wound care or intravenous therapy). Of 140 people discharged from hospital 99 were randomly assigned to home or clinic treatment. No statistically significant differences were found between the two groups in terms of effectiveness of treatment but significant efficiency differences were identified. These found an average treatment time of 23.87 minutes in clinics compared to that of 35.19 minutes for home based treatment. When travel time and documentation time were added, the difference became 29.62 minutes for a clinic visit as opposed to 55.74 minutes for a home visit ($p < .001$). The savings of the clinic model translated into an Ontario-wide potential saving of \$10 million annually and the release of 146 full time equivalent registered nurses (VanDeVelde-Coke: 2004).

³ [www.nhhrc.org.au/internet/nhhrc/publishing.nsf/Content/517/\\$FILE/517%20-%20Submission%20-%20Lynne%20Day.pdf](http://www.nhhrc.org.au/internet/nhhrc/publishing.nsf/Content/517/$FILE/517%20-%20Submission%20-%20Lynne%20Day.pdf)

This study highlights the impact of **travel time** on community care delivery, and the implications of this for the efficiency of community based aged care – especially in rural and remote locations. Interestingly, there appear to be no studies on this issue.

In most of the empirical literature, it is often assumed that home care is less costly. This is sometimes true from a public financing perspective. But a switch to community care can be revenue neutral if all potential costs are taken into account in the value of informal care.... In a more comprehensive framework, a switch to community care will not result in cost savings as large as expected even if this may increase the welfare of older persons (Jacobzone, 1999: 17).

6 COMMUNITY AGED CARE IN RURAL AND REMOTE SETTINGS

Rural Australia presents significant challenges to service delivery – through rural-urban differences in health and disability status, the large distances that often separate populations from service providers, and the higher costs in delivering care (Brown et al, 2004: 2, citing AIHW: 1998⁴).

Inequities between metropolitan and rural communities are well documented. In terms of ageing, a higher proportion of Australia's older people live in rural and remote communities than in capital cities – partly because of out-migration by younger people and significant in-migration of older people seeking peaceful retirement settings. This is particularly evident in many smaller coastal towns and some regional centres. It is known that the health of older people in rural and remote Australia is generally poorer than that of their metropolitan counterparts (AIHW: 2003). Rural regions have average incomes that are 30 per cent lower than inner metropolitan levels and 36 of Australia's 40 poorest areas are classified as rural or remote (ACSA:NHRA, 2004: 4).

Apart from their average older age profiles, regional areas also exhibit more rapid rates of growth in the number of people aged 65 or more, compared with metropolitan areas (Sappey Bone & Duncan: 2007, citing ABS data). The key barrier of distance between most consumers and aged care providers is well documented (Sappey Bone & Duncan: 2007; Gibson Braun & Liu: 2002; AIHW: 2002) and a key element in the relatively high costs of delivering care in rural and remote locations. Three specific factors have been identified as affecting the higher costs of rural aged care – distance and travel, the need to customise services to address local conditions, and labour recruitment barriers.

Three factors are at work here. Firstly, the spatial issue means that the provider incurs additional travelling costs (motor vehicle and labour costs) to reach clients Secondly, the older age demographic in ... rural areas means that ... services must be delivered on an individual and customised basis which occurs additional costs. Thirdly, providers experience great difficulties in recruiting labour ... to service their rural clients (Sappey Bone & Duncan, 2007: 5).

Research by Aged Care Services Australia (ACSA) and the National Rural Health Alliance (NHRA) identified five key challenges associated with the delivery of aged care in rural and remote Australia.

- o **Workforce challenge** – workforce issues are more acute in rural and remote than in metropolitan locations. The supply of qualified and experienced staff is restricted and turnover is high. The existing workforce is older than its metropolitan counterpart with the average age of nurses being 53 years in rural areas compared with 42 years for the nursing workforce as a whole. 57 per cent of all rurally located aged care workers are over 45 years of age. Access to training is difficult and lifelong learning opportunities are restricted by the costs associated with purchasing education from outside the local area.

⁴ AIHW (1998) *Health in rural and remote Australia*, AIHW Cat No PHE 6, Australian Institute of Health and Welfare, Canberra

In addition, many health and community aged care professionals work alone with little or no administrative or professional support, and their occupational health and safety is often compromised when making home visits or working alone at night.

