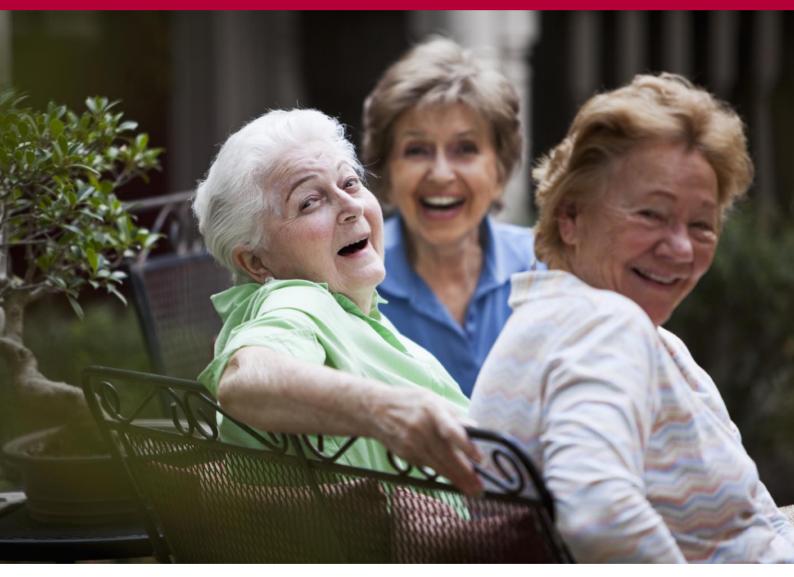
ARC CENTRE OF EXCELLENCE IN POPULATION AGEING RESEARCH

Aged care in Australia: Part II – Industry and practice



CEPAR research brief 2014/02



Australian Government









Summary of brief

- This is the second of two research briefs on aged care in Australia. It analyses the sector bottom-up, describing care recipients, providers, the workforce, and access and quality issues.
- User characteristics: Who uses which care services depends on need, preference and design. Compared to residential care, home care package users tend to be younger, and have less complex needs, for shorter periods. Use also differs by sex, language, and income. Some care recipients (i.e., Home & Community Care) have lifestyle and health risks that could be targets for health interventions.
- **Provider characteristics:** The aged care industry is dominated by not-for-profits (58% in residential and 81% in home care) but for-profit provision has grown in importance. Occupancy is higher for not-for-profits, high-care providers, and those just outside major cities; but until recently occupancy rates have been declining. The industry has also seen a consolidation into larger facilities.
- **Provider finances:** Provider profitability varies. Four out of five report positive earnings, which are higher among for-profit, high-care, city-based, single-service providers. But these were not the only explanatory factors management and business practice must play a role.
- Staffing is the largest expenditure item, while the main component of income is the basic public subsidy; other subsidies and private fees make up the balance. But funding sources are subject to reform, which may affect providers with low-care, extra-level places negatively. Capital investment is lagging and may affect future supply. New strategies are needed to adapt to these as well as demand changes. Research suggests that 'clinical leadership' can help, as can integrated businesses with a greater range of services.
- Workforce characteristics: The sector employs about 350k staff and has seen a growth in lower skilled workers in place of nurses. Care workers tend to be older, female, better educated than average, to work part time, and to spend considerable work time not directly caring. There also tends to be lower staff turnover than previously thought and high rates of satisfaction with work but not with pay, which for personal and community care workers averages \$600-650 per week.
- **Future workforce:** Projections for the workers that will be needed by 2050 range from 830k to 1.3m. There are various recruitment, retention and productivity responses. Action so far includes fragmented funding for staffing innovations and training. But proposed funding of wage increases has been scrapped, leaving the existing wage gap which is also a gender pay gap unaddressed.
- Access: Data suggests access issues in the form of high stated unmet need (for home based services); under-representation of disadvantaged groups in residential care; declining average waiting times for care admission when leaving hospital but no declines for some groups; and potentially long times between approval for and admission to care. Increasing supply may improve access, as may cultural awareness training programs and a new information gateway.
- **Quality:** Improvements in quality will depend on better measurement. In addition to regulating standards from the top, greater customer choice is expected to raise quality via market discipline. But some people may find choice difficult and will require guidance and information.

Summary of featured CEPAR research

- Home care users: CEPAR researchers have linked administrative and survey data to reveal insights about Home & Community Care service users. They found that around five per cent of respondents used HACC services; with higher use by older women, those with lower income, singles, people with an Indigenous background, and those living further from cities. Having children or others to depend on within an hour's drive had little to no influence on usage. Many were obese, underweight, smoked, or experienced multiple falls –health risks that could be targeted as part of delivering home care (box 1).
- **Provider management strategies:** Business practice and organisational leadership may have a strong influence on the success of aged care providers and on workforce and care quality outcomes. CEPAR researchers are evaluating a program aimed at improving aged care managers' leadership capacities, empower staff and disperse decisions. The trial is the first of its kind in the sector, with control groups and a double blind process. It will show impacts on the work environment, care quality and safety, and staff turnover, stress levels, and job satisfaction (box 2).
- **Technology:** Some providers are considering how technology has the potential to improve aged care quality and efficiency. CEPAR researchers have looked at the various communication, enabling and safety technologies available. They found that some are more favoured than others. For example, aged care professionals find electronic health records useful while care recipients are most fond of 'telehealth' (e.g. for video consultations with specialists). The research also finds that design and implementation obstacles need to be overcome, including a deficiency in training and management support (box 3).
- **Provider business models:** Another approach is to look at the business models of providers. For many years, there have been calls for developing integrated service delivery models to improve poorly coordinated, complex and inefficiently delivered age care; yet few providers have moved in this direction. Only six per cent adopted formal shared management structures of integrated service delivery in NSW. Research shows that an integrated service delivery model has the potential to result in greater levels of innovation. The findings also show that managers don't always appreciate that integration can be beneficial even in the absence of shared back-office functions (box 4).
- **Preventing falls:** Falls are a major issue for individuals and the health and care system. About 5 per cent of falls lead to fractures, but even falls without obvious injury can lead to loss of confidence and eventual institutionalisation. Post-fall treatment also imposes a substantial economic burden on the health and aged care systems. CEPAR researchers have contributed to our knowledge on how to prevent falls. The research shows that (1) home modifications and occupational therapists help; (2) as do exercise programs, like Tai Chi; (3) vitamin D supplements; and (4) maintaining vitality and a positive outlook (box 5).
- Ageing well: Aged care is fundamentally about ageing well, supporting people to remain independent and socially engaged. Different CEPAR research strands explain how we age and how we can age better. These include findings that (1) many who depend on assistance still age 'in-place', at home; (2) those with chronic disease still have good self-reported health; (3) the younger old have lower life-satisfaction; but (4) their living alone is a mortality risk factor; which (5) can be mitigated by well-designed programs targeting isolation; and (6) by ensuring older people have access to transport options (box 6)

1. Introduction

Population ageing will put pressure on the aged care system

Population ageing is likely to result in more people requiring care. Australia's aged care system is the set of public, private and community institutions that offer care interventions to older people suffering chronic illnesses, disability, or physical and cognitive decline. It is also the subject of an evolving reform agenda, so a wide understanding of how it operates is critical.

This is the second of two research briefs surveying aged care in Australia. The briefs combine a range of data and latest insights as they seek to capture the ongoing conversation between policy and academia, particularly relating to research emanating from CEPAR.

This brief looks at the challenges and responses on the ground

e The first brief took a *top-down* approach and covered care demand and the overall policy and funding framework. This brief takes a *bottom-up* approach, looking at aged care on the ground by describing care recipients, providers, the workforce, and access and quality issues.

Australia's aged care is an ecosystem with many different players and voices. To orientate the reader, table 1 presents some of the stakeholders and their responsibilities.

Table 1	Main aged care industr	y stakeholders
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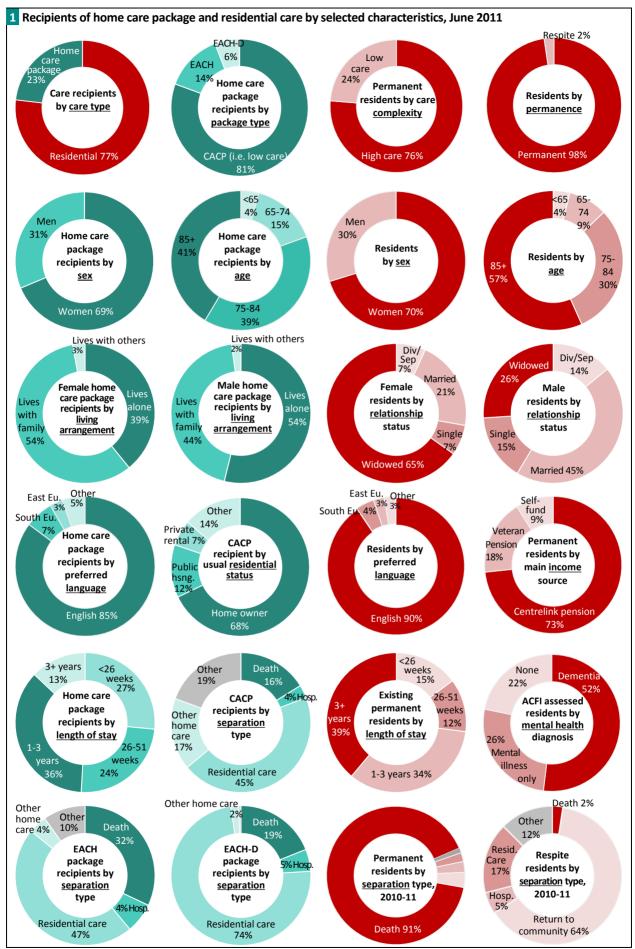
Government departments	Main Public agencies	Stakeholder institutions	<u>Other</u>			
Department of Social Services (Overall responsibility)	Australian Aged Care Quality Agency (AACQA; former Age Care Standards & Accreditation Agency)	Sector-wide advocacy (National Aged Care Alliance)	Other Sectors / Agencies (Disability; Health; Workforce – e.g. Health Workforce Aust.; Education – e.g., Aust. Skills Quality Authority)			
Department of Veterans' Affairs (Veteran programs)	Aged Care Financing Authority (ACFA; Pricing and financing advice to government)	Consumer Advocacy (e.g. Alzheimer's Australia, COTA, Carers Australia, National Seniors Australia)	Research (e.g., AlHW, Productivity Commission, Productive Ageing Centre, Academia)			
Department of Human Services (Processing of subsidies)	Aged Care Pricing Commissioner (ACPC, Accommodation pricing)	Unions (e.g., Aust. Nursing & Midwifery Federation, United Voice)	Age Discrimination Commissioner			
Department of Health (formerly overall responsibility; some responsibility via Health Workforce Aust. and accreditation)	Aged Care Gateway (Information, assessment, coordination)	Professional bodies (e.g., Aust. College of Nursing, Aust. Assoc. of Gerontology)				
Department of Industry (responsibility for workforce skills and training)	Aged Care Reform Implementation Council (Monitoring reform progress)	Provider advocacy (e.g., ACSA – not for profit, ACIA – home care LASA – industry-wide)				
Governments of Victoria and Western Australia (separate arrangements)	Aged Care Commissioner (Complaints)	Providers (e.g., Anglicare Australia, Bupa, local councils)	Source: Authors' compilation			

