

About the report

The Lien Foundation commissioned KPMG International to produce "An uncertain age: Reimagining long term care in the 21st century" to inform and stimulate the global dialogue on long term elderly care.

The report includes selected comments and opinions from 46 thought leaders, professionals and practitioners in the aged care sector in selected countries, gained through a series of face-to-face and telephone interviews KPMG conducted between August and September of 2012. The individuals chosen to participate were selected from KPMG's extensive professional network as well as through recommendations from experts in long term care.

Interviewees were asked to offer their views on current and emerging demand and supply trends and to identify innovative approaches and models of long term elderly care delivery from around the world.

A team of in-house researchers from KPMG collected background information and statistics for this paper.

About the Lien Foundation

www.lienfoundation.org

The Lien Foundation is a Singapore philanthropic house noted for its model of radical philanthropy. It breaks new ground by investing in innovative solutions, convening strategic partnerships and catalyzing action on social and environmental challenges. The Foundation seeks to foster exemplary early childhood education, excellence in eldercare and effective environmental sustainability in water and sanitation. They support innovative models of eldercare, advocate better care for the dying and greater attention on dementia care.

Since 2005, the Foundation has harnessed IT for capacity building and enhanced the quality of care in healthcare nonprofits like hospices and nursing homes. In 2010, the Foundation commissioned the first-ever global Quality of Death index ranking 40 countries on their provision of end of life care. It has published research that unveiled the views and perspectives of doctors and thought leaders on what they thought would improve end-of-life care in Singapore.

On terminology: the word 'elderly' is used to define members of the population over age 65 and is used in this report interchangeably with 'senior', 'aged' and 'older'.

CONTENTS

Foreword	03
Executive summary A growing threat Deliver person-centered care Look beyond institutional boundaries Invest in human and technological resources Change attitudes and policies towards aging	04 4 5 6 7 7
Section 1: The current state of long term care The rise and rise of the elderly population The narrowing longevity gap Pressure on traditional family-based care A shifting burden The need for long term care Models for providing long term care Resource challenges Workforce shortages	8 8 11 11 12 13 15 16
Section 2: Shaping tomorrow's long term care systems Deliver person-centered care Integrate care Rethink medical care Look beyond institutional boundaries towards the community Invest in the formal and informal workforce Embrace technology Focus on outcomes Develop better funding models Carry out more research Change attitudes to aging	18 18 21 23 24 27 31 33 36 37 38
Conclusion An agenda for action	40 41
Overview of long term systems for the elderly and their future direction	42
Sources	46
Acknowledgments	50



Foreword

Few if any societies have truly faced up to the magnitude of the long term elderly care crisis. If this system fails it will have devastating consequences for elderly individuals, their families, the economy and wider society. Without swift action, such a gloomy outlook is probable rather than possible.

Longevity may be an outstanding social achievement, but it brings with it large increases in disabilities and chronic conditions that could overwhelm formal and informal care networks. Giving the elderly a decent and dignified life is one of the biggest challenges facing governments everywhere as they struggle to provide housing, medical services, transportation, nursing and home care.

Compared to other areas of healthcare, long term elderly care has received very little attention. Therefore, as part of its mission to foster excellence in eldercare, the Lien Foundation commissioned KPMG to research the existing state of long term care and look at innovative new models of best practice that can meet the rapidly increasing demand with available financial, human and physical resources.

Although life expectancy in emerging countries is rising fast, the demands of an aging population are more immediate in the developed world. This paper focuses primarily on countries that together provide a broad spectrum of different approaches from around the globe. The insights and examples from 46 interviewees across Australia, Canada, China, Finland, France, Germany, Hong Kong, Japan, the Netherlands, Norway, Singapore, Taiwan, the United Kingdom and the United States can point the way for other countries around the world.

The findings in this document are augmented by the expert views of a number of globally renowned thought leaders and we would like to personally thank these individuals for their valuable contributions.

We believe that this paper is one of the most comprehensive studies of its type, but the ideas and examples only represent small steps forward. Our aim is to stimulate wider dialogue between governments, private and non-profit stakeholders, to inspire innovation and change attitudes and policies.

Mr. Lee Poh Wah CEO, Lien Foundation

Dr. Mark BritnellGlobal Head of Health,
KPMG International

Executive summary

The specter of an aging society is creeping up on the worlds' economies. This critical phenomenon has the potential to overwhelm entire health systems and new approaches are needed fast.

Having sought the views of some of the world's leading thinkers on the subject, it is apparent that there is no single, breakthrough idea. However, our search has come up with a number of highly innovative and interesting approaches that together can form the building blocks of a new era in elderly care. As with all complex interventions, many of these blocks have to be put in place concurrently, which calls for a high level of implementation expertise.

Three findings stand out as being critical and relevant to every society, regardless of where they have progressed in their journey:

Firstly, the debate over finance threatens to obscure the scale and gravity of the overall challenge. Nevertheless, funding is a critical issue, as most governments are cash-strapped and the next generation may be unable or unwilling to foot the bill for care. Increasingly innovative new mixes of public and private finance are needed, along with new ways to allow older people to save more for retirement.

Secondly, care should be redesigned to break down organizational boundaries through greater integration. The medical model has to change in favor of a new philosophy and practical methods that pay more attention to people's needs and aspirations, rather than to the treatment of disease.

And finally, given the societal impact of elderly care, the discussion should take center stage and involve government, private and non-governmental bodies and providers, as well as the wider public. Only through such wide scale involvement is it possible to address the critical issues of public policy, models of care, housing and personal preparation for old age.

A growing threat

The rising proportion of elderly people will put an enormous strain on societies around the world. Between 2012 and 2050, the number of citizens aged 60 and above will more than double to 2 billion; almost a quarter of the global population. In economies such as Japan, a dwindling base of working age people has to support more and more elders. Other countries are experiencing the growing phenomenon of 'the newly aged poor,' where 50- and 60-somethings are forced into early retirement through lack of job opportunities, adding hugely to health and welfare bills.

Changing demographics and lifestyles mean that families are less likely to care for their elderly, yet governments cannot afford to bear the extra costs and insurers' premiums are often prohibitively high – and likely to remain so, given the risks



involved. The sector also faces a resource crisis and the importation of cheaper foreign labor is only a temporary solution that shifts the problem elsewhere.

An over-emphasis on costly government-funded residential care in certain countries stretches budgets and raises providers' expectations that the state can care for all its older citizens. And the quality of care varies widely, with many traditional medical approaches ill-suited to the conditions of the aged.

If societies are to give their elderly citizens a dignified and fulfilling life, they have to rethink the way that long term care is funded and managed and change cultural attitudes to aging, by considering a number of actions.

Deliver person-centered care

The transition into long term care is a difficult journey for elderly people which may damage their health and sense of self-worth. Care must therefore be oriented to meet the unique needs of each individual to ensure elderly people are treated with respect and given as much autonomy and independence as possible. Outcomes and quality of life should take priority over systems and procedures. This will require a significant change in the culture and skills of care home staff, with improvements in recruitment and training and greater support from management for those carrying out difficult jobs on low pay.

The focus of medical care for the elderly needs to shift from providing a 'cure at all costs' to managing a gradual decline with an emphasis on wellbeing and happiness. Clinicians need to exercise greater discretion in prescribing and pay more attention to causes (rather than effects), side effects and pain control. Further studies are required to assess people with multiple conditions receiving longer-term medication.

Value and outcomes have to become higher priorities. Pressure on budgets has led to an emphasis on cutting prices, which can impact quality. As healthcare's goals move towards value, long term care will have to follow suit by focusing on outcomes, which in turn should lead to greater efficiency and lower costs. Regulators will expect complete transparency over costs and quality and will monitor provider performance carefully. One way to improve value is to give the user control of his or her own care and many systems are experimenting with direct payments to care recipients in order to personalize care and avoid waste. However, this can lead to some confusion, so the elderly and their families may need help in managing their personal budgets.

Innovative ideas can only succeed with the right supporting infrastructure. For example, the Chinese government gives out subsidies to the elderly and their families, yet these recipients often struggle to find suitable available and affordable long term care services in their region.



Look beyond institutional boundaries

With residential care costs soaring, alternatives are being sought that enable elderly citizens to remain in the community. Retirement villages, such as Beacon Hill Villages and Community Without Walls (both in the US) offer homes close to medical care, community services and entertainment, while various innovative schemes are being piloted to attract volunteers of all ages, including 'time banks' in Japan that offer credits for offering help. Another way to take the strain off traditional healthcare institutions is to use alternative facilities, such as hotels, which complement nearby medical services and reduce the demand for costly hospital beds.

Many people in long term care suffer from complex and multiple chronic conditions, yet receive fragmented and uncoordinated services by providers that are paid for inputs rather than outcomes. An integrated approach to care should anticipate the recipient's needs and manage his or her journey through the care system, bringing together specialists, family doctors, home care nursing, social care and other resources. This approach should be seamless, with common IT systems, shared records and common care pathways. New roles could emerge, such as care coordinators, who facilitate people's journeys through the health and social care system, ensuring recipients are in the right place at the right time, benefiting from early interventions that prevent chronic dependence on the system. Managers with single budgets should coordinate multidisciplinary teams and be measured on outcomes.

Invest in human and technological resources

Many developed nations rely on cheap, imported labor in a sector that is associated with low pay, an unattractive image and a lack of career advancement opportunities. There is an urgent need for training and professional development to attract more talent into long term care and improve productivity, wider medical skills and empathy for recipients. Governments should also consider funding alternative training and certification programs that draw on underutilized groups such as retirees and neighborhood volunteers. It's vital to maintain the vast army of informal carers by providing appropriate financial and non-financial support, involving them in care planning and offering holidays and time off from their full-time jobs.

Advances such as remote monitoring and assistive devices are giving elderly people greater independence and reducing the level of care needed. Information technology can improve the performance and administrative efficiency of care providers, helping detect problems earlier, coordinate workers and monitor trends and outcomes. However, the long term care sector has been slow to adopt new technology and needs to invest not just in the hardware and software, but also in centralizing fragmented organizational structures. Another untapped area is products and services tailored to the 'silver market,' which calls for specialized skills and understanding of these consumers' needs. However, technology cannot replace the need for person-to-person contact and all providers should be aware of the risks of isolating individuals by over-relying on remote interactions.

Change attitudes and policies towards aging

National conversations on aging are few, mainly due to a reluctance to acknowledge the fact that we will all eventually grow old and die. All stakeholders – politicians, policymakers, opinion leaders, professionals, patients' representatives and charities – should enter into debate and recognize that the elderly can make a major contribution to society and should not just be seen as a problem.

There is relatively little substantial research into long term care, especially when compared to healthcare policy. The sector could benefit from a truly global think tank that expands upon the excellent work of organizations such as the International Longevity Centre Global Alliance, to bring together research, trial results and analysis of policy and influence governments and policy makers to share thinking and experiences and come up with creative new solutions. Products for the elderly can improve quality of life but also stimulate economic growth, so governments need to encourage this market.

The challenge of long term care is incredibly significant, with far reaching implications. Without urgent action, the legacy for subsequent generations could be severe. Not every system is ready for radical change, but the ideas and examples in this document point a way forward for further innovation, with a national conversation as the minimum starting point.