- o **Funding system challenge** – many rural and remote providers face significant viability issues as many are small in size with limited financial and staff resources. This makes it difficult to achieve economies of scale, compounded by the higher costs (relative to metropolitan providers) of delivering care. Community care providers are challenged by the high costs arising from the dispersed location of clients and the cost associated with travelling to them, as well as by the very small size of many services.
- o **Capital funding challenge** – residential aged care providers have higher construction and operating costs and significantly lower capital incomes (due to accommodation bonds reflecting relatively lower housing prices in rural and remote settings, coupled with the relatively lower incomes of older people in these locations).
- o **Planning challenge** – current service boundaries created by government funding programs do not necessarily reflect local need and lack flexibility to adapt to that need. The range of inter-related services supporting older people are not able to be planned in a coordinated way, or in a way that could achieve synergies and efficiencies.
- o **Transport challenge** – inadequate public and community transport infrastructure in rural and remote areas mean that older people are reliant on family, friends and volunteers, and service providers themselves, to access services (ACSA:NRHA, 2004: 13-).

One analysis of supply of aged care identified the interesting pattern of regions with lower than average residential care provision having average to higher than average HACC funded service provision, and vice versa. For example, remote South Australia had a higher than average supply of HACC services and a low level of residential care services. Across Australia, community care package provision was found to be higher in remote locations than in cities (Gibson, Braun & Liu: 2002).

7 STRATEGIES FOR ACHIEVING EFFICIENCIES IN COMMUNITY CARE

This review has identified four strategies for achieving efficiencies in community aged care –

- 1 the application of creative models of collaborative delivery
- 2 effective use of new technologies
- 3 effective use of spatial analysis and micro-simulation modelling
- 4 local workforce development.

7.1 Efficiencies through creative models of collaborative delivery

The Hogan Review (2004) recommended cooperative approaches to purchasing accounting, technological and training services and products – as is evident in the establishment by the Aged Care Association of Australia (ACAA) of *Aged Care Efficiency Services* which has been found to reduce facility operating costs by collective purchasing power, and in the UK Department of Health's *Care Services Efficiency Delivery* program.

... despite a high indicated receptivity amongst Baby Boomers, it is still largely impractical to currently pool and share home support services among aged consumers living independently (Fujitsu, 2007: 16).

Following a detailed study of issues associated with delivering aged care in rural Australia, Sappey Bone and Duncan (2007: 7-8) argue that the regional model that has been adopted for natural resource management in Australia be adapted for the aged care system. Both sectors are identified as sharing similar challenges. This model sees decisions about resource allocation being made at the regional level, tapping into local networks but providing an integrated solution to planning. Catchment management authorities, directly responsible to a State Minister, have replaced numerous volunteer management committees, but public engagement and participation remains essential to fulfilling statutory requirements. The researchers argue that the advantage of this model for aged care is that it provides a mechanism for addressing ageing needs as they interact with social, economic and other issues.

There may be scope for rurally located community aged care providers to pool their workforce resources, and with the use of spatial technologies (see Section 7.3) adopt a planned approach to delivering in home care that streamlines care and enables a sharing of travel related costs. This would also involve local workforce training and development initiatives to tailor demand to workforce supply and the identification of other agencies employing staff of similar skill levels in order to build meaningful jobs with adequate remuneration.

7.2 Effective use of spatial analysis and micro-simulation modelling

There is no doubt that access to care in regional Australia will continue to be one of the most important areas of social policyIssues of spatial equity are likely to become even more prominent in the next two decades – given current trends in the internal migration of older Australian to

'sunbelt' and coastal 'retirement' regional centres But the extent to which special regional needs can be met in the future will be limited by the pressures placed on the overall health and aged care budgets by ever increasing costs. These issues underline the need for much more sophisticated databases and analytical tools that can be used to project the future need for services in rural/remote areas, as well as in urban Australia (Brown et al, 2004: 2-3).

Microsimulation models use a dataset that contains detailed information about the characteristics of individual households and people within a sample survey or an administrative database. As such, they enable the modelling of complex policy options and their assessed distributional and revenue consequences. Such models are now widely used by policy makers in developed countries and have been assessed by the OECD and the US National Academy of Sciences as one of the most useful policy tools for determining the distributional consequences of possible policy change. Traditionally they have been used in tax and social security policy but recently have been extended to the health and aged care sectors (Brown et al, 2004: 3).