Source: Authors' compilation

2. Care recipients

By preference, need, and design, home care package users tend to be younger and need less complex care, unlike with residential care The first brief showed overall use of programs. Here, we describe the characteristics of the roughly 60,000 *Home Care Package* recipients and 170,000 *Residential Care* recipients. Figure 1 presents these in green for home care and red for residential care. Additionally, box 1 describes characteristics of recipients of *Home & Community Care* services.

Of those receiving home care packages, most receive *Commonwealth Aged Care Packages* (CACP) – a form of low-level care. The rest receive high care via *Extended Aged Care at Home* (EACH) and the equivalent for those with dementia (EACH-D). The majority in permanent residential care receive high-level care. Residential care recipients are older (with a majority aged 85 and over) compared to those receiving home care packages (where the majority is under age 85); they also more likely to be women (60% in home care and 70% in residential care).



Note: EACH, EACH-D and CACP denote Extended Aged; Seperation from a service refers to ceasing to receive the service. Source: AIHW (2012a), AIHW (2012b)

Data suggests major differences in ways different groups (e.g. by sex, language, or income) access care

We can also glean how long care recipients use and how they transition between care types

CEPAR researchers have linked Home & Community Care and survey data, resulting in useful insights

For example, it reveals that users of home care could be prime targets for health interventions Women in residential care are more likely to be widowed (65%) than men (26%), which is consistent with their longer life expectancy. Men receiving home care are more likely to live alone (54%) than women (39%), which may be due to care needs of men in the absence of family. Unfortunately the aggregate data is incomplete for more meaningful comparisons. As discussed in the first brief, there is an indication that older Australians receiving care tend to be asset rich and cash poor – for example 68 per cent of home care package recipients own a home and 91 per cent of residents rely on a pension, but here too data is not fully comparable.

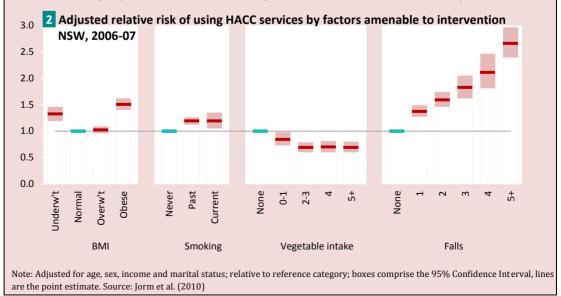
People receive residential care for longer periods than those who receive home care packages. Leaving permanent residential care was overwhelmingly due to death (91%). By contrast those in respite care tend to go back to the community (64%). For those who left home care packages, death was twice as common a reason for EACH package recipients (32%) than for those receiving lower care through CACP (16%), but both recipient types were more likely to simply move to residential care when leaving home care (45 and 47%). A move to residential care was even more likely for the most complex type of packaged care, EACH-D (74%).

Box 1 CEPAR research spotlight Who uses Home & Community Care (HACC)?

HACC helps individuals keep their independence by providing a range of services, from home maintenance to meals. Provision is increasingly provided via a capacity-building, personcentred approach (e.g., *Active Service Model* in the state of Victoria), yet data about users is scarce. CEPAR Chief and Associate investigators, Hal Kendig and Julie Byles, sought to uncover some of this information by combining administrative HACC statistics with data that sample some 100,000 people aged 45+ in New South Wales.

They found around 5% of them used HACC services; with higher use by older women, those with lower income, singles, people with an Indigenous background, and those living further from cities. Lower use was found among people born overseas or who spoke languages other than English at home. Having children or others to depend on within an hour's drive had little to no influence on usage. It appears that only a small proportion of older people make very intensive use of community-based health and social services.

Particularly insightful were findings that HACC clients have high rates of modifiable lifestyle and health risk factors, including obesity and falls (see figure 2). It suggests that preventative health programs could be effective in a HACC setting (see box 5 on fall prevention) – an area where health and care programs could be better integrated. (Jorn et al., 2010 and Kendig et. al. 2012)



3. Care providers

Market trends

The market is still dominated by notfor-profits but forprofit provision has grown in importance

In June 2012 there were around 1,000 residential aged care providers operating approximately 2,700 aged care facilities, with around 180,000 aged care places. Not-for-profit providers dominate residential care: they owned 58 per cent of care places in 2012. In the same year, there were roughly 2,000 home care package providers, who operated approximately 60,000 places. Not-for-profits also dominate this sub-sector - 81 per cent of providers were not-for profit (figures 3A and B). They include community (dedicated to an identifiable community based on locality or ethnicity), religious, and charity organisations (not-for-profits that are non-religious and not limited to a specific community). Some are important in catering to the diversity among care recipients, for example a quarter of residential facilities cater to specific ethnic or cultural groups (e.g. 8% for Polish and 3% for Aboriginal ethnicities). Recent years have seen growth in the number of overall residential care places, but this is primarily driven by a growing provision by for-profit providers, particularly in more lucrative markets such as major cities.

Occupancy rates - the proportion of available bed days being used - can offer a useful insight into the residential care market. The rates reflect local and sectoral demand and supply. For

example, greater numbers of frail older people place upward pressure on residential occupancy,

while the presence of substitutes, such as community care places in a given area, may reduce it.

Average occupancy rates declined over the last decade but saw an upturn in 2011. The rates tend

to be higher for not-for-profit, mostly high care, and inner regional providers (figures 3C, D, and

E). While lower occupancy rates may suggest higher competition among providers, it could also

reflect lower financial viability, for example among those in remote areas.

Occupancy is higher for not-for-profits, high-care providers, and those just outside major cities; but overall rates have declined

has seen growth in larger facilities

And consolidation

Another notable trend is the consolidation of residential care providers into larger facilities, which reflects a pursuit of economies of scale in locations where this is possible (figure 3F). In the late 1990s, providers with 1-40 beds were most common; now such providers are least common. The trend toward larger providers has also taken place in home care (AIHW, 2012).

Provider finances

The residential sector's financial results for 2011-12 (ACFA, 2013) saw many providers as profitable, with 84 per cent reporting positive earnings (Earnings Before Interest, Tax, Depreciation, and Amortisation - EBITDA). Average EBITDA has also grown since 2006-7.

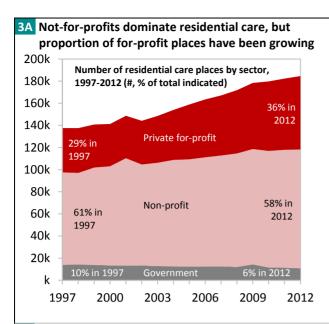
Yet there is a variety in performance. The top quartile of providers had earnings of \$21,000 per resident in 2011-12, while those in the bottom quartile had negative earnings of \$3,646 per resident. Figures 4A to D segment these quartiles by provider characteristics.

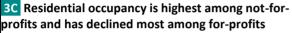
The analysis suggests that for-profit, high-care, city-based, single-service providers tend to have higher profitability. Yet each provider category features in each quartile - some government or regional facilities do as well if not better than for-profit and city providers, while some for-profit and high-care providers find themselves among the worst performers.