"The fastest growing segment here in the US is 85+ and 10,000 baby boomers a day are turning 65."

Bobbie Sackman,

Director of Public Policy Council of Senior Centers and Services of New York City, US

The rise and rise of the elderly population

Old age is a relatively recent phenomenon and until the second half of the 20th century the few that survived beyond 60 were typically cared for by family members.

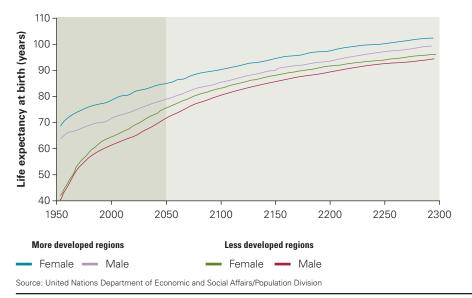
By 1950, however, due to improvements in nutrition and healthcare, average life expectancy had increased to over 60 years in developed regions, reaching 75 by 2000. This figure continues to rise as the longevity gap between mature and emerging countries narrows. United Nations data predict that by 2050, average life expectancy will be almost 80 years in developed regions and more than 70 years in less developed parts of the world.¹

The narrowing longevity gap

As people around the world live longer, the proportion of elderly individuals in communities is increasing.

By 2030, nearly 25 percent of the population of the European Union will be 65 years or older, up from about 17 percent in 2005. According to the 2010 Census by the US Census Bureau, the population aged 65 years and older in the US is expected to more than double between 2012 and 2060, from 43.1 million to 92 million.

Figure 1: Male and female life expectancy at birth, by more developed and less developed regions: 1950–2050



of working persons supporting retired persons fall drastically. The current system is not future ready."

Yeoh Lam Keong,
Senior Adjunct Fellow and

"Demand for universal

coverage will only increase in Singapore as the population

ages and dependency ratios

Senior Adjunct Fellow and Vice President, Institute of Policy Studies and Economics Society of Singapore

The picture is similar in Singapore, which has one of the fastest aging populations in the world, and will have to cope with 870,000 elderly people in 2030. If Singapore's total fertility rate continues at its current pace and if no new citizens or permanent residents are added, by 2050, Singaporeans aged 65 and above could constitute one in every three citizens and permanent residents. The median age of Singapore's resident population will also rise from 39 years, to 49 in 2030 and 55 in 2050.4

China also anticipates a huge rise in the number of people over 60. Its current total of 180 million is likely to soar to 220 million by 2015 and reach 500 million in 2050, which is about one-third of the projected population of 1.5 billion.⁵

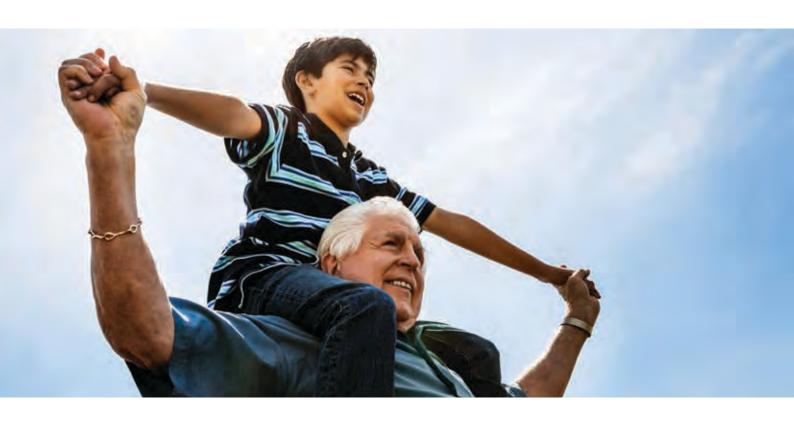
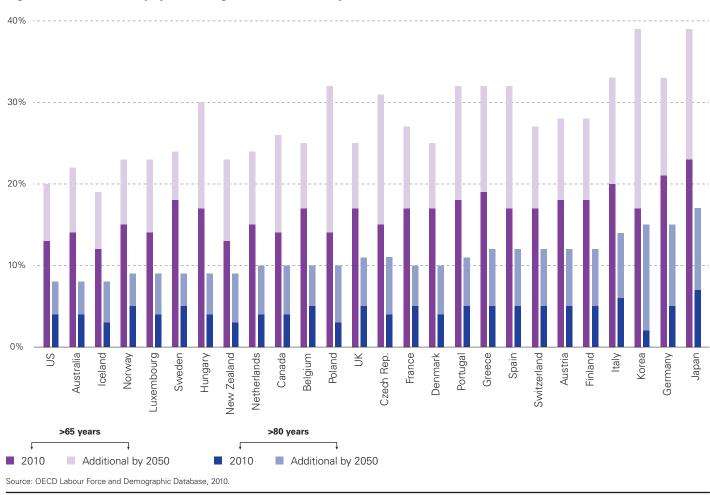


Figure 2: Shares of the population aged over 65 and 80 years in OECD countries, 2015–2050



Pressure on traditional family-based care

With falling birth rates, higher incidence of divorce, a rise in single-parent households and more children living far from their parents, elderly people are far less likely to receive care from their familes.

In Europe, for example, nearly 30 percent of those aged 55 years and over now live alone. Meanwhile in China, the migration from rural areas to cities leaves elderly parents without their family support networks. In 2006, 19ust 40 percent of adult children still lived with their parents – down from 70 percent in 1991 – a pattern that is being repeated in countries such as Mexico.

A shifting burden

The decline in family care further increases the demand for paid and institutional provision, yet this capacity is also threatened by changing demographics. The falling ratios of productive to non-working adults in almost every developed country means the growing long term care budget must be funded by a smaller proportion of the population.

Singapore is seeing a particularly dramatic change: in 2011, seven working adults supported one retiree; by 2030, this ratio is expected to drop to just 2.3:1.7

Long term care costs are an additional headache for governments trying to balance their budgets and could even create resentment and anger amongst younger citizens.

"Hong Kong is a modernized urban society. Households are small and many young people are working outside/overseas. There are fewer children to care for aging parents. 30 percent of the elderly here are living alone or with an elderly spouse."

Dr. Edward Leung,

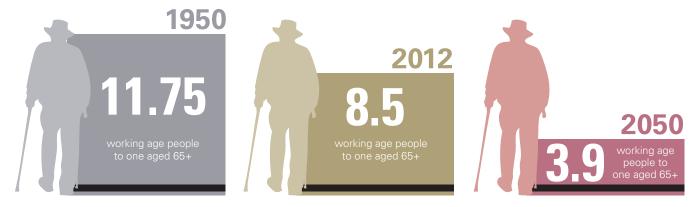
President, Hong Kong Association of Gerontology

"Demand for long term care services in Japan will come from two basic needs: to promote independent life in old age and to decrease caregiver burden, especially for the family."

John Creighton Campbell,

Visiting Research Associate, Institute of Gerontology, Tokyo University, Japan

Figure 3: The number of people of working age (15-64) for each person aged 65+ globally in 1950, 2012 and 2050



Source: The Global Health Policy Summit: Report of the Ageing Societies (2012)

"There is still a lot of stigma surrounding long term care in Brazil. It can bring shame to a family if a member ends up in a long term institution. To some extent, this reflects the view that the institutions are of poor quality. For many people however, institutional care is the best option and much greater effort is needed to improve standards."

Dr. Alexandre Kalache,

President, International Longevity Center, Brazil

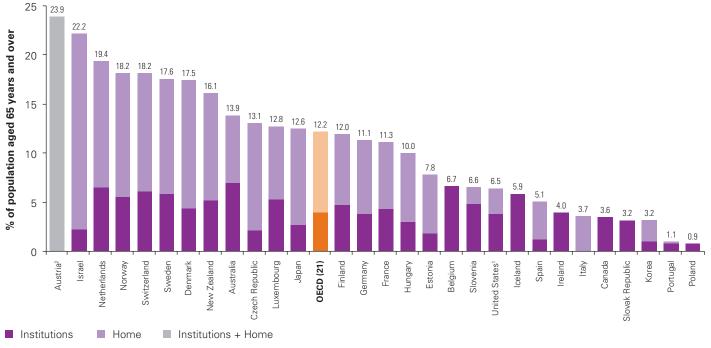
The need for long term care

As people get older, they increasingly require more help with the basic activities of daily living such as eating, bathing, cleaning, dressing and walking short distances. In many Organization for Economic Cooperation & Development (OECD) countries, citizens aged 80 plus are over six times more likely to receive long term care than those aged 65-79.

Where this care takes place can differ widely from country to country. Although about 12 percent of over 65s in OECD countries receive some long term care services at home or in institutions, the figure for Austria is 24 percent, whereas in Portugal and Poland it is just 1 percent.8

One US study states that people who reach age 65 will have a 40 percent chance of eventually entering a nursing home. About 10 percent of the people who enter a nursing home will stay there for five years or more. It is anticipated that by 2020, 12 million older Americans will need long term care. Most will be cared for at home as family and friends are the sole caregivers for 70 percent of the elderly.

Figure 4: Population aged 65 years and over receiving long-term care, 2009 (or nearest year)



Note

1. In the US, data for home care recipients refer to 2007 and data for recipients in institutions refer to 2004.

In Austria, it is not possible to distinguish LTC recipients at home or in institutions. The data refer to people receiving an allowance for LTC, regardless of whether the care is provided at home or in institutions. Because of this, Austria is not included in the OECD average.

Source: OECD Health Data, 2011.

Models for providing long term care

In every part of the world, most care is provided informally at home by voluntary caregivers and non-professionals. In a recent report, the World Health Organization (WHO) urges governments to take greater responsibility for supporting home-based care, by encouraging a combination of private, non-profit and public agencies.¹¹

However, many elderly people will need to receive more formal care, either at home or in an institution.

Institution-based care is provided by nursing homes, supportive living facilities, sub-acute care facilities and assisted living facilities.

Nursing homes offer medical care and select therapies along with room and board and may be certified to provide medical care. Sub-acute care facilities involve skilled nursing services and a higher level of medical supervision, although not to the level of a hospital or acute care facility.

Assisted living facilities provide basic care for chronic illnesses and varying degrees of help with daily living, typically in a home-like environment enabling a high degree of independence and autonomy.

Home and community-based care is increasingly seen as a cost-effective alternative that meets desires for better quality of life and a cultural preference for growing old in one's own home and community - especially in non-western societies. This may involve home healthcare services such as care management, nursing care, wound care, adult day care, with structured healthcare and rehabilitation services aided by informal caregivers.

Quality of life is the main objective

In helping elderly citizens live fulfilling and productive lives, many professionals and non-professionals appreciate the importance of quality of life, as measured by good health, independence, adequate income, family and social relationships, physical activity, happiness, physical living conditions, neighborhood, opportunities for learning and development and religion.¹⁰

Naturally, expectations of quality will vary according to the mental and physical state of an individual and their surrounding cultural values.

Quality also extends to end-of-life care, to provide the conditions for a 'good death,' which acknowledges the feelings and desires of the patient and encourages his or her active participation in decisions about medical options.

"We are seeing growing resistance to traditional forms of institutional care. People want to stay at home or be some place that feels like home."