The National Centre for Social and Economic Modelling (NATSEM) at the University of Canberra has been investigating the development of prototype spatial microsimulation models. These aim to combine data from the Census and ABS national survey *Confidentialised Synthesised Unit Record Files* (CURFs) in order to create unit record datasets for small areas. Data that are unavailable in the Census but available in national survey CURFs are synthesised at small geographic levels (Brown et al, 2004: 3). NATSEM describes the development of spatial models as being 'leading edge internationally in microsimulation modelling', with the UK being the only other nation undertaking comparable research (Brown et al, 2004: 3).

The spatial microsimulation model developed by NATSEM for the aged care sector is known as *CareMod* which was designed within the framework of the National Strategy for an Ageing Australia. It synthesises data from the Census with that from the ABS *Survey of Disability Ageing and Carers* relating to people aged 55 and over. In developing small area estimates, NATSEM re-weights ABS national and other survey CURFs against a range of benchmarks⁵ using Census data, in order to generate synthesized datasets for each statistical local area.

CareMod is designed to provide detailed regional projections for older Australians living in New South Wales up to the year 2020, and will answer a number of questions including - the number of older people living in different locations in 5, 10, 15, 20 years time; their functional status and need for care; their living arrangements and availability of informal carers; and their disposable income for contributing to the cost of their care.

These and similar models hold significant potential for achieving enhanced efficiencies due to more accurate planning data, especially in rural and remote locations.

⁵ For example, Age by Sex, Relationship in Household by Age and Sex, Individual Income by Age, Level of Education by Age, Tenure Type

New technologies such as GPS tracking, video conferencing or virtual link-ups to provide remotely delivered support, and GIS modelling of service provision and transport, offer largely untapped opportunities for rural service providers to deliver services across large areas and remote populations in more efficient ways.

The review of literature identified recent acknowledgement of the potential use of geographic information systems (GIS) to more efficiently organise and schedule community based care services and to contain transport costs (Productivity Commission: 2008). Analysis by Howie (2008) found that these costs can be reduced by more than one-third through using GIS.

7.2.1 Exemplifying the use of GIS technology in rural South Australia

In 2006, the Murray Mallee Aged Care Group (MMACG)⁶ began to explore the use of a GPS system to map the locations of their clients and independent contractors in order to determine the distances being travelled and the most efficient client-contractor linkages. Initial assistance was received from GPS system users and from The Map Shop⁷, where equipment (a handheld Garmin tracker, cables and appropriate computer software) was purchased and additional information obtained. The equipment was simple to use and required little training.

The MMACG then mapped all clients and independent contractors to set up a database, and this exercise took approximately 2 weeks. All coordinators received training in using the Garmin and the mapping program so that they could be responsible for mapping and monitoring their own areas. The service reports that as coordinators have become more familiar with the equipment, it is being used extensively in service planning and evaluation.

Funding for this initiative involved \$637.00, a once-off outlay that has seen the 2006-07 travel budget of \$85,024 reduced to \$59,938 in 2007-08. During this period, the number of clients increased from an average of 70 to 75 as did fuel prices. **Therefore, even without the impact of increased fuel costs, the outlay of \$637 plus staff time in mapping, achieved a savings of \$25,086 in a single year.** The savings achieved were attributed by the service to more efficient and effective management of travel and care arrangements. For example, the GPS mapping enables visits to several clients to be consolidated into a single trip and contractors are able to be matched with clients on the distances between them. In addition, being able to visualise the spatial distribution of clients and contractors has enabled the MMACG to identify growth areas in service provision and areas where new contractors need to be sourced.

Building on the foundations set by the MMACG, funding has been provided for a three year study by the Department of Health and Ageing in collaboration with the MMACG. The '**Linking Rural Older People to Community through Technology**' project exemplifies how the application of GIS technology can enhance the delivery of aged care services in the Murray Mallee region.