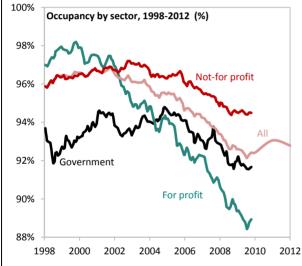
It stands to reason that in addition to the above factors there are management practices that can influence financial performance and require further research attention (see box 2).

be higher among forprofit, high-care, citybased, single-service providers, but not always

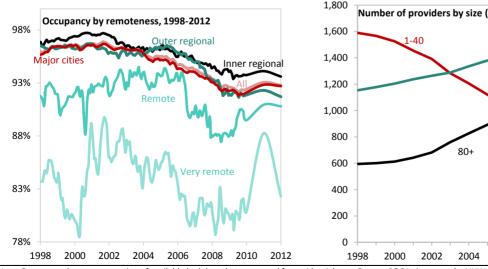
Profitability tends to



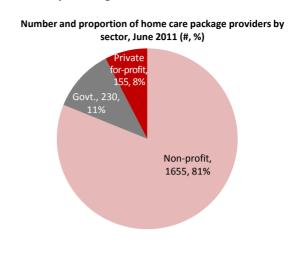


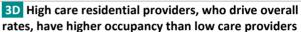


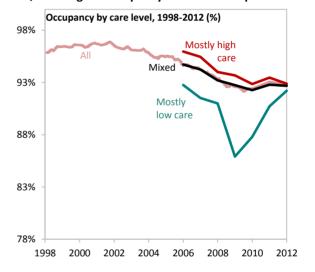
3E Residential occupancy has been historically highest among regional providers and lowest in remote areas



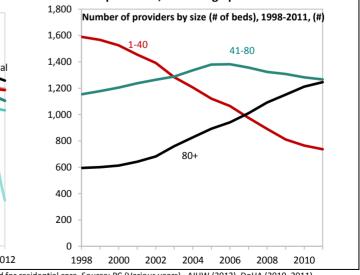
3B Home care package providers are overwhelmingly not-for profit organisations



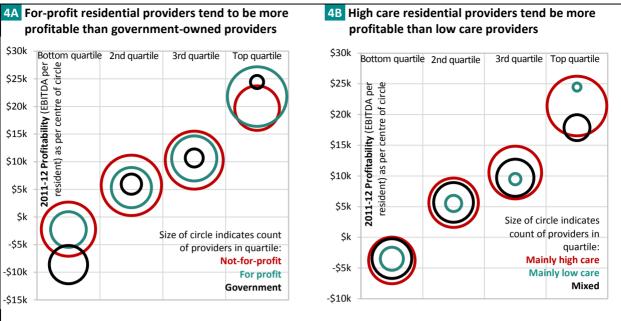


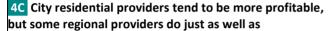


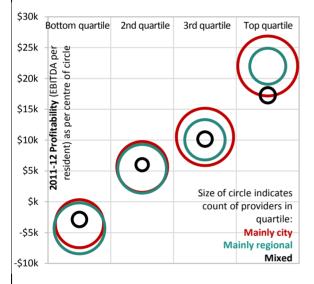
3F A consolidation has taken place in residential care: fewer small providers; more large providers



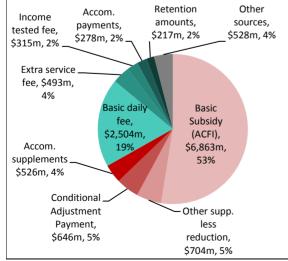
Note: Occupancy denotes proportion of available bed days that were used for residential care. Source: PC (Various years) , AIHW (2012), DoHA (2010, 2011)



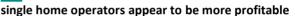


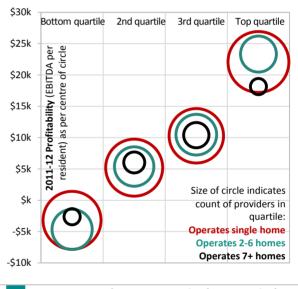


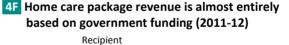
4E Two thirds of residential care industry revenue is from government subsidies and supplements (2011-12)

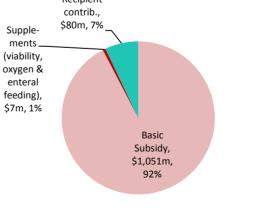


4D There is no clear variation based on size, but









Source: ACFA (2013)

Providers spend most money on staffing and gain most revenue from public funding

But reforms mean greater uncertainty for provider finances

Those with low-care, extra-level places may lose out while those with high-care places may gain

New business models are needed to adapt to costs and revenue changes as well as trends in level and nature of demand Staffing makes up the largest cost component for residential care providers (64% of total expenses). Residential care operating revenues are made up primarily of public funding (67%), much of which is based on the Aged Care Funding Instrument (ACFI) and related supplements (see brief 1 on the operation of public funding subsidies). Other subsidies include the Conditional Adjustment Payment which incentivises participation in staff training and data collection, and the Accommodation Supplement (figure 4E). Most of the remaining revenue is obtained from residents, largely through the basic fee, but also through other accommodation, income-tested, and extra service fees (see brief 1 for a description of aged care fees).

Future costs, revenue and profit trajectories will depend not only on population health, demand and allocated supply of care, but also new technologies and, importantly, the structure and indexation of subsidies and fees – subject to considerable recent changes, many of which do not come into effect until mid-2014.

For example, a report (CIE, 2012) commissioned by Leading Age Services Australia (LASA), predicted that ACFI funding and indexation changes from mid-2012 will result in cumulative revenue losses for residential care providers of over \$1.1 billion over four years to 2015–16.

More recent reforms mean significant changes to fees and subsidies, particularly relating to accommodation (see brief 1, appendix tables A2 and A3). The impacts will be mixed. For example, greater transparency, the removal of provider retention rights over lump-sums, the effect of using lump sums on the Age Pension means test, and greater consumer choice about accommodation payment method will likely result in fewer lump sum payments and reduced income for low and extra service places; but may also result in new lump sum payments for high care places, reducing debt costs accordingly. And while providers have the chance to gain from deregulated accommodation prices and a higher accommodation subsidy, some will miss out if a request for the higher accommodation price level is not granted.

The effect of these reforms was analysed in a report by KPMG (2013) commissioned by ACFA. The modelling suggests a positive impact on the sector at the aggregate level, but the report recognised that impacts will depend on a provider's business model. The uncertainty around financing may have influenced recent declines in capital investment in the residential care sector as providers and investors determine the full impact of reforms and as they prepare to repay lump-sums in the absence of new financing. ACFA (2013) suggests that at current capital spending rates there will be an investment gap of \$15 billion over the next decade.

One result may be new structures of cross-subsidisation between care costs and accommodation payments or between low and high home-value regions. It could also mean an acceleration of the trends noted above, from smaller not-for-profit providers toward larger for-profits, focusing on high-care, able to raise the investment for necessary infrastructure.

Changes to fees and subsidies mean that in the absence of a comprehensive cost of care study these may be driven entirely by government budget objectives and suffer from allocative inefficiency. Some residential care costing analysis has been conducted in the past (Ansell et al. 2012), but may require close attention by ACFA, including developing a better understanding of cost and revenue structures among home care providers.

The structure of fees and public subsidies is but one area of change facing aged care businesses. Industry will need to adapt to the various trends described in these research briefs, including growth in demand for and complexity of care, changing emphasis toward prevention and enablement, home and consumer directed care, while dealing with workforce shortages.

Box 2 CEPAR research spotlight Aged care management strategies

Research is uncovering the effectiveness of strategies that empower staff and disperse decisions Management practice and organisational leadership may have a strong influence both on the success of individual aged care operators and on workforce and care quality outcomes. But which models work well, and how can we evaluate these scientifically?

Some writers suggest that shared governance can be an effective principle for effective management (e.g. Ellis et al. 2006, Buchanan et al. 2007). Since the work of aged care staff is complex, involving them in planning, empowering them and encouraging autonomy can mean that staffing and quality issues are dealt with in a more flexible, dispersed, and efficient manner. This is the intention behind the Clinical Leadership in Aged Care (CLiAC) program, developed to improve aged care managers' leadership capacities in Australia.

CEPAR Chief Investigator, Hal Kendig, collaborated with colleagues to design a randomised controlled trial of aged care operators in both residential and home care to test the effect of implementing CLiAC. The trial is the first of its kind in the aged care sector and ensures that treatment and control groups include operators of similar size, care staff to middle management ratio, and geographical location; and that subjects of the study, data collection, and data analysis are 'blind' to the process. The study design is described in Jeon et al. (2013) and results are forthcoming. These will show impact on work environment, care quality and safety, staff turnover rates, absenteeism, intention to leave, stress levels, and job satisfaction.

4. Care workforce

Aged care is a labour intensive activity. What happens with the aged care workforce – the number of available workers, their levels of skill, and how they are managed – affects how much services cost and how well they are delivered.

The current workforce

In 2012, aged care providers employed approximately 350,000 people, with 150,000 in community care and 200,000 in residential care. Both groups are segmented in figure 6.

Some are non-direct care workers with a managerial and support role (coordinators, managers, administrators, and ancillary workers involved in cleaning, catering or maintenance); others are direct care workers (registered and enrolled nurses, community care workers or personal care assistants, and allied health professionals and assistants). Community care involves more non-direct care workers (38%) than residential care (27%), split between coordination, management and administration. In residential care most non-direct care workers (72%) are ancillary workers.

In direct-care, most are lower skilled workers rather than nurses, and their role has grown over time

Demand for staff

Community care

managerial staff

employs more

support and

differs by care type

meant that lower skilled community care workers or (residential) personal care assistants make up a vast majority of the direct care workforce (81% and 68% in each sub-sector respectively). The importance of such care workers has increased over time. For example, the proportion of personal care assistants in the residential direct care workforce increased by 10 percentage points since 2003. While the proportion of nurses in aged care has declined, the industry remains their single biggest employer, particularly for unregistered nurses (AIHW, 2013).

While nurses are often in demand in the aged care sector, their shortage and higher cost has

Care workers tend to (1) be older women...

Direct care workers are overwhelmingly women – only about 10 per cent are men. With a median age of 50 in community and 48 in residential care, they tend to be older than the overall Australian workforce, which has a median age of 40 (ABS, 2012). In fact, over a

...(2) be better educated than average...

...(3) work part time, but may want more hours and spend considerable time not directly caring...

...(4) have lower turnover than previously thought...

quarter of residential and a third of community direct care workers are aged 55+. A greater proportion of community and residential direct care workers (86% and 88% respectively) have post-school qualifications than is the case for overall Australian employees (64%; ABS, 2013). However, over half do not have a continuous development plan in place.

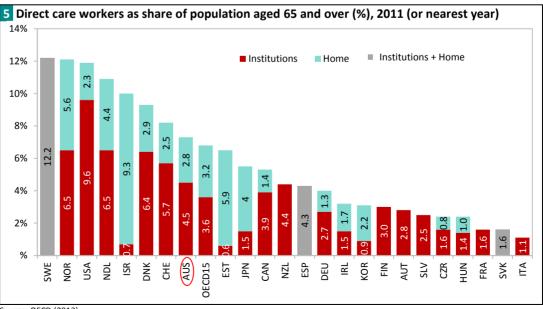
For many, aged care can offer a favourable work-life balance, with extensive part-time work, particularly in community care. Yet, some have multiple jobs and are willing to increase their hours: 30 per cent of direct care workers in community care would like between one and ten more hours of work. The hours they do work are often devoted to administrative and managerial issues – 23 per cent of direct care workers in community care and 16 per cent in residential care (not shown in figure 6) spend less than a third of their time caring. Time spent caring differs by profession since nurses take on more managerial roles.