Michael Adams,

Executive Director, Services and Advocacy for GLBT Elders (SAGE), US

"There is probably a decline in informal caregivers as children are living further away from their parents and the old social networks are not as strong as they used to be. So, we are depending less on informal care than we used to. There has been an on-and-off debate about paying people to take care of their parents at home, but that's not high on the agenda and it is not discussed in a serious manner. There are currently no incentives to be a family caregiver."

Jon Magnussen,

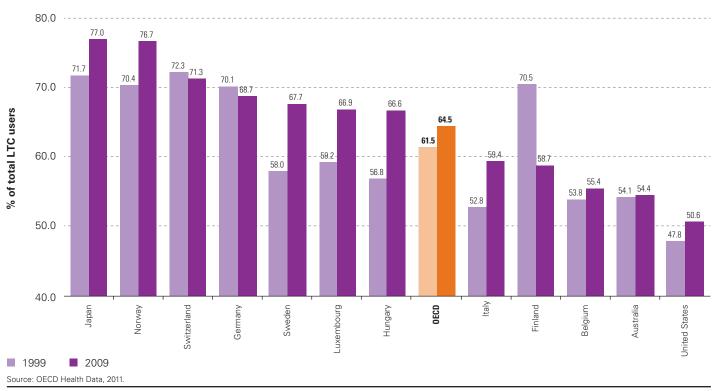
Professor of Health Economics and Head of the Department of Public Health and General Practice, Norwegian University of Science and Technology "Institutional care givers are more concerned about keeping their costs down and limiting their own risk instead of providing what is most urgently needed by the elderly."

Ninie Wang,

Founder and Chief Executive Officer, Pinetree Senior Care Services, China In the past decade, the proportion of elderly individuals receiving care at home has increased in developed countries and currently stands at around 65 percent in OECD¹² countries, although there are national variations. In Japan and Norway, the proportion exceeds 75 percent.¹³

Community-based care encompasses a person's own home, self-contained 'cottage'-style residences, low-care frail-aged hostels and high-care nursing homes. Domiciliary services and neighborhood help schemes can supplement on-site services, as well as more specialized services such as home high-care, hospice/palliative care and dementia care. Lifestyle or care-oriented retirement villages have also grown in popularity, while day respite centers offer support for caregivers.

Figure 5: Share of long-term care recipients receiving care at home, 1999 and 2009 (or nearest year)



Resource challenges

Paying for long term care

Formal long term care services are typically delivered through national and local governments, private and not-for-profit organizations, funded either by tax or insurance. In some cases, public services are contracted out to private providers.

In 2009, total public spending on long term care accounted for an average of 1.4 percent of GDP in OECD countries, ¹⁴ a figure expected to double by 2050. ¹⁵ In the US, home and community-based care spending increased from US\$13.6 billion in 1997 to US\$50 billion in 2009; an annual growth rate of over 11 percent. ^{16,17,18,19}

Even the most socially progressive countries cannot pay for the entire care burden with public money and many elderly people and their families struggle to bridge the funding gap. Eligibility for publicly funded schemes tends to be restricted to those with a high level of need, low incomes and/or net worth. Means testing puts pressure on personal or family savings and pensions and may require elderly people to sell their homes (which in some cases house other family members).

Insurance offers an alternative to running down personal savings. However, the rising cost of long term care has led a number of major insurers in the US to discontinue or suspend the sale of new policies, while others have increased premium rates so much that they have become unaffordable for most people. 20,21,22

OECD nations such as the US, Mexico, Spain and Austria are evaluating or experimenting with insurance as a way to ease the strain on the public purse, ²³ offering preferential incentives such as tax deductions, tax credits and allowances to encourage more citizens to buy policies.

Like many social and healthcare services, long term care solutions may not always be personalized to the specific needs of the individual. This can be wasteful, limit their success and lead to patient dissatisfaction. In response, some governments are testing the effectiveness of direct payments to give users greater choice and control over the care they receive and hopefully lower their costs.

"People often don't realize until they get to the point of needing services that there are eligibility criteria and that they may be required to pay. People don't always expect those things and certainly the families and caregivers supporting those people don't expect those things."

Carolyn Denne,

Head of Service Quality, Social Care Institute for Excellence, UK

"It is always difficult for a government to announce to the electorate that citizens are going to have to pay more money, but the reality is that the government can either finance long term care through taxation or a user-pay system. I think the right way to do it is through a user-pay system."

Paul Gregersen,

Managing Director, BUPA Care Services, Australia

"Care staff are underpaid, undervalued and have low status and low wages and not enough time or training. There is a need for greater respect for care workers, for better status and salaries and for better training."

Baroness Sally Greengross,

Commissioner, Equality and Human Rights Commission, UK

"There are skills and labor shortages in Germany due to the unattractive nature of caregiver jobs. They are hard, poorly paid and often part-time. We have partially compensated by using cheap labor from poorer countries in the EU, like Poland, but it is becoming more attractive for these people to go elsewhere, where the pay is slightly better."

Michael Plazek,

Research Associate, Public Governance Institute, Germany

Workforce shortages

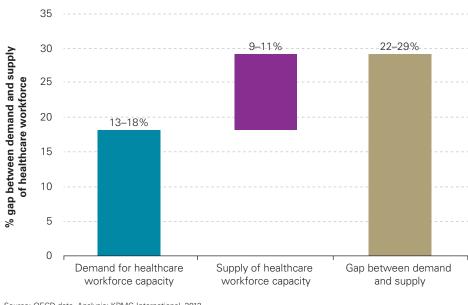
The supply of appropriate healthcare workers is not keeping up with the rapid rise in demand for long term care, with a critical shortage of geriatric medical specialists, nurses and trained caregivers. In most countries, long hours, low wages and status and insufficient professional education and training are all restricting the flow of talent into this sector. At the other end, the workforce is aging, leading to concerns that the gap will widen further and force the recruitment of poorly gualified staff.

To address the shortfall in this and other parts of their health systems, developed nations are attracting care professionals from other countries. Around one-fifth of doctors practicing in OECD countries are immigrants or contractors from abroad, with Australia, Canada, New Zealand, the UK and the US as the main destinations. India is a major source of doctors while the Philippines is the single largest supplier of nurses.24

Such importing of talent can have a negative impact on the country where the professionals were trained, leading to labor shortages in developing countries that have educated people at considerable expense.

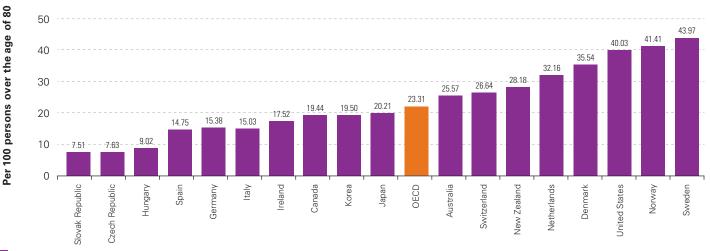
Our analysis shows that by 2022, the OECD countries will be facing a workforce shortfall of somewhere in the region of 22 to 29 percent (see Figure 6).

Figure 6: Gap between demand for and supply of healthcare workforce capacity by the year 2022



Source: OECD data, Analysis: KPMG International, 2012.

Figure 7: Size of long term care workforce per 100 people aged 80 and above in OECD countries (2008 or latest available year)



LTC workers (headcounts) per 100 persons over 80 years old

Source: OECD Health data 2011.

The chronic shortage of health professionals

The WHO estimates that in 2006 there was a shortage of 4.3 million trained healthcare workers worldwide, with the poorest countries most affected.²⁵

Australia

 The number of elderly requiring in-residence long term care is expected to increase by 57 percent by 2020, to more than 251,000, almost halving the nurse-to-resident ratio from 1:6.7 to 1:12.1.30

China

 China has only 20,000 qualified geriatric healthcare workers to care for the country's 167 million elderly,²⁷ a figure expected to rise to 220 million by 2015 and to 500 million by 2050.²⁸

Japan

 Japan has fewer physicians per capita than most other OECD countries. In 2010, Japan had 2.2 practicing physicians per 1000 people, well below the OECD average of 3.1. It is estimated that by 2055, the elderly segment in Japan will account for 40 percent of the population, up from 20 percent in 2010.²⁹

US

 As of 2012, there were 7356 certified geriatricians in the US — one geriatrician for every 2551 Americans aged 75 or older. Due to the projected increase in the number of older Americans, this ratio is expected to drop to one geriatrician for every 3798 Americans aged 75 or older in 2030.²⁶ "In relation to long term care, developing countries are subsidizing the rich world. The reality is that African, poorer Asian and Latin American nurses, doctors and auxiliary staff are recruited by the developed world, often for very poor remuneration and low recognition. They are expected to provide this care with love and respect – which very often families are neither willing nor capable to provide."

Dr. Alexandre Kalache,

President, International Longevity Center, Brazil



Shaping tomorrow's long term care systems

"The US has not been as organized in innovating a national strategy for aging as some other countries in Europe and Asia. We haven't yet had national momentum around how we are going to innovate for double the need with less capacity, including fewer professional caregivers and fewer dollars."

Eric Dishman,

Intel Fellow and General Manager of Health Strategy and Solutions, Intel Corporation, US The fast-increasing demand for long term care means that all nations must act decisively to increase capacity, improve efficiency and fund services, or risk severe damage to the health and wellbeing of the elderly and their families.

With governments globally seeking to control expenditure, they can no longer afford to simply build more hospitals and grow the workforce. Innovative approaches are urgently needed to address issues such as lack of user involvement in their own care, poor coordination between health, social care and other services, insufficient preventative health, limited or difficult access procedures and inadequate standards and legislation.

A number of exciting new ideas and practices for long term care have emerged in recent years and the following sub-sections look at some of these developments and consider their transferability to other health systems and cultures.

These advances should be accompanied by a reassessment of the role of older people in society, repositioning them as valuable citizens able to make a positive contribution – rather than sometimes being viewed as a burden.

Deliver person-centered care

The design and delivery of care must focus on the needs of the individual rather than – as has often been the case – on the systems and procedures of the provider. To achieve this change of direction, providers and commissioners have to place an emphasis upon outcomes, not activity. The elderly have similar expectations and aspirations to other citizens and, in a consumer society, they and their families also expect high standards of service. It is not merely a question of moral and ethical duty; careful attention has to be paid to every individual's dignity, human rights and autonomy.

Long term care recipients want to be addressed in a polite, friendly and appropriate manner and treated with respect for their personal privacy, hygiene and appearance, choice of clothes and furnishings and access to appropriate care and assistance with eating, drinking, washing, toilet and other daily activities.

Older people wish to retain independent control over their lives for as long as possible, regardless of whether they are in their own home or an institution. And they deserve to be treated as equals and given choice over how they live and die.

A study from a UK teaching hospital (Sheffield Hallam) developed a Senses Framework³¹ for long term care that takes into account the needs of both care recipients and caregivers, based upon six key senses (see below).