GIS technologies and modelling are being used to analyse and map the spatial distribution of older people in the Murray Lands region, their perceived networks and needs, *and* available community resources as a

⁶ www.murraymallee.org.au

⁷ www.mapshop.net.au See also www.ozieplorer.com.au

whole. This information is used to explore the role 'virtual' technologies may play in enabling older people to remain linked to community, services and others. Phase 2 of the project involves the following activities:

1 Spatial mapping and community mapping

- Mapping the spatial distribution of the older population by age cohorts using 2006 census data and GIS technology.
- Mapping of current available relevant services and resources throughout the selected research region.
- Community mapping through focus groups and one-to-one interviews with older people to understand where older people are located; what services, facilities, community resources and activities they would like access to, how often and what are their transport needs.

2 GIS modelling of service provision and transport options using the mapped data

- Utilising survey, mapping and GPS data various models of linking older people to local and regional services and facilities can be developed.
- GIS modelling will also enable identification of gaps in current service delivery and predict areas of increased need in the future.
- These models will be assessed and then used to determine the scope of the pilot project to be run in one pilot study region.

Phase 3 will trial the use of virtual technology in service user's homes to assist with both service provision and connecting to the wider community and will incorporate GPS technology to enable more streamlined, cost-effective service delivery. This will be informed by the data obtained during Phase 2. Once evaluated, it is intended that the project be applied in other rural regions.

7.3 Effective use of technology

New technology promises to transform the delivery of aged care, putting patients at the centre of systems that engage and empower them and their families, directly connecting patients to caregivers, and personalising services in response to Baby Boomers' unique needs and preferences. But technology alone cannot yield bottom line results unless providers consider all elements of business change. They must undergo a cultural shift in changing from a provider-centric to a consumer-centric delivery of products and services, with an emphasis on helping people care for themselves.... This will require technology to enable intelligent service delivery and effective management as an aged care provider organisation (Fujitsu, 2007: 18).

The continuing trend to deliver aged care in the home and community, together with a growth in demand for aged care services due to population ageing, is seen by some researchers as stimulating the development of technologies which can provide a supportive infrastructure for community aged care (Gururjan, Gururjan & Soar: 2005).

A collaborative research program has been established at the University of Southern Queensland to support the development, implementation and evaluation of aged care related technologies and of information management strategies for aged care. Designed to provide a research evidence base for these

technologies, the Centre for Ageing and Agedcare Informatics Research (CAAIR) has been informed by the *National Strategy for an Ageing Australia* (2001) which identified the crucial role of health information in quality improvement, and the need for research to underpin this. Operating as a virtual centre across geographically dispersed locations in Japan, Ballarat and Southern Queensland, the CAAIR is pursuing a number of research studies, including a focus on 'efficiency, productivity and quality' which aims to streamline aged care administration and reporting. Another project is researching and evaluating innovative technologies, including for remote delivery while another is identifying appropriate information standards for aged care (Gururjan, Gururjan & Soar: 2005)⁸.

Centres like the CAAIR are both an indicator of the growing importance of new technologies in delivering effective aged care, and of the need for these to be based on research and evaluation so that their application is informed (Productivity Commission, 2005b: LIII-LIV). They are also important because they involve designing technology to meet needs in aged care, rather than adapting technologies created for other sectors and other purposes and superimposing them on the delivery of aged care.

It is important to understand and anticipate the role that technology can play in addressing both lifestyle and aged care needs of future aged care consumers. The Productivity Commission (2008: 184-186) identified a range of efficiencies attributable to information technology and assistive technologies⁹ designed for the health and aged care sectors. These include –

- o digitally recorded clinical assessment and other bedside data, transferred by broadband and wireless technology to other staff;
- o computerised clinical care management (assessment, care planning, evaluation) to reduce paperwork, duplication of record keeping;
- o automatic medication dispensers;
- o personal monitoring devices, badges using infrared in conjunction with sensors that allow client monitoring from a remote location¹⁰;
- o intelligent keyless entry and exit which not only controls door locks but also the simultaneous turning on and off of lights, air conditioning and other devices.

As new wireless and mobile technologies become more widely available, and speed and bandwidth barriers are overcome, their potential to enhance the delivery of aged care is growing. Increased access to 3G mobile phone services, enabling m-internet, online interactive video, data service, m-commerce, m-payments and location based GIS services is also expected to be of particular value to aged care providers, particularly community care staff who are continually moving to deliver care. Mobile technology has been identified by researchers as achieving efficiencies in four areas – information-searching, evaluation, problem-solving and transaction, provided aged care organisations move to m-business in a managed process (Soar *et al*, 2005: 2).