Surprisingly, the level of turnover in aged care might not be as high as in the past or compared to other industries – 16 per cent of direct care workers have been in their job for less than 12 months. This compares to 25 per cent in 2007 (Martin and King, 2008) and 20 per cent for all women in the labour force (ABS, 2013b). Yet, comparisons should be made with caution since timing of surveys does not match exactly and age structures of care and overall workforce differ. The levels and reasons for turnover of workers deserve further analysis since it can have a large impact on costs. NACA (2012) estimated that with an annual turnover of 25 per cent, the extra costs associated with recruiting and training could be over \$5 billion in 2012 dollars.

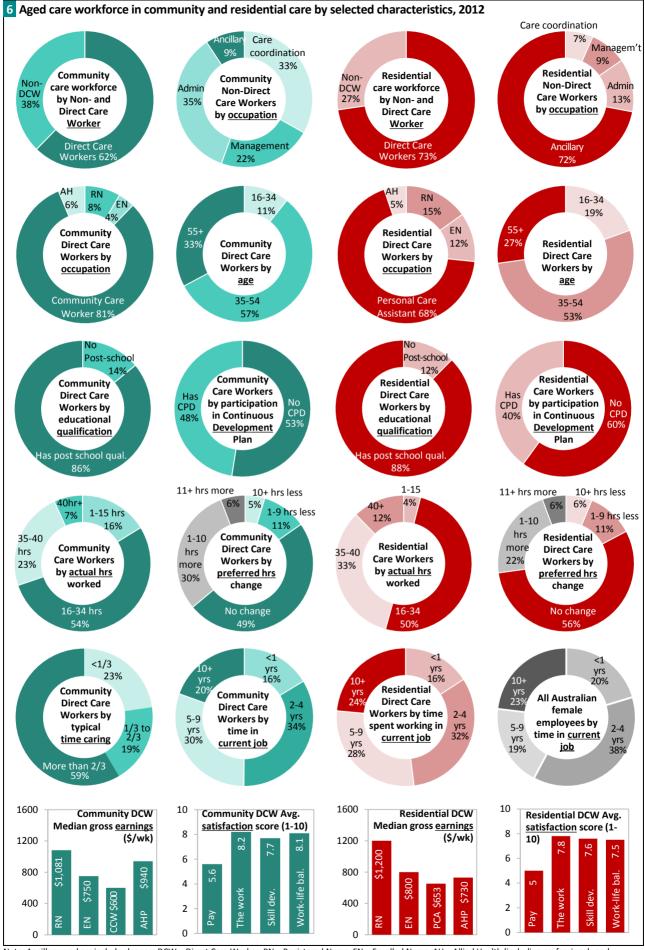
...and (5) have high rates of satisfaction with work but not with pay

Rates of satisfaction with work tend to be high. But as shown in the bottom panels of figure 6, there is a much lower satisfaction with pay. Except for allied health professionals, pay tends to be lower in the community care sub-sector. Part of this may be due to higher levels of part time work in community care, but it may also suggest that the sector will find it more difficult to attract staff even as it takes on a greater role in caring for older Australians.

The split between care workers in a community setting and in institutions relates to the prevalence of different modes of care and staffing arrangements. An international comparison shows that Australia is close to the OECD average in having approximately 2.8 community and 4.5 residential workers for every one hundred people aged 65 and over (figure 5).



Source: OECD (2013)



Note: Ancillary workers include cleaners DCW – Direct Care Worker, RN – Registered Nurse, EN – Enrolled Nurse, AH – Allied Health (including professionals and assistants), AHP – Allied Health Professional, PCA – Personal Care Assistant. Source: King et al. (2012), ABS (2013b)

Future workforce challenge

Projections for workers needed by 2050 range from 830k to 1.3m Government estimates, based on a constant ratio of aged care workers to people aged 70 and over, suggest that the sector would require around 830,000 workers by 2050, more than double the current number (DoHA, 2010). Similar estimates by the Productivity Commission (2011) put the number at 980,000 workers by 2050. With an average annual growth rate of 2.6 per cent between 2008 and 2050, employment growth in the sector is expected to exceed the rest of the economy (similar growth results, but for the direct care workforce only, were obtained by the OECD (Colombo et al., 2011).

But the number of workers needed would be higher still if we sought to keep constant the current ratio of aged care workers to the population aged 85 and over – set to grow faster than younger age groups. The calculation (based on series B of ABS 2013c), results in a figure closer to 1.3 million workers, requiring an average annual growth rate of 3.5 per cent. Of course such a mechanical calculation takes no account of productivity improvements.

Any rate of increase above employment growth will pose a considerable challenge for the sector and for policy makers; more so given increasing competition from health care, which is itself affected by an ageing population, and disability care, which is seeing increases in funding in Australia. Staff shortages are a risk to quality in aged care, but may also pose a fiscal risk for government as the main care funder.

Overall responses to the workforce challenge

Responses must address recruitment, retention and productivity Most public and private sector responses to the challenge of workforce management comprise measures to improve recruitment, retention, and productivity. Recruitment interventions can target specific groups, with programs for young people, those who previously worked in the sector, women re-entering the labour market, aged care workers wishing to work more hours, family members of care recipients, foreign-born workers through targeted migration (which Australia is well placed to exploit), and men, who are currently under-represented in aged care.

Retention measures often relate to valuing workers, not only financially, but also through quality training, career prospects, supportive, safe and well-resourced workplaces, flexible work patterns, job status and recognition. Valuing existing workers also includes helping those who are older to stay on rather than retire too early.

Productivity improvements in such a labour-intensive field are difficult (Davidson, 2009), but technology (see box 3), a learning culture, better management (see box 2), delegation and staff mix may help (e.g., Hodgkinson et al., 2011; Harris and McGillis Hall, 2012). Another approach could be a different business model that better integrates care services (see box 4). As noted by the Productivity Commission (2011) such productivity improvements may not necessarily reduce costs or need for staff, but could instead be realised as quality improvements.

Unpublished ABS data based on the 2011-12 Business Characteristics Survey suggests that a (statistically significant) greater proportion of residential aged care businesses undertakes some innovative activity (79%) relating to services, organisational, or operational processes, than the Australian average (47%) or the rest of the healthcare and social services industry (50%).

Few of the described workforce management tactics are new: most have been suggested by the Productivity Commission (2011) and others in the past – for example, in 2002 for recruiting and retaining nurses (Pearson et al., 2002).

Box 3 CEPAR research spotlight Aged care technology to raise productivity

There are various communication, enabling and safety technologies available...

Some are favoured by aged care professionals (e.g., electronic records); others by care recipients (e.g., 'telehealth')

But design and implementation needs to overcome deficiency in training and management support Robots are an eye-catching example of a potential future of aged care. But many innovative and cheaper technologies can help transform aged care, raise the sector's labour productivity and improve the independence and quality of life of older people. These range from communication and enabling technologies to those assisting with safety and monitoring (for organisation and process innovation see box 4). But what are the technology adoption issues?

A team led by CEPAR Associate Investigator, Pradeep Ray, conducted a large study to understand both the benefits and problems with aged care technologies (Kapadia et al. forthcoming). The team, which included CEPAR Masters Student and Research Assistant, Aishwarya Bakshi and Vasvi Kapadia, sifted through over 2,500 relevant papers from Australia and elsewhere, focusing in on around 100 with enough empirical substance.

They discovered (see table 2) that of the main technology innovations, aged care professionals find electronic health documentation and records particularly useful, while care recipients are most fond of 'telehealth' (e.g. for video consultations with specialists). Such findings are prescient. The Australian Government is in the process of implementing an integrated electronic health record system but, as in other countries, this has suffered from technical and practical problems. And there are financial subsidies for eligible providers using telehealth, but these are only made available to those outside major cities.

Table 2 Technology userumess and adoption issues in aged care										
	Aged care professionals' perspective Issues				Care recipient's perspective					
						Issues				
	IT			Professional			Human	Social		
	experience	Age	Privacy	autonomy	Useful	Privacy	interaction	stigma	Cost	Useful
Telehealth	-	-	50%+	25%-49%	25%-49%	50%+	25%-49%	-	1-25%	50%+
Electronic health record	25%-49%	-	1-25%	-	50%+	1-25%	-	-	-	1-25%
Wireless sensor - monitor	-	-	-	-	1-25%	-	25%-49%	50%+	50%+	1-25%
Electronic documentation	50%+	50%+	1-25%	-	50%+	1-25%	-	-	-	1-25%
Artificial intel.	-	-	-	1-25%	1-25%	50%+	1-25%	-	-	25%-49%

Table 2 Technology usefulness and adoption issues in aged care

Adoption issues for care providers relate to inexperience with IT and a lack of support from management. Negative views of technology often changed following use and training. Privacy, cost and fear of losing human interaction were major concerns for care recipients.

Some of those concerns can be addressed in the design stage. The team has recently incorporated the insights when designing a monitoring system that includes social engagement. Targeted at older users living at home, the system is based around a multimedia messaging service to stimulate interactions with family but includes an "I am fine" button that needs to be pressed once a day. Prolonged inactivity triggers an alert to the care providers. The solution is not new, but added interactivity means an improved experience for the user.