Figure 8: The Senses Framework



Source: Getting Research into Practice (GRiP) Report No 2., Nolan, M. R., Brown, J., Davies, S., Nolan, J. and Keady, J. Sheffield Hallam University Research Archive

To embrace these values in a care environment, elderly people – unless they are severely cognitively compromised – should play an active role in determining the type and extent of care they receive. This includes the right to ask others to assume responsibility or help to coordinate complex care packages. Direct payments are one option that allow individuals discretion over how their care budget is spent, while care plans can be agreed that reflect each individual's goals.

"In social eldercare and also in end-of-life care in particular, there are many gray areas where a social consensus needs to be reached on what is 'acceptable care.' The government has a big role to play in forging consensus. This is the role of leadership."

Yeoh Lam Keong,

Senior Adjunct Fellow & Vice President, Institute of Policy Studies & Economics Society of Singapore "The rhythms of life are the person's rhythms of life, not the caregiver's. People should be able to receive the services as they want them and not have their daily lives regimented (via showering times, meal times, etc.)."

Dr. Stephen Judd,

Chief Executive Officer, HammondCare, Australia

"The public perception of aged care in Australia is not different to that anywhere else in the world. It is held in fairly low esteem. Nobody wants to go into an aged care home; that is considered the last resort. We have to raise people's confidence in residential aged care."

Paul Gregersen,

Managing Director, BUPA Care Services, Australia Care providers should also acknowledge that 'quality of life' is not the same as 'quality of care'. Overly structured and complex care programs could actually impair quality by restricting people's ability to make choices and pursue their own ambitions. Such a philosophy represents a significant change in mindset for the professionals caring for the elderly.

Giving individuals a greater say in their care can also save money, as they may well choose to avoid what they regard as unnecessary or unwanted procedures and medications – including the prolonging of life when in great pain or discomfort.

As care recipients gain more autonomy over their care, the burden of risk should accordingly shift, to some extent, away from the health professional and more towards the decision-maker; i.e. the elderly person and his or her family members. If the chosen care is considered less medically 'safe' than more orthodox approaches, then the care recipient, family and caregiver need to jointly agree on a contract acknowledging the risks within the care program. For such change to occur, all parties should accept that a relatively 'risk free' environment can stifle freedom and independence.

Improve the experience in care homes

Moving into a long term care institution is a major life step that can be highly unsettling. However, the quality of care in a residential facility can be compromised by a negative culture, over-emphasis on policies and procedures, lack of staff training, poor recruitment and screening of staff, inadequate standards and subsequent regulatory monitoring.

It is therefore vital that the home creates a sense of community, with meaningful relationships between staff, residents, family, friends and nearby inhabitants. UK studies suggest that approximately 3 percent of residents' time is spent on constructive activities³², so there should be a stronger emphasis on meaningful activities, enabling residents to contribute to day-to-day life and pursue their own interests.

End-of-life care is a further priority, as multiple, often chronic health problems can make it difficult to define when someone is dying, with the accompanying uncertainty leading to impersonal, reactive and inappropriate care³³. Staff also need the right level of support and training, so leadership should ensure that workers' personal and emotional needs are also met.

Integrate care

Many long term care recipients have complex and multiple chronic conditions, yet the various services they receive tend to be poorly coordinated and fragmented, with visits from numerous professionals and conflicting advice. Providers are often paid for the hours of nursing care they deliver, rather than on outcomes, with a strong bias towards acute treatment.

As with other areas of health and social care, there is a growing interest in integrating care by bringing together family doctors, geriatricians, community nurses, occupational therapists, physiotherapists, speech therapists, dieticians, pharmacists, social workers and mental health workers. Over time this approach should mature to offer seamless services, with common IT systems that allow data sharing, common care pathways and accountable managers with single budgets coordinating multidisciplinary teams, leading to greater efficiency and better outcomes.

"Integration is essential and this is currently a real problem. Plans are not coordinated, health and social care are not integrated and housing is not incorporated. There is a need for integrated budgets and services."

Baroness Sally Greengross, Commissioner, Equality and Human Rights Commission, UK

Geriatric Flying Squad³⁴

The Geriatric Flying Squad is a rapid-response, multidisciplinary nursing service for sub-acute care recipients living at home. Developed in 2010 by a hospital in New South Wales, Australia, it includes a clinical nurse specialist, a doctor specializing in geriatric care, a social worker, occupational therapist, physiotherapist and clinical psychologist.

Referrals come from various sources including patients, caregivers, family members, doctors, aged care assessment teams, the police and paramedics. Nurses triage referrals by researching medical records and talking to the family or the care recipient's doctor, with an on-site visit typically occurring within 1-2 days.

Comprehensive assessments in the care recipient's home include medical, social, cognitive and environmental dimensions, with patients discharged after 3-4 months. Team members meet weekly to discuss current cases and coordinate goals and treatments.

Since the squad began, hospital emergency visits by the community's elderly have fallen, while quality of life measurements have increased for those receiving the squad's care.

"Multidisciplinary or interdisciplinary teamwork should form the backbone of the long term care system. Building the most effective interpersonal and inter-organizational long term care models among and between professionals, paraprofessionals, agencies and institutions should be a priority."

Dr. Dennis Kodner, International Visiting Fellow The King's Fund, Canada "The case manager should be the one that has the most logical position to execute the role. That could be the home care nurse, family or a social care worker. It is crucial that we do not institutionalize case management. That will only lead to higher costs."

Gabrielle Davits,

Chief Executive Officer, Foundation for Regional Healthcare (SVRZ), the Netherlands

"We have introduced a nursepractitioner model here. These individuals have been assigned to a couple of homes where they provide support within a specified geographic area. This helps prevent calls for emergency services that immediately send the elderly person to an emergency department."

Scott McLeod,

Chief Executive Officer, Central West Local Health Integration Network, Canada Caring for the elderly in hospitals is a huge – and in many cases, unnecessary – cost. As health systems are increasingly held to account for value and health outcomes (rather than volume), an integrated model can improve the quality and range of treatment within residential and nursing homes, which should reduce lengths of hospital stay and admissions.³⁹

Elderly institutions require high-quality support from geriatricians, specialist nurses and other highly trained clinicians, while the care home staff will also need training to improve their skills in areas such as intravenous fluids, syringe pumps and pain management. Technology can play a big role, to enable specialists to remotely offer advice and review medications.

However, integration also carries some risks, not least by making patients overly dependent upon a single care provider. Such concerns can be mitigated to some extent by requiring integrated providers to offer choice and through carefully monitoring patient satisfaction and other performance measurements.

Program of All-Inclusive Care for the Elderly (PACE)

The PACE model was initially developed in San Francisco, US in 1973 and is a publicly funded system of integrated care for eligible frail and disabled older adults living in the community. The program aims to enhance quality of life and autonomy, maximize dignity and respect for older adults, preserve and support older adults' family units, 35 and enable recipients to remain in their homes as long as possible.

PACE enrollees attend an adult day health center, where they receive most services from a multidisciplinary care team. The program covers almost all services provided by nursing homes, including primary care, periodic examinations by doctors and nurses, occupational and recreational therapy, home healthcare and hospital care. Through care coordination and capitated financing it reduces costs by delaying nursing home care and shortening hospital stays.³⁶

In 2012 the US state of Wisconsin began pilots of Virtual PACE, ^{37,38} for eligible individuals wishing to receive their services in community settings. The program will serve approximately 20,000 frail elders and adults with physical or developmental disabilities who require nursing home care.

This initiative hopes to fully integrate the two major US public systems, improving delivery and financing of primary, acute, mental health and long term care services. It aims to reform the current fragmented system of care by eliminating artificial barriers and treatment patterns resulting from differing and sometimes competing regulatory and financing arrangements. Outcomes should be improved through incentivizing better primary care, stronger management of care transitions and more flexible service delivery.

Rethink medical care

Medical supervision and care planning in many long term care institutions is often inadequate, with a lack of regular patient reviews, inconsistencies in prescribing drugs (leading to under- or over-treatment) and a failure to deal with mental health problems, particularly at the end of life.

While medical professionals are well-trained to deal with crises, there is relatively less emphasis on managing patients who are experiencing a gradual decline or transitioning into long term care.

Consequently many people in nursing homes receive an excess number of medications, which can lead to falls, admissions to hospital and even a shortening of life in the case of some antipsychotics used to treat behavioral problems in dementia⁴⁰. The use of medications should be determined by the goals and wishes of the individual and the other available care and support. For example, when treating Parkinson's disease there is a trade-off between lucidity and mobility; this balance may change when a person moves from his or her own home to a long term care facility. Sedation, statins, antipsychotics, beta-blockers and supplemental feeds all require similar consideration.

Long term care professionals need more training in the culture and specifics of care, with a stronger emphasis on well-being (as opposed to cures), to help patients achieve personal goals rather than simply biomedical indicators such as blood pressure.

Many healthcare practitioners fail to recognize or treat conditions in the elderly that are often reversible, mistakenly believing that little can be done. A systematic approach to assessment can make a huge difference; incontinence, 'failure to cope' and falls are not diagnoses but consequences of underlying conditions and require proper investigation. Pain control is also often managed poorly for older people.

Relatively few randomized control trials include either the very elderly or people with multiple conditions, so an increase in research should reveal more about the longer term impact of multiple medications on these groups. Since trials are expensive, longer term studies should be established, with nursing and care homes contributing by providing data on their prescribing practices and outcomes.

"Medical professionals are fatalistic about conditions of old age. They fail to actively treat conditions in older people that would respond, and they are poor at identifying underlying social and psychological factors."

Dr. David Oliver,

National Clinical Director for Older People, Department of Health, UK

"The transition from independent living to being in a long term care program or an institution is a significant one. There is no clarity on the medical purpose in this phase of life. What is required is a fresh approach centered on enabling individuals to have the best quality of life."

Dr. Clive Bowman,

Medical Director, Bupa Care Services, UK "It astonishes me how little training professionals receive around aging. Geriatric care modules in medical training are often quite minimal. There is a long term issue that we haven't got to grips with yet, which is: how do you train the workforce so they can look beyond their specialism and help provide holistic care?"

Ruthe Isden,

Public Services Program Manager, Age UK

"In my ideal world all nursing homes in the Netherlands would be closed today. A majority of the care could be delivered in a home care setting. The other part should be designed and delivered in small-scale homes. The alternatives should be as close to the 'old life' as possible and embedded in the community."

Jos De Blok,

Founder and Managing Director, Buurtzorg Nederland

Look beyond institutional boundaries towards the community

As people age, most prefer to continue to live in familiar environments, which calls for accommodation that is suitable for those with declining physical or cognitive abilities. In some cases this can be achieved by adapting existing homes, but a more innovative alternative is the development of age-friendly urban and suburban communities.

Retirement villages are proving increasingly popular, supported by informal and professional health and social care providers. These may consist of resident-owned homes built around facilities that offer medical care, community services and entertainment, although such establishments tend to be more costly to create and run.

A more cost-effective approach, pioneered by Beacon Hill Village in Boston, US, 41,42 is to establish 'virtual villages' within existing urban or suburban communities, where elderly residents (and other volunteers) in a neighborhood are recruited to help one another with basic services such as transportation, home maintenance and health and wellness. Although many of these villages rely almost exclusively on volunteer help, some also include paid staff or contracted service providers.