⁸ Further information can be obtained from Professor Jeffrey Soar at soar@usq.edu.au

⁹ "These technologies encompass devices, systems or designs that allow individuals (both carers and clients) to perform tasks they would otherwise be unable to do so, or increase the ease and safety with which tasks may be performed." Productivity Commission (2008: 185)

¹⁰ See www.IntelligentInSites.com

Mobile access will facilitate remote monitoring, follow up, prevention, remote assistance, diagnostics, m-prescriptions and patient access to their records. Caregivers will be able to integrate information at the bedside or point-of-care with those existing in the system to deliver the best care.... By providing timely patient information such as diagnostic services and treatment results to practitioners through wireless connection at the point of care or wherever else is convenient, it is expected to save time ... [and] enable ... more effective and timely delivery of care (Soar et al, 2005: 1).

Benefits achieved through reduced management and administration costs must be traded off against the costs and time associated with purchasing and installing hardware and software and with staff training in their use. An analysis of the impact of wireless technology in a Canadian long term care facility identified an estimated gain of 25 per cent in staff productivity through the use of small pendants, equipment tags and location monitoring sensors that than can rapidly locate equipment and staff and residents (Klassen: 2008 cited in Productivity Commission, 2008: 185). Assistive technologies can also reduce injury among both formal and informal carers Productivity Commission, 2008: 186).

The UK Government (2006: 119) released a White Paper to reform community services and this included a recognised role for assistive technologies in providing care in the home, and enabling remote monitoring of that care. 'Well Elderly Clinics' are examples of services that incorporate technology-based monitoring of simple functions like blood pressure, heart rate and glucose levels for people living alone. The use of in-home touch screen and video link-up for people to self-monitor and feed information to health and aged care professionals is also identified as part of a technology-driven strategy of independent care.

Baby Boomers expect care providers to fully exploit the potential of technology in addressing their lifestyle preferences and needs and in creating smart home environments (Fujitsu, 2007: 4; (Productivity Commission, 2005b: 269).

Baby Boomers are and will continue to be very receptive to developments in technology, particularly in communications. This is a highly predictable consumer need that should be heeded by aged care accommodation and service providers alike. Communications technology will play an important part of aged care support, just as it already features strongly in the self-described behaviours of this group of Baby Boomers (Fujitsu, 2007: 12).

New communications technologies can play a critical role in reducing social isolation and in enhancing independent living.

As they grow older in their own homes, at least one in five Baby Boomers will be at greater risk of becoming socially isolated. Communications technology could play a significant role in alleviating this isolation (Fujitsu, 2007: 17).

Japan is a world leader in the development of technology, including robotics, to assist with the care of older people and this can be traced to its government's promotion of a technology-driven road to economic growth following World War II. Japan holds an estimated 60% of the world's robots, with these originally

designed for industry, but more recently being developed for use in the home and as an aid to improving the quality of life of older people and their carers (Dethlefs & Martin: 2006).

Technology has become ingrained in people's everyday life; whether the social problem is related to health, education, housing, employment, shopping, banking, transport or whatever, technology is expected to play some role in addressing the problem. Hence, there is a sense of responsibility in taking a lead in developing technology for aged care ... seeking to develop technological assistance to address the needs of aged care is as natural as seeking medical assistance to cure physical ailments (Dethlefs & Martin: 2006).

Some of the aged care specific robotic innovations overviewed by Dethlefs and Martin (2006) include the following:

- o The Aid-1 robot used for walking rehabilitation programs or gait training was designed in response to staff shortages and associated staff burn out and enables patients to progressively strengthen their muscle power and ability to walk by controlling the burden of the patient's body weight. The Aid-1 is used mainly in residential aged care facilities and rehabilitation settings.
- o An interactive robot that is able to communicate verbally and non verbally (by reading facial expressions) with people and is expected to be used in a range of sectors, including aged care, hospitals and education facilities.
- o The robotics sick room is a room with robotic facilities that allow monitoring of patients' breathing and movements, without intrusion.

Apart from robotic technology, the existence of small scale technology such as, assistive aids and modifications of buildings is an accepted and important part of aged care, in the home or in residential facilities. These are increasing in number and variety as the number of people with disabilities (acquired or present at birth) grows.