Public responses to the workforce challenge

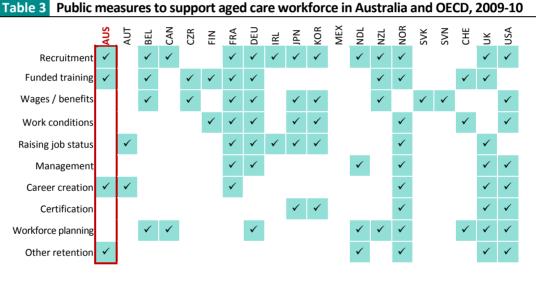
An OECD survey of policy makers in 2009-10 showed that a more limited number of measures were being deployed in Australia than in some countries (table 3). Since then, various policy frameworks and measures have been put in place or are in development, but not in what would appear to be a coherent and coordinated fashion.

Public responses include (1) a health workforce strategy...

...(2) fragmented funding for staffing innovations and research projects... For example, a strategy was developed for the overall health workforce, initiated by the Council of Australian Governments and managed by Health Workforce Australia (HWA, 2010), an agency of the Department of Health. HWA offers funding for innovative workforce models in residential care. In parallel, the Department of Industry runs services to improve leadership and regional innovation networks among providers, focusing on staffing models.

Providers can get funding for service improvements (including via staffing models) through the Aged Care Service Improvement and Healthy Ageing Grants Fund. The development of learning cultures in aged care settings is the focus of a series of pilots through Teaching and Research Aged Care Services, which combine caring for older people with teaching, research, and clinical care. Organisations and programs that support sub-groups of aged care workers, mentor or provide training for them are publicly funded through several departments (e.g., schemes for older workers and Indigenous Australians as well as those engaging in Culturally Appropriate Care).

There is also funding for individuals themselves through the *The Aged Care Workforce Fund*. The fund, now run by the Department of Social Services, provides training grants and scholarships for personal care workers and enrolled nurses. Separately, funding for training for individuals is also available through the *Aged Care Education and Training Incentive Program*.



Source: Adapted from Colombo (2011)

...(4) funding wage increases, which have now been scrapped...

The previous government's reform agenda included two major initiatives: the *Aged Care Workforce Supplement*, and the *Aged Care Workforce Development Plan*. The former was a \$1.1 billion initiative to fund wage increases, but has been scrapped. It was to act as the first step to raise wages, with subsequent wage changes to come via recommendations (e.g., from ACFA or ACPC).

Some claim that the program had flaws in excluding smaller employers and causing difficulties in industrial negotiations (ACSA, 2013). But scrapping it leaves the issue of low wages largely unaddressed. Perhaps future subsidy reviews should include wage costs with appropriate remuneration in mind. How long can the sector continue to rely on non-monetary motivations to recruit and retain workers when younger, increasingly educated women have more remunerative options elsewhere? Indeed, pay is low in aged care largely because it relies heavily on female employees, who face an unremitting gender pay gap – in itself the subject of policy attention. Some workers in the wider, social and community sector will benefit from a recent equal remuneration order under the Fair Work Act, but it excludes many aged care workers (Layton, et al 2013). The dynamics of wages, labour demand and supply, and turnover in the sector is not well understood (it may benefit from minimum wage research, e.g., Schmitt, 2013).

...(3) funding the training of workers directly...

... and (5) looking at improvements to the supply of training Financial incentives also need to be considered as part of a package of measures, as noted above and found in the literature (e.g., Misfeldt et al., 2014). Perhaps a version of the *Aged Care Workforce Development Plan* will aim for this basket of coordinated actions. Training is one area it should tackle. A recent review by the Australian Skills Quality Authority (2013) found that of the 382 organisations registered to offer aged care qualifications, 88 per cent were not compliant with required standards (e.g. insufficient time spent training in a workplace). As noted by NACA (2012), initiatives should also look at the extent to which increasingly important topics of training are delivered (e.g., those related to rehabilitation, re-enablement, prevention, and dementia).

Improving qualifications and professional frameworks for the increasing number of personal carers makes sense. It may be time to bring them "into the realm of the professional boundaries that guide and protect licensed nurses and those they care for" (ANMF, 2013, p1). On the other hand, 'professionalising' such occupations may raise entry barriers and reduce labour force flexibility – currently it's not uncommon for recruitment ads for community or personal carers to ask only for 'passion' as a job eligibility criterion.

Box 4 CEPAR research spotlight Integrated service delivery model

A central gateway (*My Aged Care*) is one solution to help people navigate and access care services; another is to encourage integration among service providers, so that more of them offer a range of home and residential services. For many years, there have been calls for developing *integrated* service delivery models to improve poorly coordinated, complex and inefficiently delivered age care; yet few providers have moved in this direction.

Laurel Hixon, a CEPAR affiliated researcher, found that in New South Wales (NSW), of the 619 aged care service providers studied, only six per cent adopted formal shared management structures of integrated service delivery; although some others created alternative informal structures or brokerage arrangements to offer a continuum of care. Australia is now poised to create new opportunities for integrated care following investment in mechanisms necessary to support it (i.e., consolidated financing, care coordination and information systems).

In Hixon et al. (2012), she looked at the formation of integrated structures. She found that care providers that are part of a common sponsor (or 'chain'), who are non-profit, and have greater capacity in HACC services, package size and, to a lesser extent, residential bed size, are more likely to offer integrated care across the full array of services available in NSW.

In another paper (Hixon and Chenoweth, 2013), she conducted a survey looking at the culture of innovation in a subset of integrated aged care organisations and found that senior leadership plays the key role in promoting innovation and that direct supervisor support was necessary for trying new ideas regardless of whether the idea succeeds or fails.

Finally, in Hixon and Chenoweth (2012), she sought focus group insights about paths toward integrated structures. Some providers under-appreciated certain integration mechanisms: while an organisation offering the full array of care under a shared management structure has the capacity to offer integrated care without other integrating mechanisms (consolidated finance, care coordination, and IT), this capacity is perceived to be limited as to its true innovativeness. So shared management structures (e.g. shared risk and infrastructure) are less obvious to providers than the advantages associated with the other three integrating mechanisms. Another finding was that different kinds of providers attribute successes to different things: non-profits perceive this to be the ability to cross-subsidise from certain programs (especially packaged care). The opportunities for this distribution of risk grow with the size of the organization. Shared infrastructure and learning also characterise larger organizations. In contrast, smaller organisations attribute their success to being nimble and responsive to their community.

There are advantages to business models with a diversity of services, but few attempt it

Those that do, can achieve a culture of innovation

And the integration can be beneficial even in the absence of shared back-office functions

5. Access

Care demand and supply issues were discussed in the first brief in this series. On the ground, the extent to which supply fails to meet demand can be gauged by various indicators of access including: the extent to which needs are expressly met; the patterns of use of different disadvantaged groups; and the implied waiting times for admission to care (see figure 7).

Access can be measured by looking at (1) surveys of unmet need, which is high for home care... In 2012, almost half of older Australians living in households, with profound or severe core activity limitation – which roughly corresponds to needing high care – say that their care needs are not fully met. Just under a third with moderate to mild limitations say their needs aren't fully met. The reasons for unmet needs are varied and complex, and require detailed analysis, but it helps to learn that highest rates of unmet need relate to home maintenance and mobility (e.g., picking up objects or walking up stairs) – tasks that HACC services are designed to help with.

Not all groups access care services to the same extent. It may not necessarily indicate that these groups are excluded but still offers insights. For example, adjusting for population size, people in more remote locations are under-represented in residential high care, but have similar levels of use of low care and make more use of both packaged and HACC services. As care needs become more complex, people may move to where there are more high care facilities.

...(2) care use by disadvantaged groups, which is low in residential care...

Indigenous Australians and those born in non-English speaking countries tend to use fewer residential services, normal levels of HACC services, and slightly more packaged care than the average. The gap is greatest for indigenous Australians, however, some of this may relate to how age groups are compared. Some groups may choose to receive care at home since it is where they are more likely to also receive culturally and linguistically appropriate informal care. But this could be affecting negatively informal carers from already disadvantaged groups (see brief 1) and does not address situations where care needs become more complex.

Access issues with residential care can manifest in longer waiting times in hospital and result in greater public costs via the health system, where places are more expensive than in aged care. People transitioning from community to residential care via hospital had the longest stays, with single-episode stays averaging 28 days compared to six days overall (AIHW, 2013b).

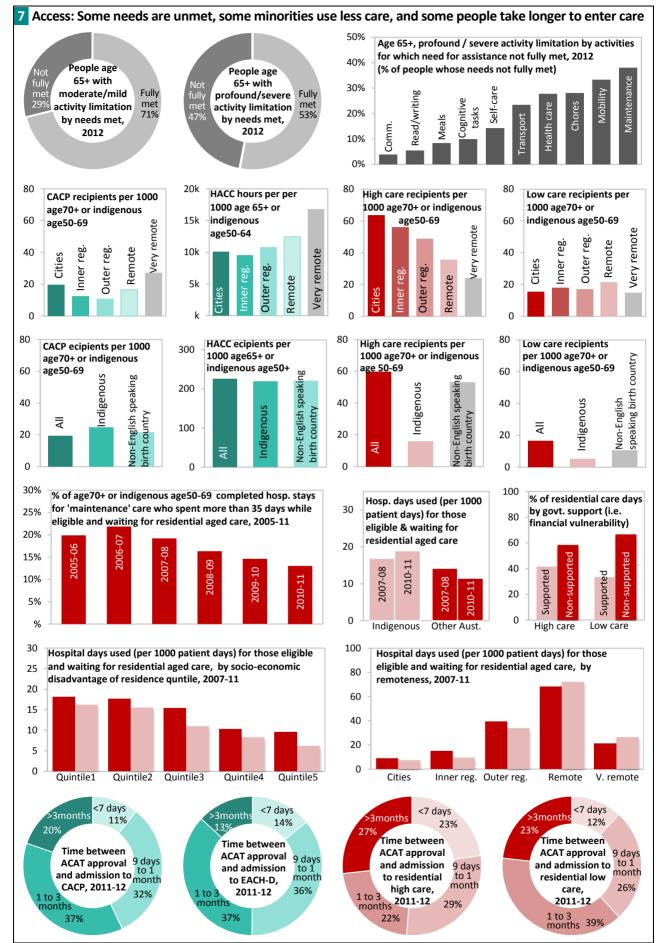
...(3) waiting times in hospital, which have declined but not for all groups...