Also in the US, Community Without Walls in New Jersey is a village that works with a local non-profit organization and relies mainly on informal volunteers. There is an annual fee of US\$30 to join the community, with a charge of US\$300 for a higher level of assistance. Other services are available for an additional cost.⁴³

In 2012, Japan introduced a new Integrated Community-based Care System targeted at aging baby boomers. This concept aims to provide various support services, including welfare, healthcare, long term care and preventative measures within existing communities, accessible within 30 minutes. As a first step, there are 24-hour home visit services, which can be reimbursed under the national long term care insurance scheme. Senior housing developments now have safety monitoring and other services that are subsidized by the government.

Despite their many benefits, exclusive communities may also lead to ghettos that are socially isolated from the rest of society and future models probably need to be more integrated with existing infrastructure.

Social versus medical models of care

Long term care is a unique hybrid of traditional medicine and social services and many practitioners are still seeking to find the best combination of the two.

Doctors are trained to cure illnesses and heal injuries, with symptom relief a secondary priority, so they often fail to recognize and address emotional, spiritual and psychological suffering during the course of treatment. Many aggressive and expensive medical procedures and treatments are painful and demoralizing and, worse still, produce little improvement in chronic elderly patients experiencing the inevitable decline of old age.

In contrast, social care professionals are primarily concerned with comfort, pain relief, dignity and the ability to function as a normal social individual.

Consequently, the medical and social care sectors may not always work together in the best interests of the patient and elderly people can find themselves in hospital on multiple medications, when they would be better off in a nursing home – or even in their own homes – receiving more personalized, attentive care.

Insufficient integration and coordination between health and social services providers exacerbates this dilemma, pushing up costs of care while compromising comfort and quality of life for recipients.

Transforming care environments⁴⁴

The Eden Alternative was founded in 1994 in the US and now has about 300 registered homes in the US, Canada, Europe and Australia. Its mission is to create elderly care environments that enhance the lives of both care recipients and caregivers, shifting care out of institutions and tailoring services to the unique needs, preferences and desires of recipients.

This concept of person-centered care has been developed with certified trainers facilitating change by working closely with stakeholders that include non-profit, faith-based, or home health organizations, adult day services, hospices and independent living communities. One such partnership is with a non-profit foundation to promote wellbeing and a better quality of life for individuals with cognitive disabilities and the staff who support them.

Intergenerational relationships with younger members of the community are also encouraged – including volunteers as young as 11 – to help change attitudes on aging and establish a fresh pool of younger carers.

The Eden Alternative provides a wide range of training and teambuilding services, as well as caregiver certification and maintains a registry of trained, certified care providers that adhere to the organization's standards and principles.

"We need to think more about combating social isolation and reducing dependency. This requires more customer-driven activities that can cater to a range of interests and abilities. I am talking about opportunities to develop and maintain a social life, integrating housing schemes into the local community, designing agefriendly environments, using restaurants and shops as venues for social interaction and ensuring access to extra care with support outside core hours of work, including the use of technologies. These are the virtues that good housing with care can deliver."

Jeremy Porteus,

Director, Housing Learning and Improvement Network, UK

"The ability to deliver care to the home is hampered in the US by the almost obsessive belief that all healthcare must be done in a clinical setting."

Eric Dishman,

Intel Fellow and General Manager of Health Strategy and Solutions, Intel Corporation. US

"We have to think about long term care from the perspective of community-based care and to reimagine the resources that already exist in the community with a long term care viewpoint. We have to start thinking about how an organization's services can be integrated into delivering long term care needs.... in a more efficient and client-centered manner at the community level."

Michael Adams,

Executive Director, Services and Advocacy for GLBT Elders (SAGE), US

Get more out of communities

As people become busier and more socially isolated, they are less likely to volunteer in their own communities. One way to attract citizens is through 'time banks': non-profit organizations that measure and reward the time people spend helping each other. Those who help the elderly or disabled are rewarded with time credits, which can be used to claim assistance for themselves or for another person of their choice. This concept originated in Japan where it is called Hureai Kippu (literally, "Caring Relationship Tickets") and awards different amounts of credit for different types of tasks. For example, more credits are given for providing help after normal working hours or for helping a person in need with personal care.

There is also a huge potential pool of fit and healthy retirees to call on (the Grand-Aides program being one such initiative), while the Eden Alternative shows that it is possible to attract younger volunteers.

Supplementing the workforce

To address the growing shortage of healthcare workers in the US and to reduce costs, a health system in Houston (the Grand-Aides Foundation) now recruits experienced and often older local community members that want to give something back. These individuals receive extensive training plus certification as a nursing assistant, medical assistant or community health worker.⁴⁵

The program aims to improve access to primary or chronic care, (especially in rural areas), reduce congestion in clinics and hospitals by caring for people at home and educate care recipients in preventive and self-care.

Members of the 'corps' are typically employed by a primary care clinic and may be part of a patient-centered medical home. They are supervised by nurses and function as nurse 'extenders.' Each member helps care for 200-250 families and attends to care recipients in their homes, treating primary care conditions.

Early results indicate a fall in visits to clinics and emergency clinics of around 60-70 percent, while cost per encounter was estimated at just US\$17, compared with figures of US\$175-200 for clinic visits.

Transitional/chronic care members can also accompany the patient home on the day of discharge and make daily visits to those with chronic diseases, to achieve a targeted 25-50 percent reduction in 30-day readmissions.

Expand the range of care locations

Another way to take the strain off traditional healthcare institutions is to use alternative facilities. One approach being pioneered in Europe is 'patient hotels'46 where healthcare providers manage treatment and hotel providers are responsible for recovery. This solution may be particularly useful for patients with enduring mental health needs.

These hotels are considerably cheaper than equivalent hospital beds and can range from accommodation-only bedrooms to fully staffed units with medical capabilities, located next to hospitals. Patient hotels could be owned by hospitals, leisure groups or joint ventures of the two. In the UK in 2012, a private property group called Pillar Land Securities was planning to build two such developments.

In Indonesia, banks have become a surprising provider for healthcare. Grand-Aides Foundation (see box on page 26) is working with Bank Tabungan Penslunan Nasional in Jakarta to provide health services in its branches to elderly customers.

Physicians – paid for by the bank – work at 10 branches to provide health checks and advice four days a week, with the bank confident that healthier customers will be able to fulfill their repayment obligations. The doctors are assisted by trained Grand-Aides, who adhere to approved medical protocols and also handle inbound calls from sick clients, as well as dealing directly with more basic medical problems. The bank hopes to ultimately have a team in every branch to serve its 5 million clients and families.

Invest in the formal and informal workforce

The workforce is the cornerstone of any long term care system, yet many countries are experiencing severe shortages. Some rely on cheap, imported labor from emerging countries. This may be unsustainable, as over time emerging countries will improve their own infrastructures and raise salaries, reducing the availability of immigrant staff.

Regardless of where staff come from, all providers are seeking greater productivity, empathy and discretion, which requires considerable investment in support and training, to improve skills and emotional wellbeing. Better trained staff are also less likely to use sedation and restraint.

"[For parental leave] you can be out of the labor market for three years and still have the right to return to the same employer. Yet, we don't have such a benevolent system for employees to take leave from their jobs to take care of elderly parents."

Juhani Lehto,

Professor of Social and Health Policy, University of Tampere, Finland "We have to produce more primary care physicians and we have to teach them the basics of geriatric care. We have to develop 'extenders'; people who can extend the care team and take on some of the responsibilities that geriatricians and primary care doctors are burdened with now. These extenders might include community health workers or members of the care receiver's family."

Eric Dishman,

Intel Fellow and General Manager of Health Strategy and Solutions, Intel Corporation, US People working in the long term care sector need more structured career paths, as staff tend to leave due to lack of opportunities. Similarly, to increase the pool of workers, governments might consider funding training for under-utilized groups such as retirees or neighborhood volunteers. This could include national domestic service programs, or partnering with academic institutions to establish vocational programs for students, combining academic research with care giving.

As mentioned earlier, staff will have to improve their medical skills to cope with patients with multiple morbidity and/or those requiring several medications. There is also a lack of doctors specializing in older people's medicine, so investment is needed to train more clinicians.

Support informal carers

Many people who would otherwise need institutional care or costly specialist homecare are looked after by members of their family, some of whom are themselves old. It is not uncommon for people to enter long term care institutions due to the death or illness of their carer. Given the huge role informal carers play in long term care, the right support can save money and improve outcomes.

Some countries, like Germany, are paying carers for their time, which could also encourage more family members and friends to help, thus reducing the strain on the health and social services systems. However, by building up expectations of financial rewards, there is a danger that informal carers will no longer work for free in any circumstances, which could ultimately reduce the amount of caring and increase the cost.

No health and social care system has the funds to pay every informal caregiver and society would arguably be poorer if this were to happen. There are however other, more effective, ways of supporting caregivers (see page 30 – "Seven ways to better support caregivers").



Empowering caregivers⁴⁷

Buurtzorg is a home care provider in the Netherlands with an innovative approach to home health and personal care services. Nurses work in independent, self-accountable teams responsible for the complete care delivery process, from assessment and planning to coordinating patient care.

Each caregiver team is responsible for a defined group of care recipients and is empowered to make care giving decisions on the spot. Teams are supported by a small, centralized service organization that manages information and administration.

This model allows care giving teams to spend most of their time with care recipients, who in turn benefit from interacting with a familiar person that understands their needs and concerns.

Care quality has risen, as evidenced in dramatically improved satisfaction ratings among both caregivers and care recipients. Buurtzorg has accomplished a 50 percent reduction in hours of care and workforce productivity has gone up while absenteeism has fallen. In recognition of these achievements, Buurtzorg was chosen as Dutch employer of the year in 2011 and 2012. 48,49,50,51

Proposed Geriatric Education and Research Institute

The Singapore Ministry of Health has proposed a national-level Geriatric Education and Research Institute, modeled on similar institutions in the US, such as the US Department of Veterans Affairs, the Johns Hopkins University and the University of Pittsburgh Medical Center.

The Ministry hopes to increase the proficiency of healthcare workers caring for the elderly, via general and specialty geriatric modules, based on internationally recognized standards. One of the Institute's key roles will be to educate all healthcare professionals to understand the special needs and clinical management of elderly patients.

Geriatric medicine research will cover areas such as age-related physiological and clinical changes and the consequent applications in clinical care, treatment modalities, disease prevention, risk factors management and health promotion.

The Institute will also collaborate with various geriatric departments, community hospitals and primary care providers to come up with new models of transitional and community geriatric care.

"80 percent of all care giving is done by family members across the nation. Family members are asked to go home and do things they are not trained to do, such as medical procedures, injections and moving the patient."

Bobbie Sackman,

Director of Public Policy Council of Senior Centers and Services of New York City, US "Almost half of the 2.5 million Germans receiving long-term care are cared for solely by family or friends and they receive just a little bit of money through their care insurance."

Michael Plazek,

Research Associate, Public Governance Institute Germany

"There has been a fair amount of effort put into support for informal caregivers in Australia, such as funding, organized respite and other support arrangements."

Steve Teulan,

Director, UnitingCare Ageing, Australia

Non-financial support for informal caregivers in Sweden⁵²

Between 1999 and 2001 the Swedish government trialed a development grant that gave local government considerable freedom to provide informal carers with non-financial support.