Technology needs to be viewed as a continuum ranging from simple assistive aids to more complex and high-tech solutions such as, robotics. These have significant potential both as cost saving interventions as well as supports to independent living.

7.4 Local workforce development

Apart from collaborative workforce development, there is scope for aged care providers, particularly in rural areas, to look to training and paying informal carers and to include them in their overall workforce planning and development. This is already occurring in parts of rural and remote Australia.

Part of the UK Government's reform of community care services includes the creation of an *Expert Carers Programme* which provides training to informal carers so that they can develop the skills needed to control their own care or that of the person in their care (2006: 124). The recruitment of a local informal workforce has been described by Australian researchers as 'common practice' in parts of rural and remote Australia (Sappey Bone & Duncan, 2007: 5).

8 REFERENCES

- ACCA (2007) *Budget Submission 2008-2009*, Aged Care Association Australia
- Access Economics (2005) *The economic value of informal care*, Report for Carers Australia
- Access Economics (2004) *Aged care dynamic cohort model*, Report for Aged Care Price Review Taskforce – www.health.gov.au/internet/wcms/publishing.nsf/content/ageing-rescare-acprtask-acprcltrpt.htm
- ACSA (2008) *Consumer directed care in community care*, Discussion Paper for Aged and Community Services Australia Policy Development, Victoria
- ACSA:NRHA (2004) *Older people and aged care in rural, regional and remote Australia: A Discussion Paper*, Aged and Community Services and National Rural Health Alliance
- Aged Care Price Review Taskforce (2004) 'The aged care workforce', Chapter 11 in *Review of Pricing Arrangements in Residential Aged Care*, Dept of Health and Ageing, Canberra
- AIHW (2004) *Carers in Australia: assisting frail older people and people with a disability*, Aged Care Series No 8, AIHW Cat No AGE 41, Australian Institute of Health and Welfare, Canberra
- AIHW (2003) *Rural, regional and remote health: a study on mortality*, Rural Health Series No 2, Australian Institute of Health and Welfare, Canberra
- AIHW (2002) *Older Australians at a glance 2002*, 3rd edition, AIHW Cat No AGE 25, Australian Institute of Health and Welfare, Canberra
- Allen Consulting (2007) *The future of community care*, Report to the Community Care Coalition, Melbourne
- AMP:NATSEM (2006) *Who cares? The cost of caring in Australia 2002-2005*, AMP:NATSEM Income and Wealth Report Issue 13, May 2006
- Brown L *et al* (2004) *Spatial microsimulation modelling of care needs, costs and the capacity for self-provision: detailed regional projections for older Australians to 2020*, Conference Paper, Australian Population Association Conference, September 2004
- Dethlefs N & Martin B (2006) 'Japanese technology policy for aged care', *Science and Public Policy*, 33 (1), 47-57
- Ergas H (2006) *Reforming aged care*, Paper presented to the CRA International Seminar The Economics of Aged Care, National Library of Australia, Canberra
- Fujitsu (2007) *A generational shift: the next wave of aged care*, Fujitsu Australia and New Zealand