The rationing of aged care can affect public costs via the health system if people are eligible and waiting for admission to residential care but do not leave hospital. Waiting times longer than 35 days have declined since 2006-07, from 22% to 13%.

But waiting times in hospital varied by group: Indigenous Australians and people in remote or very remote locations experience longer waiting times on average and saw increases in time spent waiting for admission to care. Those with greater socio-economic disadvantage also wait longer, but saw declines in wait time.

...and (4) time between approval and admission, which is high for some

The cost of inadequate supply is mostly borne privately, as families look for adequate care. The elapsed time between approval for care and admission into care can vary. This could be for personal reasons, particularly if it relates to admission into less urgent, low-level care. For more complex care the apparent 'waiting' time could pose a problem – around half of those approved for residential high care were not admitted into a facility for over a month.



Note: First row charts relate only to people living in households. Unless stated, data is for 2011-12. Different life expectancies mean different ages used for Indigenous and other Aust, however some data, particularly for HACC, use different age cut-offs. Eligible & waiting means "person awaiting admission to residential aged care" or "need for assistance at home and no other household member able to render care". ACAT denotes Aged Care Assessment Team. Source: ABS(2013d), PC(2013)

Responding to access issues

In addition to supply target changes, government funds cultural awareness training... Restrictions in the supply of care and recent attempts to increase it are discussed in the first brief of this series. Such reforms may address wider access issues. Australia's *Aged Care Act 1997* defines groups that need to be taken into account when providing care, including people from Indigenous, non-English speaking, rural and remote, and disadvantaged communities (more recently these also include the Lesbian, Gay, Bi-sexual, Transgender and Intersex community). The main public response has been to fund advisory and training organisations through the *Partners in Culturally Appropriate Care Program*.

Waiting times at hospitals are being addressed by funding the *Transition Care Program*, which provides short-term care to older Australians following hospital discharge.

...and is building an information gateway

Access may well relate to information and coordination – needs will remain unmet if people don't know about services (see also box 4). To this end, an information gateway, known as My *Aged Care,* with an expanding online presence, was introduced in 2012. The gateway will also unify care assessment and coordination, but details about its delivery and operational model are still under development (NACA, 2013).

6. Quality

Along with access, the quality of aged care services is a key objective for a well-designed aged care system. Policy makers can affect quality levels by directly regulating quality standards or creating a framework for the operation of incentives and market discipline.

To improve quality we must measure it But measurement of quality is deficient in Australia and elsewhere (OECD/European Commission, 2013). Some indicators, such as compliance statistics, are reported regularly, while others, such as client appraisal of service standards, have been under development for over a decade (PC, various years). What older people as end users think and how satisfied they are with services and outcomes (see box 6) are important and should be part of the human rights approach to aged care (AHRC, 2012).

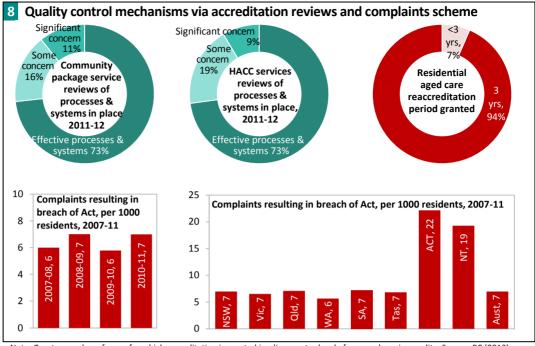
There also a range of clinical quality measures, from bed-sores to depression and falls (e.g., AIHW, 2013c), which have an enormous impact on the lives of older people (see box 5). Such statistics are not used as regular performance indicators of the sector, though new indicators are understood to be in development as a result of the recent reform agenda.

Regulating standards

One approach is to regulate quality...

Standards can relate to inputs (e.g., staff or buildings), processes (e.g., improvement programs or governance), or outcomes (e.g., fall rates). In practice, standards for Australian residential facilities comprise 44 indicators covering management, health & personal care, resident lifestyle, and safety. Community care providers must comply with 18 indicators (and expected 'outcomes') covering management, access and service delivery, as well as service user's rights.

The standards are enforced by initial accreditation, subsequent re-accreditation, self-reporting, pre-announced visits (rather than spot-checks) and by way of complaints (see figure 8). The review process for community care comprises self-assessment, on-site visits, a review report and improvement plan. Appropriate compliance checks are important, but some of the related reporting requirements may result in excessive red tape (ACSA, 2013).



Note: Greater number of years for which accreditation is granted implies greater level of care and service quality. Source: PC (2013)

Market mechanisms - Consumer Directed Care

...Another approach is to use market incentives by giving care recipients more choice

Regulation is important to protect some subsections of the community. But another approach is to harness market incentives. The Australian Government already provides incentives for participation in surveys and staff training. This approach has been extended elsewhere. In Korea, a program for aged care hospitals links performance with fee payments (OECD/European Commission, 2013).

A common market mechanism is to let care recipients make choices, referred to as *Consumer Directed Care* (CDC). The choice can be about how, when, and by whom care is delivered and involves a tailored budget for the purpose of maintaining independence. It has been introduced in two thirds of OECD countries (OECD/EC, 2013). Choice and control can also, in themselves, enhance quality of life of older people (Browning and Thomas, 2013). All new home care packages in Australia are being offered on a CDC basis and current packages will need to be CDC compliant by 2015.

But what if some people can't decide or make detrimental choices?

Some will need better guidance...

...others will need better information

The advantages of the approach come with practical concerns (KPMG, 2012). These include the tension between consumer choice and provider duty of care and differences between providers about acceptable spending of budgets (guidelines are a potential solution –DoHA, 2013). Concerns are compounded by potential lack of capacity to make choices. The need for care often stems from impaired cognitive function. A sizable proportion of services requested do not align with services assessed as needed (Cohen-Mansfield and Frank, 2008).

It's still unclear how those who cannot easily make choices will be guided. Should they be led by the *My Aged Care* gateway, providers, or some intermediate brokerage services? There may also be funding implications to ensure some communities are not disadvantaged by a market outcomes (e.g. remote communities). One subtle alternative to CDC is 'person-centred care', inclusive of choice but requiring collaboration between the person, family, carers, and providers.

As new quality indicators are developed, the gateway will be able to provide a greater level of information and benchmarking to inform choice. This is seen elsewhere – the Netherlands developed an index to measure the experiences of care residents based on the national quality

framework and makes it available to the public. It doesn't always work -a star rating in the UK was scrapped because it was not transparent and was seldom used (OECD/EC, 2013).

As with many other parts of Australia's aged care system, the evaluation of and pursuit of high quality care is undergoing considerable change and is the subject of an ongoing debate (e.g., see recent literature from NACA, 2013b, and Alzheimer's Australia, 2013).

Box 5 CEPAR research spotlight **Preventing falls**

Falls are one of the five so-called "geriatric giants", along with dementia, poor mobility incontinence and polypharmacy. Studies in Europe, North America and Australia show that about 30 per cent of people aged 65 years and over living in the community fall at least once a year. Fall frequency is even higher among older people living in residential aged care facilities. About five per cent of falls lead to fractures, but even falls without obvious injury can lead to loss of confidence and eventual institutionalisation. Post-fall treatment also imposes a substantial economic burden on the health and aged care systems.

CEPAR Chief Investigator, Bob Cumming, has spent much of his career researching ways of preventing falls in older people. Home hazards such as loose rugs and electrical cords have long been known to increase the risk. In Cumming et al. (1999), he published the first study evaluating the effectiveness of home modifications. He studied people discharged from hospital and found that a home visit by an occupational therapist (OT), with subsequent home modifications, if required, could reduce fall risk by 40 per cent. Unfortunately, most discharged older patients still do not get an OT home visit. (Note that there is no evidence that simply giving older people a home safety check-list and expecting them to arrange their own modifications prevents falls.)

Cumming has also been involved in studies showing that Tai Chi and other exercise programs aimed at improving balance can prevent falls (Voukelatos et al., 2007, Sherrington, 2008). However, many older people are unwilling to join a formal exercise program. In Clemson et al. (2012), CEPAR Associate Investigator, Lindy Clemson, and colleagues, including Cumming, recently demonstrated that incorporation of exercise into daily life can reduce falls risk. Examples of exercises include standing on one leg while washing the dishes and placing the washing basket on the ground, rather than in a trolley, and squatting down and then up to take clothes from basket to clothesline.

Up to 20 per cent of older people admitted to hospital, fall during their stay. Unfortunately, the best way to prevent these falls is unclear. Between 2003 and 2006, Cumming led a study of nearly 4000 patients evaluating the effect of additional part-time nursing and physiotherapy staff in hospital wards. The extra staff had no impact at all on risk of falls (Cumming et al., 2008).

Falls occur frequently in nursing homes and hostels. Cumming was part of a team that conducted a systematic review of all 43 randomised trials of falls prevention interventions for older people living in aged care facilities (Cameron et al., 2012). The best evidence was for the use of vitamin D supplements. The review found some evidence that exercise programs might reduce falls among more robust older people but might increase falls among more frail older people.

There are several risk factors associated with falls, including falls history, grip strength, sedative use, stroke, cognitive impairment, and mental ill-health. But in a recent study, Chief CEPAR Investigator, Kaarin Anstey, and Associate Investigator, Julie Byles, with other colleagues, have found that 'vitality' is also a risk factor. In a longitudinal study of over 11,000 participants, they found that "feeling full of life" and "having a lot of energy" as opposed to "feeling worn out" and "feeling tired" had a protective effect against falls, although the size of effect was substantially explained by its covariance with mental and physical heath (Burns et al., 2012).