Basic respite care was already widely available and was augmented with day care and professional carers to replace informal caregivers. Individual counseling and training was also significantly increased, along with recreation benefits and other types of support. Nearly half of the Swedish municipalities appointed a special public officer to act as a consultant and contact point for informal carers.

Surprisingly, many informal caregivers actually refused non-financial support when it was offered. The Swedish National Board of Health and Welfare concluded that there is a continuing need to develop the quality of these services.

Seven ways to better support caregivers

- Educate and train caregivers and give them easy access to relevant information
- Use technology to create care coordination tools enabling caregivers to work more closely with health and care professionals as part of a more integrated approach. This could include offering personal budgets to individuals
- Work with the whole family and the caregivers to develop care plans
- Ensure that professionals recognize informal caregivers' expertise and are respectful of their opinions and knowledge of the care recipient
- Be responsive to requests for assistance from caregivers, particularly in a crisis
- Provide personal support for caregivers, including time off (where a professional acts as a temporary replacement) and psychological help where necessary
- Allow people to take time off from their day job to spend time as an informal caregiver, including the option to work flexible hours and/or part-time

Embrace technology

Long term care remains highly labor-intensive and technology can bring significant efficiencies and improve life for the elderly.

Information technology can ensure a real time flow of data between care recipients and providers and make administration, record keeping and reporting more efficient. ^{53,54} Remote monitoring systems have reduced the level of care required by elderly dependents, alerting providers when intervention is necessary ⁵⁵ and enabling many people to be treated at home or at local centers rather than in hospitals. This raises capacity, brings substantial savings and gives people greater independence. ^{56,57} In Finland, voice systems linking nursing home patients to caregivers have had a major impact on productivity.

Health monitors – worn externally or as implants – can communicate with wireless networks and are especially useful for people with cognitive and physical disabilities; health professionals can monitor vital functions and detect emergency conditions and developing diseases at an early stage. Small accelerometers, for example, can show when a patient falls, using GPS (global positioning system) to guide health professionals to the location for treatment.^{58,59}

Sophisticated data analysis enables more accurate case identification and risk assessment, while some home and community care service providers use mobile technology to communicate with employees traveling between clients' homes, as well as to track productivity.

Despite the huge potential gains, long term care providers have been slow to adopt new technology, partly due to the continued availability of low-cost labor. They are also deterred by the high costs of installing equipment and the need to centralize often fragmented networks of care homes. Residential or nursing homes are also concerned with how remote communications can lead to less human contact and greater loneliness and isolation. Technology use should therefore still maintain a reasonable level of personal interaction.

"In terms of technology, China is actually quite up to date with the other countries in looking at telecare and mobile health. We are starting to look at developing all the services for care recipients in their home and using these technology networks to reach out to build transitional care....it's what we call the virtual nursing home."

Ninie Wang,

Founder and Chief Executive Officer, Pinetree Senior Care Services, China

"Telecare is just taking off.
There is more evidence now about its benefits in terms of keeping people out of hospital, keeping people independent and the prices are now coming down. We need to shift to a model where people can buy these telecare products themselves."

Richard Humphries,

Senior Fellow, The King's Fund, UK



Photo of Paro interactive robot courtesy of Dr. Takanori Shibata, AIST, Japan

"Older adults are reluctant to adopt technology because they find it intrusive. Technology cannot replace people or the concept of a community."

Dr. Ruth Finkelstein,Senior Vice President for Policy and Planning, New York Academy of Medicine, US

From pets to platforms

Recent strides in social robotics can help long term care patients with daily chores and provide comfort and companionship. 60

Paro is an interactive robot resembling a baby seal that responds to sounds and can learn a name (see photo above). When stroked, it moves its tail and opens and closes its eyes and can show emotions such as surprise, happiness and anger. It has been approved as a medical device in the US and is now being used in a number of eldercare centers around the world. 61

The innovative 'My Spoon' self-feeding tool enables the elderly to feed themselves with minimal help from their caregiver, giving greater control over what they want to eat. A joystick moves the spoon up, down, left and right, so that users can eat any food item when they please and by switching to semi-automatic mode, the spoon will grasp a food item and carry it toward the individual's mouth.

The UMO (Universal Monitoring) platform, designed by Netherlands-based company Verklizan, allows alarm receiving centers to monitor a range of communications and security devices (including video), to help individuals remain independent in their homes. ⁶² Over 800,000 individuals are linked up to these platforms across 14 European countries.



Focus on outcomes

With funding under pressure and a lack of formal quality measures, many payers are striving to obtain the lowest price for care. Raising quality can bring down costs, although an upfront investment is required. However, attempts to merely cut costs may actually reduce quality. The overriding trend in healthcare is towards value – defined as outcomes divided by costs – so long term care providers need to be incentivized accordingly.

Regulators will be scrutinizing payments to ensure that any savings by insurance companies, government or other payers are not at the expense of quality. Providers will therefore be expected to be open about all their costs, with outcomes carefully monitored.

In a number of countries, users have been given personal budgets in an attempt to increase their level of control and to personalize care. Some recipients – notably the very frail elderly – are less in favor of direct payments, due to the confusing array of choices and the administration. This approach can also lead to misuse or abuse, as individuals and families attempt to procure cash that will be used for other purposes; the use of vouchers can help reduce such a risk.

A report by the Health Foundation states that there is currently limited data showing whether direct payments improved quality, as most of the available research is descriptive rather than empirical, with a lack of conclusive data on the impact on health outcomes, quality and cost effectiveness.⁶³

In the US, Medicaid Cash and Counseling programs allow homebound, disabled patients to manage their own budgets and choose services that meet their needs. 64 And in the Netherlands, citizens pay 12.15 percent of taxable earnings (up to a specified limit) into a fund that is used to purchase services (including residential care) for people with severe physical and mental disabilities. 65

"The whole 'personal budgets' approach can be difficult to communicate as it is hard to make people accept that care recipients will make sensible decisions about what is important to them."

Carolyn Denne,

Head of Service Quality Social Care Institute for Excellence, UK "If you receive home care or reside in service housing you can apply for state subsidies (which you cannot get in institutional care)."

Dr. Harriet Finne-Soveri,

Chief of the Ageing and Services Unit, National Institute for Health and Welfare, Finland

The choice for elderly Germans⁶⁶

Since the mid-1990s, German citizens covered by long term care insurance have been able to choose a cash payment (which is significantly lower than the cost of traditional services), direct services (including residential care), or a combination of the two.⁶⁷

Eligibility is not based on age, but almost 80 percent of beneficiaries are 65 years old or older. Recipients are categorized according to three levels of dependency. According to the latest figures, of Germany's 82 million people, roughly 79 million have some form of long term care insurance. Of those, roughly 88 percent are public and 12 percent private ⁶⁸.

Most beneficiaries of Germany's long term care insurance stay at home (69 percent). That way they can opt for a monthly cash payment – in 2012 between €235 (US\$ 300) and €700 (US\$ 930) – to cover their care needs or can receive in-kind benefits – in 2012 between €450 (US\$ 600) and €1550 (US\$ 2065) – in the form of professional care services. People can also give the money to a caregiver friend or relative.

For the remaining 31 percent of beneficiaries living in care, these payments only cover a portion of the monthly cost of institutional (nursing home) care. If they can, recipients supplement the long term care insurance with other insurance or pension schemes. If they can't, their families are obliged to step in and, if not, recipients must apply for social assistance as a last resort. Interestingly, most cash claimants preferred to receive care from family members, only using professionals in more serious circumstances or when informal caregivers were not available.

One concern is that, by paying informal caregivers, expectations are raised, which could ultimately reduce the number of people willing to provide care for free. From a government planning perspective, however, a high cash take-up makes future budgeting more predictable.

Taking control of care – and the associated finances – is a big step that can be very challenging for many elderly people and their families. Before introducing direct payments, care receivers should be advised on how to manage their finances and purchase medical and social care and develop a plan to improve their quality of life.

Consumer directed care

Consumer directed care (CDC) is both a philosophy and an orientation to service delivery where consumers have more choice and control over the services they receive and the design of these services. Studies have shown that CDC results in better quality of life, independence outcomes and satisfaction with care and may enable more older Australians to stay at home longer.

From 2010-2012, the Australian Government Department of Health and Ageing made an initial 700 flexible packaged aged care and respite places available to demonstrate CDC approaches in a community aged care context. An evaluation of the initiative was subsequently conducted.

The key lessons learned from the implementation and operation of the initiative:

- High care need participants and their carers were more interested and actively involved in planning and decision-making than low care need participants.
- Participants chose the similar types of supports as those available under standard packaged care and exercised choice and control over how the services were delivered (mostly around flexible service delivery and continuity of support workers).
- For CDC, there can be a conflict between the level of consumer choice to expend their funds as they wish and a provider's responsibility and duty of care to ensure they receive supports they need.
- Though there are early indicators that CDC for respite and high care needs consumers increases participants' satisfaction and could be relatively cost-effective, additional data collection will allow the outcomes and cost-effectiveness of the initiative to be better assessed. The evaluation has already had some impact, informing the Australian Government's decision to roll-out additional Home Care Packages to older people from 2013 and a commitment that these packages would be 'consumer-directed'.

*Consumer-Directed Care – Way to empower consumers, *Alzheimer's Australia*, May 2007, http://www.fightdementia.org.au/common/files/NAT/20070500_Nat_NP_11ConsDirCare.pdf, Accessed 13 February 2013.

"The vast majority of individuals can never save enough money for their own long term elderly care. The size of families is also too small nowadays to pay for and support their parents' long term care. We need to change the current ideology of expecting individuals and families to finance long term care."

Dr. Mary Anne Tsao,

President and Founding Director, Tsao Foundation Singapore "Financing in Germany – particularly for long term care insurance – will be challenged by the demographic changes. The financing for care programs should be sufficient to 2014 and then insurance will likely become more expensive."

Michael Plazek,

Research Associate, Public Governance Institute, Germany

Develop better funding models

Funding long term care is a huge issue that exceeds the scope of this paper and warrants its own separate study. Different countries are considering various mixes of public and private models, yet the scale of the challenge calls for innovative approaches to financing that are likely to challenge existing thinking.

Building a more skilled workforce, redesigning services and implementing new technology may ultimately bring greater efficiency, but such actions also require a level of investment beyond the means of many countries. Growing demand only adds to the shortfall and there has been a reluctance by politicians and policymakers to engage with this issue, especially in the wake of a continued recession.

Governments should think about how they can encourage working age citizens to save more for retirement and take out specific long term care insurance policies. Older people would also benefit from a wider range of equity release schemes to realize the value of their properties.