- Gibson D, Braun P & Liu Z (2002) Spatial equity in the distribution of aged care services in Australia, *Aust JI on Ageing*, 21 (2), 80-86
- Glendinning C *et al* (2004) *Funding long term care for older people: lessons from other countries*, London School of Economics
- Gururajan R, Gururajan V & Soar J (2005) *A program for collaborative research in ageing and aged care informatics*, Centre for Ageing and Agedcare Informatics Research, University of Southern Queensland, Toowoomba -<http://eprints.usq.edu.au/view/type/conference=5Fitem.html>
- Hogan W (2007) *The organisation of residential aged care for an ageing population*, Papers in Health and Ageing, The Centre for Independent Studies, Policy Monograph 76, Sydney
- Hogan W (2004) *Review of Pricing Arrangements in Residential Aged Care*, Dept of Health and Ageing, Canberra
- Howe A (2003) Is consumer directed care a direction for Australia?, Report for Alzheimer's Australia – www.alzheimers.org.au/upload/ConsumerDirectedCare.pdf
- Howie, J (2008) *Use of spatial data technology*, presentation to the ACSA National Community Care Conference, Sydney, 15/5/08
- Jacobzone, S (1999) *Ageing and care for frail elderly persons: an overview of international perspectives*, OECD Labour Market and Social Policy Occasional Paper No 38, OECD Publishing, doi:10.1787/313777154147
- Jenkins A *et al* (2003) *The future supply of informal care 2003 to 2013: alternative scenarios*, AIHW Cat No AGE 32, Australian Institute of Health and Welfare, Canberra
- Johnson, E (2007) *Living, caring, working: policy responses to an ageing population and shrinking workforce*, Presentation to the *Reimagining Social Policy for the Life Course* Conference, Centre for Public Policy, University of Melbourne
- Kate Barnett & Associates (1999) *Participants not Observers: attitudes to ageing and the aspirations and expectations of South Australians born between 1925 and 1955*, **Ageing Series No 2**, Office for the Ageing, Dept of Human Services
- Kendig H & Duckett S (2001) *Australian directions in aged care: the generation of policies for generations of older people*, Australian Health Policy Institute, Commissioned Paper Series 2001/05, University of Sydney
- Kennell D *et al* (1992) *Brookings/ICF long term care financing model: designing and using model simulations*, US Dept of Health and Human Services

- Klassen H (2008) *Long term care facility realises 25% gain in productivity using real-time solution from Intelligent InSites*, Media release, Fargo, 6/2/08
- Lundsgaard J (2005) *Consumer direction and choice in long-term care for older persons, including payments for informal care*, OECD Health Working Papers No 20, Directorate for Employment Labour and Social Affairs Group on Health, Organisation for Economic Cooperation and Development, Paris – www.oecd.org/dataoecd/53/62/3489777.pdf
- Lymer S *et al* (2008) *Small area estimates of the need for care among the aged population using the CAREMOD model*, National Centre for Social and Economic Modelling, University of Canberra
- Lymer S *et al* (2006) *Development of CareMod/05*, National Centre for Social and Economic Modelling, University of Canberra
- Madge A (2000) *Long term aged care: expenditure trends and projections*, Staff Research Paper, Productivity Commission
- Percival R & Kelly S (2004) *Who's going to care? Informal care and an ageing population*, Report for Carers Australia, National Centre for Social and Economic Modelling, University of Canberra - www.bsl.org.au/pdfs/informal_care_NATSEM.pdf
- Pickard L (2004) *The effectiveness and cost-effectiveness of support and service to informal carers of older people*, The Audit Commission, United Kingdom – www.audit-commission.gov.uk/olderpeople
- Productivity Commission (2008) *Trends in aged care services: some implications*, Research Paper, Commonwealth of Australia, Canberra
- Productivity Commission (2005a) *Economic implications of an ageing Australia*, Research Report, Commonwealth of Australia, Canberra
- Productivity Commission (2005b) *Impacts of advances in medical technology in Australia*, Research Report, Commonwealth of Australia, Melbourne
- Sappey J, Bone Z & Duncan R (2007) *The aged care industry in regional Australia: will it cope with the tsunami to come?* Institute for Land, Water and Society, Charles Sturt University, Bathurst
- Soar J & Croll P (2007) *Assistive technologies for the frail elderly, chronic illness sufferers and people with disabilities – a case study of the development of a smart home*, Paper presented to the 18th Australasian Conference on Information Systems, Toowoomba, December 5-7, 2007
- Soar J *et al* (2005) *Mobile solutions for aged care: a transformation framework*, Centre for Ageing and Agedcare Informatics Research, University of Southern Queensland, Toowoomba
www.eprints.usq.edu.au/878/1/Soar_Bond_Yong_Gururajan_.pdf

Taskforce on Care Costs (2007) *The hidden face of care: combining work and caring responsibilities for the aged and people with a disability*, www.tocc.org.au

UK Government (2006) *Our health, our care, our say: a new direction for community services*, White Paper prepared by Secretary of State for Health

VanDeVelde-Coke, S (2004) *The effectiveness and efficiency of providing homecare visits in nursing clinics versus the traditional home setting*, Canadian Health Services Research Foundation

Wisconsin Dept of Health & Family Services (2003) What's wrong with our current long term care system? - <http://dhs.wisconsin.gov/lc/Hist/History/whatwrong.htm>