Falls are a major issue for individuals and the health and care system. So how to prevent them?

(1) Home modifications and occupational therapists help

(2) As do exercise programs, like Tai Chi...

... (3) vitamin D supplements

...and (4) maintaining vitality and a positive outlook

7. Conclusion

This second of two research briefs on aged care in Australia looked at the system *bottom-up*. It provided a snapshot of care recipients, providers, and workers as well as performance outcomes related to access and quality. Importantly, the briefs capture a system in transition. The types of research insights highlighted in these briefs can guide decision makers in aged care as the system evolves into one that is more consumer-centred, community-based, independence-focused, and cost-efficient. For providers, the changing landscape means needing to adapt with new management strategies and business models. More generally, when looking at breakdowns of those that live longer and require care, those that act as informal, and unpaid carers, and those that works in the sector, it becomes apparent that aged care is a gender issue. It's therefore worth keeping in mind that any changes that do take place will disproportionately affect women.

Ageing well research shows that (1) many who depend on assistance still age inplace, at home...

... (2) those with chronic disease still have good selfreported health...

...(3) the younger old have lower lifesatisfaction...

...(4) but their living alone is a mortality risk factor...

... which (5) can be mitigated by welldesigned programs targeting isolation...

...and (6) by ensuring older people have access to transport options

Box 6 CEPAR research spotlight Aged care and ageing well

Aged care is fundamentally about ageing well, by supporting people to remain independent and engaged in society. Different research strands explain how we age and how we can age better.

For example, in a forthcoming paper CEPAR Chief and Associate Investigators, Hal Kendig, and Colette Browning, look at longitudinal data to study *ageing in place*. They find that 80% of people 65+ remained at home to within two years before death even though they were likely to depend on assistance in daily living (Kendig et al., forthcoming).

The team also studied experiences of chronic disease. In the base year, 72% reported having at least one chronic disease (most often, arthritis). Yet chronic disease does not necessarily translate to poor wellbeing: 89% were ageing well in terms of independence with instrumental activities (e.g. shopping or managing money), and good self-rated health and psychological wellbeing. Still, those with chronic diseases were more likely to have depression and die earlier (Kendig et al., forthcoming b).

CEPAR Associate Investigator, Heather Booth (Crawford & Booth, 2013) looked at life satisfaction: those aged 70-89 had higher satisfaction than those in their 50s, who had more demands on their time and cited lack of companionship more frequently than older age groups.

Lack of social support and engagement, whether measured subjectively (feelings of loneliness) or objectively (living arrangements), has a negative impact on health. This is the conclusion of CEPAR Chief Investigator, Kaarin Anstey, who, with other colleagues, looked at a cohort study for a population of older people in the Blue Mountains. Her study also found that the effect of living alone on risk of mortality was greater for the younger old (below 75). This could be because the older old (75+) who live alone may have less social support, but are more likely to have good functional status (Gopinath et al., 2013).

In practical terms, how can authorities design, implement and assess effective community engagement programs? In Bartlett et al (2012), CEPAR Associate Investigator, Helen Bartlett, writes about three Queensland pilots that sought to reduce social isolation of older people. Her team found no robust evidence of success, but the work fed into best practice guidance on implementing and evaluating such projects (Department of Communities, 2009). For example, interventions that occur soon after a critical event or early during life transitions work best.

Separately, Bartlett also looked at driving among older Australians and found that those who retired from driving had lower life satisfaction and had significantly fewer social interactions. The research suggests that older non-drivers require more support and that access to transport is important for maintaining social activities and independence (Liddle et al. 2012).

References

- ABS (Australia Bureau of Statistics) (2012) 'Cat. 4102.0 -Australian social trends, Dec 2012', Canberra
- ABS (Australia Bureau of Statistics) (2013) 'Cat. 6227.0 Education and work, Australia, May 2013', Canberra
- ABS (Australia Bureau of Statistics) (2013b) 'Cat. 6209.0 Labour mobility, Australia, February 2012', Canberra
- ABS (Australian Bureau of Statistics) (2013c) 'Cat. 3222.0 Population projections, Australia, 2012 (base) to 2101', Canberra
- ABS (Australian Bureau of Statistics) (2013d) 'Cat. 4430.0 Disability, ageing and carers, Australia, 2012', Canberra
- ACFA (Aged Care Financing Authority) (2013) 'Inaugural report on the funding and financing of the Aged Care Sector', June 2013, Canberra
- ACSA (Aged and Community Services Australia) (2013) 'Caring for older Australians: 2013 Federal Election' ACSA, August 2013, Canberra
- AIHW (Australian Institute of Health and Welfare) (2012) 'Aged care packages in the community 2010-11: a statistical overview', Canberra
- AIHW (Australian Institute of Health and Welfare) (2012b) 'Residential aged care in Australia 2010-11: a statistical overview', Canberra
- AIHW (Australian Institute of Health and Welfare) (2013) 'Nursing and midwifery workforce 2012', National Health Workforce Series No.6 Cat. HWL 52, Canberra
- AIHW (Australian Institute of Health and Welfare) (2013b) 'Movement between hospital and residential aged care, 2008-09', Canberra
- AIHW (Australian Institute of Health and Welfare) (2013c) 'Depression in residential aged care 2008–2012', Aged care statistics series No. 39. Cat. no. AGE 73. Canberra
- AHRC (Australian Human Right Commission) (2012) 'Respect and choice: A human rights approach for ageing and health'
- Alzheimer's Australia (2013) 'Quality of residential aged care: The consumer perspective', Paper 37, November 2013
- Ansell, C., E. Davey, and H. Vu (2012) 'Australian cost of residential aged care research: Service costs in modern Residential Aged Care Facilities' January 2012, www.grantthornton.com.au
- ASQA (Australian Skills Quality Authority) (2013) 'Training for aged and community care in Australia: A national strategic review of registered training organisations offering aged and community care sector training', Canberra
- Australian Nursing & Midwifery Federation (2013) 'Fact sheet 4: A snapshot of residential aged care', Federal Office, November 2013
- Bartlett, H., J. Warburton, C. Lui, L. Peach and M. Carroll (2013) 'Preventing social isolation in later life: Findings and insights from a pilot Queensland intervention study', Cambridge University Press, Cambridge, United Kingdom, pp. 1-23
- Browning, C., and S. Thomas (2013) 'Enhancing quality of life in older people', InPsych, The bulletin of The Australian Psychological Society Limited, February 2013
- Buchanan D., R. Caldwell, J. Meyer, J. Storey, C. Wainwright (2007) 'Leadership transmission: a muddled metaphor?' Journal of Health Organization and Management, 2007, 21(3):246–258
- Burns, R., J. Byles, P. Mitchell, and K. Anstey (2012) 'Positive components of mental health provide significant protection against likelihood of falling in older women over a 13-year period', International Psychogeriatrics (2012), 24:9, 1419–1428
- Cameron, I., L. Gillespie, M. Robertson, G. Murray, K. Hill, R. Cumming, and N. Kerse (2012) 'Interventions for preventing falls in older people in care facilities and hospitals', Cochrane Database of Systematic Reviews 2012, Issue 12

- CIE (Centre for International Economics) (2012) 'Sector wide impacts of changes to the Aged Care Funding Instrument over the next four years: Results over the 2012–13 to 2015–16 forward estimates period', Prepared for Leading Age Services Australia, September 2012
- Clemson, L., M. Fiatarone Singh, A. Bundy, R. Cumming, K. Manollaros, P. O'Loughlin, and D. Black (2012) 'The LiFE study, embedding balance and strength training in daily life activity to reduce falls in older people: a randomised trial', British Medical Journal; 345:e4547
- Cohen-Mansfield J., and J. Frank (2008) 'Relationship between perceived needs and assessed needs for services in communitydwelling older persons', Gerontologist 48(4):505-16
- Colombo F., A. Llena-Nozal, J. Mercier and F. Tjadens (2011) 'Help Wanted? Providing and paying for long-term care' OECD Publishing, Paris
- Crawford, H., and H. Booth (2013) 'Staying connected: Social engagement and wellbeing among mature age Australians', National Seniors Productive Ageing Centre
- Cumming R., M. Thomas, G. Szonyi, G. Salkeld, E. O'Neill, C. Westbury, and G. Frampton (1999) 'Home visits by an occupational therapist for assessment and modification of environmental hazards: A randomized trial of falls prevention' Journal of American Geriatrics Society, 47: 1397-1402.
- Cumming, R., C. Sherrington, S. Lord, J. Simpson, C. Vogler, I. Cameron, and V. Naganathan (2008) 'Cluster randomised trial of a targeted multifactorial intervention to prevent falls among older people in hospital', BMJ, 336: 758-760
- Davidson, B (2009) 'For-profit organisations in managed markets for human services' in King, D., and G. Meagher (Eds), 2009, 'Paid care in Australia: Politics, profits, practices', Sydney University Press
- Department of Communities (2009) 'Cross-government project to reduce social isolation of older people: Best practice guidelines', The State of Queensland, Brisbane
- DoHA (former Department of Health and Ageing) (2010) 'Submission to the Productivity Commission inquiry: Caring for Older Australians from the Department of Health and Ageing', Commonwealth of Australia, Canberra
- DoHA (former Department of Health and Ageing) (2011) 'Technical Paper on the changing dynamics of residential aged care prepared to assist the Productivity Commission inquiry Caring for Older Australians', Commonwealth of Australia, Canberra
- DoHA (former Department of Health and Ageing) (2013) 'Home care packages program guidelines', August, Canberra
- Ellis J., A. Priest, M. MacPhee, and A. McCutcheon, on behalf of CHSRF and partners (2006) 'Staffing for safety: A synthesis of the evidence on nurse staffing and patient safety' Canadian Health Services Research Foundation
- Gopinath, B., E. Rochtchina, K. Anstey, and P. Mitchell (2013) 'Living alone and risk of mortality in older community-dwelling adults', JAMA Internal Medicine, vol. 173, no. 23, pp. 320-321
- Harris, A., and L. McGillis Hall (2012) 'Evidence to inform staff mix decision-making: A focused literature review', Prepared for the Canadian Nurses Association, CNA, Ottawa
- Hixon, L. and L. Chenoweth (2012) 'What influences the formation of integrated aged care structures? Results from provider focus groups'
- Hixon, L. and L. Chenoweth (2013) 'The culture of innovation within integrated aged care service providers'
- Hixon, L., E. Savage and L. Chenoweth (2012) 'Environmental and organizational factors associated with integrated aged care delivery structures in New South Wales'