Overview of funding and policy initiatives adopted by different countries⁶⁹

Type of policy	Countries	Examples
Expanding home care provision	US, Japan, Sweden, Canada, Ireland, New Zealand, Poland, Belgium, Slovakia. ⁷⁰	 In the US, the number of managed care programs (supported by individual states) increased from 43 in 2007 to 84 in 2012, provided by 29 different states.⁷¹ New York State alone plans to shift 70,000–80,000 people into managed care outside of institutions by 2014.⁷² In February 2012, the Ministry of Health in British Columbia, Canada announced a grant of US\$15 million to United Way (a non-profit volunteer organization) to provide non-medical home support for elderly dependents in 65 communities over the next 3 years. The project focuses on community-driven programs to support seniors to become more independent.^{73,74,75} Mexico, New Zealand, Finland and Slovakia have initiated training and support for informal caregivers, to promote home care.⁷⁶
Discouraging institutional care	Hungary, Australia, Finland, Germany, Czech Republic, Sweden, Luxembourg, New Zealand	 Hungary has restricted budgets and imposed stricter criteria for admission to nursing homes.⁷⁷ Australia has proposed removing the practice of automatically providing all high-intensity care in nursing homes, to give more options for all types of care at home and in the community.⁷⁸ In 2011, the US government reduced reimbursement rates to nursing homes for Medicare patients by 11 percent. Medicare payments currently account for nearly one-fifth of the nursing home revenues.⁷⁹
Introducing monetary incentives	The US, Austria, the Netherlands, Sweden, UK, Switzerland	 In 2012 the US government allocated US\$3 billion in grants – in the form of higher payments to individuals – to increase the availability of long-term community-based services and support.⁹⁰ In April 2012, the state of New Jersey, US announced a major increase in funding for a major healthcare program supporting home care. Under the program, the state allows nursing-home-eligible Medicaid recipients to hire and direct their own home-based support service providers (such as visiting nurses and housekeeping aides).^{81,82}
Global budgeting	Canada, Australia, Taiwan, US, UK	• In recent years, several countries (including Germany and the UK) have adopted 'global budgeting,' creating a common funding pool for institutional care and home- and community-based services (instead of separate budgets for the two categories). This has not only enhanced flexibility in long term care spending, but also enabled better control. Additionally, with a single administrative authority, resources have been reallocated from institutional to home- and community-based care, giving consumers more choice. 83,84

The burden of paying for future long term care inevitably falls on future generations. Younger people may be unwilling to make such a commitment and resent the need to support the elderly when times are tough enough already.

In a bid to cut costs, a number of countries are rebalancing their long term care systems by relying less upon institutional care and more on home and community care. The table on the preceding page looks at some of these initiatives and there are further examples in "Appendix 1: Overview of long term systems for the elderly and their future direction".

Carry out more research

The sector would benefit enormously from further research into long term care policy and funding, use of technology, workforce shortages and other issues. At a macro level, an equivalent to the World Health Organization (WHO) Observatory on Health Systems and Policies would help bring together research, results of experiments and policy analysis and urge governments and policy makers to think more innovatively, share experiences and open up public debates on long term care.

Aging impacts people in many ways and can have a significant effect on their functions. The market for elderly-specific products and services appears to be largely untapped, but any company seeking to design new products and services for this audience requires specialist knowledge of the aging process. Such development expertise is largely concentrated in Europe, the US and Japan, where governments are encouraging this industry through incentives and tax breaks, believing that it can contribute to economic growth and stimulate exports. However, when selling overseas, companies must be aware of different cultural norms that can impact design and functionality.

"There are policy schools, observatories and other 'think tanks' looking at developments in health and healthcare policy, financing, etc. There is no observatory for long term care or aging. This means that policymakers are flying blind. They are already in a position where they are not very clear on what they are funding. We need the same discipline in thinking about value in long term care that we are seeing develop in healthcare."

Dr. Clive Bowman,

Medical Director, Bupa Care Services, UK



An uncertain age: Reimagining long term care in the 21st century | 37

"Applied research and evaluation should go hand-in-hand with efforts to modernize the long term care sector. This is to ensure that reforms work as intended and best practices are identified and passed back to providers in order to improve service delivery and the quality of care."

Dr. Dennis Kodner,

International Visiting Fellow The King's Fund, Canada

Long term care in Singapore needs to be looked at through a gender lens and recognize that men and women age differently with different requirements in their old age in terms of financing and support. Likewise, it is important to take a long term perspective in planning for preventive and health promotive care in order to reduce long term care needs in the population over time.

Dr. Mary Anne Tsao,

President and Founding Director, Tsao Foundation Singapore

Change attitudes to aging

Many of the challenges in long term care stem from deep-rooted societal attitudes and fears about aging and death. When considering the role of the elderly, the emphasis is all too often upon their frailties and decline, rather than their potential to contribute actively to society and the economy.

Such negative views are preventing a wider debate about policies towards funding and end of life care, as many simply do not want to discuss this subject. Nevertheless, there are some examples of progress. Australia held a 'national conversation' with older citizens, their carers and families in 2011 to help inform its response to a nationwide report entitled Caring for Older Australians, 85 which is helping to shape the country's broader agenda for aging.

The National Academy of Public Administration in UK designed an application, called Dialogue App, specifically to promote stakeholder dialogue and engagement, including policy discussion, participatory budgeting, idea generation and public debate. ⁸⁶This has been adopted by the UK Central Government. Such tools can stimulate national conversations about solving the elderly crisis.

In Singapore, a national initiative called "Our Singapore Conversation" was launched in 2012 to give Singaporeans an opportunity to discuss the type of country they want to live in and establish priorities and direction. Dialogue themes included future policies related to healthcare, attitudes towards aging and the needs of the elderly and caregivers.⁸⁷

These attempts, although laudable, are just a start and politicians, policymakers, opinion leaders, professionals, representatives of patients and charitable foundations around the world should all enter into a far more open and honest debate about aging and confront the difficult questions head-on.

The International Longevity Centre Global Alliance⁸⁸

The International Longevity Centre Global Alliance is a consortium of member organizations dedicated to addressing longevity and population aging by highlighting older people's productivity and contributions to family and society as a whole. Members develop ideas, carry out research and create forums for debate and action, with the elderly as key stakeholders.

There are International Longevity Centre Global Alliance centers in the US, Japan, UK, France, the Dominican Republic, India, South Africa, Argentina, the Netherlands, Israel, Singapore, Czech Republic, China and Brazil. These centers work autonomously and collaboratively to evaluate the impact of greater life expectancy and increased proportions of older people, as well as seeking solutions.





"There are a lot of things that can be done that can catch illness early or manage it. Sometimes it's the most simple of things in life that make huge differences: repairs and environmental scans for safety at home to prevent people from falling; nutritious and sufficient food that is appropriate for their medical conditions; ensuring people are taking their medicine; providing transportation to follow-up medical appointments; being supportive of emotional needs."

Bobbie Sackman,

Director of Public Policy Council of Senior Centers and Services of New York City, US Compared with other areas of social and medical policy, long term care has received relatively little attention and investment, which reflects broader attitudes to the elderly. By ignoring the problem of aging, societies risk depriving an increasing proportion of their citizens of the basic rights of dignity, respect and healthcare.

Policy makers and opinion leaders need to come up with new approaches and change perceptions of the elderly, as well as encourage more saving and forward planning to cope with the challenges of old age.

Providers must seek new and improved ways to deliver services and conduct administrative functions, while governments should establish well defined financial and quality targets for long term care programs. To overcome the fragmented state of long term care provision in many countries, care facilities will have to expand, merge, or form networks to scale up, in order to become more efficient.

The governments of some countries, such as Australia, have pulled ahead and started implementing a few of the following recommendations. In April 2012, the Australian Government announced a reform package aiming to build a better, fairer, more sustainable and more nationally consistent aged care system. The *Living Longer Living Better* aged care reform package provides \$3.7 billion over five years and is the start of a 10 year reform program to create a flexible and seamless system that provides older Australians with more choice, control and easier access to a full range of services, where they want it and when they need it. The reforms give priority to providing more support and care in the home, better access to residential care, more support for those with dementia and help in strengthening the aged care workforce. There is an urgency for governments to act and the time is now.

An agenda for action

Governments should:

- Create a holistic elderly policy rather than differentiate between welfare, health, housing and social care
- Seek a sustainable funding model
- Address workforce shortages with education and training and support informal carers financially and/or non-financially
- Regulate quality and promote transparency about outcomes and costs
- Consider changing regulations to make homes and communities more age-friendly and dementia-friendly.

Payers (national/local governments, social and private insurers) should:

- Encourage providers to focus on the value they provide to the individual
- Reward quality and professionalism rather than cost cutting
- Incentivize integration, care planning and specialist medical input
- Give more control to users and carers including support for care coordination.

Providers should:

- Integrate care to make it more person-centered
- Invest in staff training and support and recruit staff based on values and attitudes as well as skills and experience
- Embed the right organizational values through staff recruitment and appraisal
- Improve the level of medical input to long term care
- Work with carers to develop a care plan for every care recipient
- · Embrace technology to help people or their carers self-manage and maximize staff productivity.

Professionals should:

- Build the skills to deal with complex health and social care needs
- Raise the awareness, status and prestige associated with the professions responsible for long term care
- Rethink the use of medication, with less emphasis on cure and more on managing a decline in a way that maximizes quality of life
- Develop new approaches to goal oriented medicine for people in long term care.

Researchers should:

- Investigate new models of care delivery, technology, pharmaceutical and other health services
- Research the effectiveness of drugs for the elderly and people with multiple pathology
- Produce international comparisons of developments and data.

Users and carers should:

• Assert their rights, demand information and participate in planning.

Overview of long term systems for the elderly and future direction

Australia ^{89,90,91}		
Current long term care system for elderly:	Current long term care is provided by informal carers, government subsidised community care and residential aged care for people aged 65 years and over. The federal government provides around 70 per cent of total funding for aged care. The greatest aged care expenditure is in residential aged care.	
Program and nature of coverage:	Community care is currently provided through four packages. Home and Community Care (HACC) is a low care package funded by the federal government in all states and territories except Western Australia and Victoria. The Community Aged Care Package (CACP) also provides low care but delivers additional types of services compared to HACC. The Extended Aged Care at Home (EACH) package is a high care package, while EACH-D is a high care package specifically designed for people with dementia. Around 84% of community care packages are delivered by religious, charitable and community based providers. Residential care services are provided to permanent residents located within residential care facilities. Providers are owned by for-profit and not-for-profit organisations, and a small number are owned by state and territory governments.	
Nature of benefit coverage:	The Community Aged Care Packages (CACPs) and residential care places providing high-level care are available on need-based planning benchmarks. In 2011, the national planning benchmark was 88 residential care places per 1,000 people aged 70 years and over, and 25 community-based packages per 1,000 people aged 70 years and over.	
Source of funding:	Residential and community care is funded by the federal government, state and territory governments, care recipients, and charitable organisations. The federal government provides over two thirds of funding for aged care.	
Reforms initiated/ future direction:	The federal government released a large package of reforms for the aged care sector in April 2012. The reforms aim to shift some care from residential care facilities into the community due to the preference of people to receive care at home for as long as possible. The federal government plans to subsidise an additional 64,200 community care packages by 2012-22 and offer two additional types of community care packages. The reforms also aim to increase the level of information provided to care recipients and better coordinate care between the health and aged care sectors through the establishment of a central aged care gateway and linking service. Other changes aim to improve pricing of accommodation, implement new means testing arrangements, standardise assessment processes for care, and attract new investment into residential aged care by increasing accommodation subsidies for providers that significantly refurbish their facilities or build a new facility.	