- Hodgkinson, B., E. Haesler, R. Nay, M. O'Donnell, and L. McAuliffe (2011) 'Effectiveness of staffing models in residential, subacute, extended aged care settings on patient and staff outcomes (review)' Cochrane Library, 6
- HWA (Health Workforce Australia) (2010) 'The national health workforce innovation and reform strategic framework for action 2011-2015'
- Jeon, H., J. Simpson, L. Chenoweth, M. Cunich, and H. Kendig (2013) 'The effectiveness of an aged care specific leadership and management program on workforce, work environment, and care quality outcomes: Design of a cluster randomised controlled trial', Implementation Science, 8:126
- Jorm, L., S. Walter, S. Lujic, J. Byles and H. Kendig (2010) 'Home and community care services: A major opportunity for preventive health care', BMC Geriatrics, 10:26
- Kapadia, V., J. Li, A. Bakshi, P. Ray (Forthcoming) 'Issues influencing IT implementation for aged care', CEPAR Working Paper
- Kendig, H., N. Lucas, and C. Browning (forthcoming) 'Ageing in place in Australia: Longitudinal predictors and policy influences', CEPAR Working Paper
- Kendig, H, N. Mealing, R. Carr, S. Lujic, J. Byles, and L. Jorm (2012) 'Assessing patterns of home and community care service use and client profiles in Australia: a cluster analysis approach using linked data', Health and Social Care in the Community (2012) 20(4), 375–387
- Kendig, H., R. Burns, and C. Browning (forthcoming b) 'Living well with chronic disease in Australia: Trajectories to death', CEPAR Working Paper
- King D., K. Mavromaras, Z. Wei, B. He, J. Healy, K. Macaitis, M. Moskos, and L. Smith (2012) 'The aged care workforce, 2012' for the Department of Health and Ageing, Canberra
- KPMG (2012) 'Evaluation of consumer directed care initiative Final report', for the Department of Health and Ageing, Canberra
- KPMG (2013) 'Report on the residential aged care sector: Current state and potential impacts from LLLB financial arrangements', for the Aged Care Financing Authority (ACFA), Canberra
- Layton, R., M. Smith, and A. Stewart (2013) 'Equal remuneration under the Fair Work Act 2009', for the Pay Equity Unit of the Fair Work Commission
- Lewin, G., E. Burton, P. Sparrow, M. Carroll, and H. Kendig, (2011) 'Development of a community care research agenda for Australia', Australasian Journal on Ageing, vol 31, issue 1, Wiley-Blackwell Publishing Asia, pp. 37-40
- Liddle, J., L. Gustafsson, H. Bartlett, and K. McKenna (2012), 'Time use, role participation and life satisfaction of older people:

Impact of driving status' Australian Occupational Therapy Journal, 59: 384–392

- Martin, B., and D. King (2008) 'Who cares for older Australians? A picture of the residential and community based aged care workforce, 2007', National Institute of Labour Studies, Flinders University, Adelaide
- Misfeldt, R., J. Linder, J. Lait, S. Hepp, G. Armitage, K. Jackson and E. Suter (2014) 'Incentives for improving human resource outcomes in health care: overview of reviews' Journal of Health Services Research & Policy, 2014 vol. 19 no. 1 52-61
- NACA (National Aged Care Alliance) (2012) 'Aged Care Reform Series Workforce'
- NACA (National Aged Care Alliance) (2013) 'The Gateway service delivery model advisory paper', March 2013
- NACA (National Aged Care Alliance) (2013b) 'Quality indicators advisory group meeting, March 2013, communique'
- OECD (Organisation for Economic Cooperation and Development) (2013), 'Health at a Glance 2013: OECD Indicators', OECD Publishing, Paris
- OECD/European Commission (2013) 'A good life in old age? Monitoring and improving quality in long-term care', OECD Health Policy Studies, OECD Publishing
- PC (Productivity Commission) (2011) 'Caring for older Australians: Productivity commission inquiry report', No. 53, Canberra
- PC (Productivity Commission) (2013) 'Report on Government Services 2013', Canberra
- PC (Productivity Commission) (Various years) 'Report on government services', Canberra
- Pearson., A., R. Nay et al. (2002) 'Recruitment and retention of nurses in residential aged care' Final report for the Commonwealth Department of Health and Aged Care, Canberra
- Schmitt, J., (2013) 'Why does the minimum wage have no discernible effect on employment?', Center for Economic and Policy Research
- Sherrington, C., J. Whitney, S. Lord, R. Herbert, R. Cumming, and J. Close (2008) 'Effective exercise for the prevention of falls: a systematic review and meta-analysis' Journal of American Geriatrics Society, 56: 2234-2243
- Voukelatos A., R. Cumming, S. Lord, and C. Rissel (2007) 'A randomized controlled trial of Tai Chi for the prevention of falls: the Central Sydney Tai Chi Trial' Journal of American Geriatrics Society, 55: 1185-1191

About the authors



Rafal Chomik is the lead author of this brief. He is a Senior Research Fellow at CEPAR and has worked as an economist at the OECD and for the British Government. His interests include tax & benefit modelling and social policy development.



Mary MacLennan is a co-author of this brief, having conducted initial research for the brief when working at CEPAR. Her interest is in health economics and she has worked on projects with the World Health Organization in Geneva, the ICDDRB in Dhaka, the World Bank, and Bill and Melinda Gates-funded research in Toronto.

Contributing researchers



Hal Kendig is the lead contributor to this brief. He is a CEPAR Chief Investigator and a Professor of Ageing and Public Policy at the Australian National University. He is a sociologist and gerontologist with an interest in research on aged care, healthy and productive ageing and social determinants of health over the life course.



Robert Cumming is a Chief Investigator at CEPAR and a Professor of Epidemiology and Geriatric Medicine at the University of Sydney. Much of his research brings together biological, psychosocial and medical aspects of ageing. He has an international reputation for research on osteoporosis, falls and fractures.



Lindy Clemson is an Associate Investigator at CEPAR, a Professor in Ageing and Occupational Therapy and Joint Head of the Ageing, Work & Health Research Unit at the University of Sydney. Her research is in efficacy of fall prevention interventions and assessments related to healthy ageing and participation.



Kaarin Anstey is a Chief Investigator at CEPAR and is Director of the Centre for Research on Ageing, Health and Wellbeing and the Dementia Collaborative Research Centre at ANU. Her research interests include the epidemiology of cognition and dementia, late-life depression, and wellbeing.



Julie Byles is an Associate Investigator at CEPAR and Director of the Research Centre for Gender, Health and Ageing at the University of Newcastle. Her research interests are in risk determination, health assessment, and the role of health services, preventive activities, and treatments in maintaining quality of life for older people.



Colette Browning is an Associate Investigator at CEPAR, a Professor at Monash University and Honorary Professor at Peking University. Her research focuses on healthy ageing and improving quality of life for older people, chronic disease self-management and consumer involvement in health care decision-making.



Heather Booth is an Associate Investigator at CEPAR and Associate Professor of Demography at ANU. Her research interests concern the demand and supply of informal care of the elderly and how these are mediated in practice. Additionally, Heather works at the forefront of demographic forecasting.



Helen Bartlett is an Associate Investigator at CEPAR and Pro Vice-Chancellor at Monash University, Malaysia. Her research is in gerontology, with a focus on population ageing, healthy ageing, aged and community care.



Pradeep Ray is an Associate Investigator at CEPAR, a Professor of Information Systems at the Australian School of Business and the Director of the Asia-Pacific ubiquitous Healthcare Research Centre (APuHC) at UNSW. He leads a number of collaborative global research projects on eHealth.



Aishwarya Bakshi is an MPhil student at CEPAR and APuHC, located at UNSW. His research is in IT collaborative system methodology that identifies policy deviations by users, presents them with alternate actions and, when necessary, suggests deviation from the policy to perform a non-conforming action.



Vasvi Kapadia is a CEPAR supported student and Research Assistant at APuHC, UNSW. Her area of research is developing technology for active aging. Currently, she is working on different projects focused on assessing usability and acceptance of various eHealth and mHealth applications developed for elderly people.



Laurel Hixon is a CEPAR affiliated researcher and Research Fellow at the Oxford Institute of Population Ageing, UK. Her research interests are primarily in health and long-term care policy and reform, with a focus on integrated service delivery models, financing through public and private long-term care insurance, and organisational innovation.

About CEPAR

The ARC Centre of Excellence in Population Ageing Research (CEPAR) brings together researchers, government and industry to address one of the major social challenges of this century. It aims to establish Australia as a world leader in the field of population ageing research through a unique combination of high level, cross-disciplinary expertise drawn from Economics, Psychology, Sociology, Epidemiology, Actuarial Science, and Demography.

CEPAR is one of 13 centres that commenced in 2011 under the Australian Research Council's Centres of Excellence program. It is a global research centre with international university partners, and is supported by the Australian Government, the NSW Government and industry leaders. Our mission is to produce research that will transform thinking about population ageing, inform private practice and public policy, and improve people's wellbeing throughout their lives.

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Contact

CEPAR, Australian School of Business, Kensington Campus, The University of New South Wales, Sydney NSW 2052 | cepar@unsw.edu.au | +61 (2) 9931 9202 | www.cepar.edu.au

CEPAR Partners