Canada		
Current long term care system for elderly:	Provinces are responsible for providing healthcare services (including LTC) to their residents. The Federal Government contributes some money to the provinces to support healthcare but health careis a provincial responsibility within certain national principles.	
Program and nature of coverage:	LTC is offered through both home care and community based care and is provided mainly by nursing homes across regions. Nursing homes can be both public and privately operated. The trend is to provide more community based care (sometimes called Home First) rather than through institutions. There are also residential care facilities available in Canada.	
Nature of benefit coverage:	Benefits under the system are administered by nursing homes. Individual assessment determines extent of coverage for individuals. It is important to note that benefit coverage can vary by jurisdiction.	
Source of funding:	Health service costs for medically necessary services are funded by general revenues generated through taxes. Some provinces levy specific health premiums. 130 However individuals can be expected to contribute through co-payments, that vary by province, type of service and income level.	
Reforms initiated/ future direction:	The Canadian government relies on a multi level alloction of budget to control prices. Physicians are largely private practitioners paid on a fee for service basis. Provinces are looking at other payment mechanisms and in particular, linking payment to outcomes. Provinces are also developing and implementing a variety of new health system funding methodologies more closely tied to outcomes and not volume driven. In the case of LTC services, various co-payment mechanisms are being examined and implemented. There has been discussion about the need for a national pharmacare strategy. Every government is also moving ahead with efforts to improve accountability, transparency and healthy competition through public reporting. ⁹³	
China94,95		
Current long term care system for elderly:	China does not have a formal long term elderly care system. In the absence of a mature and stable social care system, the elderly population in rural areas and disabled elderly people in general are particularly vulnerable. However, in recent years, China has been proactively addressing the looming aging care challenge, and is establishing a social care system for the elderly.	
Program and nature of coverage:	China is establishing an elderly social care service system. Its national strategy, as outlined under the 12th Five-Year Programme (FY 2011–15), aims to improve long term care in the country "with home-based care as the foundation, backed up by community-based services and supported by institutional care".	
Nature of benefit coverage:	Institution-based elderly care services are accessible to only 1.8 percent of the elderly population. China also lacks a complete community-based service system to support home care.	
Source of funding:	Currently mainly private out-of-pocket expenditure.	
Reforms initiated/ future direction:	By 2015, China plans to expand its comprehensive service network to support home-based care in all urban communities, 80 percent of rural townships and half of the villages. Over the same period, it also plans to add more than 3 million new institution-based beds, to accommodate 3 percent of the elderly population.	

Finland		
Current long term care system for elderly:	Finland has a publicly funded system open for all residents, and covers a range of services from home care to institutional care. Entitlement to services is based on place of residence.96	
Program and nature of coverage:	LTC in Finland includes home nursing, day services and institutional care provided by municipalites or NGO's. ⁹⁷	
Nature of benefit coverage:	Individuals over the age of 75 are eligible for a social service needs assesment conduced by municipalites. The care allowance is payable based on the need for assistance, guidance and supervision. Users share cost by paying a part of fees. See Legislation governs and determines the users share.	
Source of funding:	Care is primarily funded by central government transfers and municipal taxes. 100	
Reforms initiated/ future direction:	The long term care system in Finland is largely administered by municipalities. The system is undergoing an overhaul which will result in substantial implications for LTC. A potential result of this reform in 2013 will be higher responsibility for local authortites to reduce institutional care and ensure care without delay. A major implication will be the increased demand for manpower. 101	
France		
Current long term care system for elderly:	Support for elderly at home or institutution is provided by public health insurance system and through the allowance for autonomy (APA). It is administerd by local departments. [02]	
Program and nature of coverage:	LTC in France is offered through both home nursing care (through Services de Soins Infirmiers A Domicile (SSIAD) e.g. home halth aide/nurse assistant, for personal hygeine, eating) and institutional care (for disabled and dependent elderly people).	
Nature of benefit coverage:	Home nursing is completely covered by the public health insurance system. Institutional care is split into three components – health costs, hotel costs and dependence costs. APA does not cover hotel costs. On an average, it covers up to 70% of expense.	
Source of funding:	LTC is funded by a mix of public health insurance and individual costs through programs — Allocation Personnalisée d'Autonomie (APA) — (personalised allowance for disability) and caisse nationale de solidarité pour l'autonomie (CNSA — the national funding agency for the elderly and handicapped) and complementary income tax deductions. The system is funded by general tax revenues. 103	
Reforms initiated/ future direction:	In Feb 2013, the French PM called for a structural reform of the healthcare system. The reform aims at: ensuring vertical quality and adapting healthcare across demographic changes. Further details	

Germany ^{104,105,106}		
Current long term care system for elderly:	In Germany, long term care is provided under a mandatory insurance system, through an long term care insurance scheme.	
Program and nature of coverage:	The long term care insurance scheme is independent of the mandatory public health insurance scheme – the Statutory Health Insurance (SHI). The scheme is mandatory and covers everyone, subject to payment of insurance premium for a minimum of 2 years.	
Nature of benefit coverage:	Benefits under the scheme can be claimed either in kind or as cash payments. Social long term care insurance covers home care and institutional care.	
Source of funding:	The LTCI scheme is funded through income-based insurance contribution, deducted from salary.	
Reforms initiated/ future direction:	Government bodies and private associations in Germany are working toward building a multi-tier model to provide a sustainable financing mechanism for nursing and long term care insurance. This would enable affordable care that meets individual needs.	
Hong Kong		
Current long term care system for elderly:	LTC is managed by the Elderly Commission, an independent body managed directly by the central government. ¹⁰⁷	
Program and nature of coverage:	LTC covers community care (support teams, senior citizen card scheme, institutionalcare, day care) and residential care at rates subsidised by government.	
Nature of benefit coverage:	LTC is delivered through a mix of programs and services. For most of them, citizens over the age of 65 are eligible.	
Source of funding:	The government funds long term care either directly (through NGO's) or indirectly (though social security payments).	
Reforms initiated/ future direction:	The government aims to reduce institutional care and increase facilities to support home care. To achieve this, staff shortage, appointment of care managers, service agents and formation of a quality assurance committee are being considered.	

Japan ¹⁰⁸	
Current long term care system for elderly:	Long term care coverage for residents is available through a national long-term insurance program.
Program and nature of coverage:	In Japan, all patients aged 65 and above are covered under the national long term insurance program. The program is managed by municipalities.
Nature of benefit coverage:	Services provided under long term elderly care include institutional care, rehabilitation, home help and day services.
Source of funding:	The program is managed by municipalities and financed by taxes and premiums collected (linked to income, though such premiums vary across municipalities). Copayment of 10 percent is required for all such services (subject to an income-linked ceiling).
Reforms initiated/ future direction:	With a large and growing elderly population, establishment of comprehensive regional care system for elderly people who need long-term care and want to remain in their homes is one of Japan's key policy priorities. As a first step toward this goal, the Japanese Government currently provides home help services and housing with care services. The importance of prevention and wellness is also pushed, aimed at controlling healthcare costs. A number of preventive measures, such as screening, health education, and counseling, are covered under the statutory benefit package, for people aged 40 and above.
Netherlands	
Current long term care system for elderly:	Long term care is provided under a national statutory social insurance programe. 109
Program and nature of coverage:	LTC in Netherlands are offered by regional care purchasing agencies (under the Social Support Act) after assesment tests are conducted. Coverage is also provided by private healthcare insurers(under ZVQ, AWBZ). ¹¹⁰
Nature of benefit coverage:	Healthcare in the Netherlands is financed by a dual system. Long-term treatments are covered by a state-controlled mandatory insurance, the Exceptional Medical Expenses Act (AWBZ).For all regular (short-term) medical treatment (e.g. GP or hospital care) there is a system of obligatory health insurance, with private health insurance companies. These insurance companies are obliged to provide a package with a defined set of insured treatments. Every insured person age 18 and over must also pay a deductible, although GP care is exempt from cost-sharing. On top of that is social support for the elderly (non medical care) covered under the Social Support Act (Wmo), executed by local government.
Source of funding:	The schemes are funded by a mix of employer contribution, individual contribution and central taxes. About 8% of AWBZ expenditure is funded by user payments. ¹¹¹
Reforms initiated/ future direction:	The government aims to decentralise operations in municipalities (shift from AWBZ to WMO), home care is already executed by loval government; personal care like activities of daily living and guidance (daytime activities) will follow in 2013/2014. Also rehabilitation care will also be shifted to general healthcare system by 2013. 112

Norway	
Current long term care system for elderly:	The LTC system in Norway is part of the social welfare system. It is mainly financed and provided by the public sector, with the responsibilities decentralized to the municipalities (the lowest government level).
Program and nature of coverage:	The municipalities in Norway organise both home based care and institutional care(formal care) and it is publicly funded. Home care covers all necessary healthcare services that can be provided in the home. Food delivery or assistance to cook/shop for food as well as cleaning services for the home and assistance with personal hygiene will also be provided in the home care scheme.
Nature of benefit coverage:	Home-based services are largely covered by the national insurance scheme (NIS). The NIS is publically funded and available to all Norwegians. The users of institutional care pay a user charge dependent on their income. Institutional care is predominately provided by nursing homes and covers board and lodging, physician, physiotherapy and dental services (also pharmaceuticals and specialized health care services).
Source of funding:	The system is predominately funded by general taxes.
Reforms initiated/ future direction:	Certain policies are being adopted to shift the emphasis more in the direction of home-based care for elderly. One of the policy measures is the Norwegian 'Coordination Reform', which was presented in 2009 and implemented from January 2012. It aims at reducing the demand for hospital admissions, especially among the elderly and chronically ill. Starting 2012, the municipalities are required to pay part of the costs of in-and outpatient services for all medical cases referred to hospitals. There is also an increased focus on the private provision of care for the elderly, with many of the large cities in Norway inviting private providers to compete for tenders in this sector. 113,114,115
Singapore ^{116,117}	,118
Current long term care system for elderly:	Long term care services for the elderly in Singapore are provided mainly through voluntary welfare organizations (VWO) or the "third sector", and by private operators; under a mix of funding schemes that are still largely led by the government.
Program and nature of coverage:	In Singapore, long term elderly care is available through both a range of institutional services (community hospitals, chronic sick hospitals, nursing homes and inpatient hospice care) and home- and community- based programs (home medical, home nursing and home hospice care services).
Nature of benefit coverage:	In addition, under the national disability insurance scheme (ElderShield), elderly dependents are provided a monthly payout (in the event of loss of ability to perform at least three of the six activities of daily living.
Source of funding:	The long term care cost is financed through a mix of savings (Medisave, individual contribution-based national medical savings scheme), disability insurance (ElderShield), and medical insurance for potentially costly acute episodes and hospitalizations (mainly MediShield, a low cost national medical insurance scheme).
Reforms initiated/future direction:	Singapore's Ministry of Health has been focusing on long term care, with the objective to provide holistic, accessible and quality care for the elderly population. Singapore is expanding and enhancing its home- and community-based care, to facilitate 'aging-in-place' and better support its caregivers through an integrated care system. Initiatives in this direction include the following: Increasing the number of day care centers offering integrated care services to the elders Improving access to services such as nursing and rehabilitative services and dementia management programs

Taiwan	
Current long term care system for elderly:	Taiwan National Health Insurance (NHI) provides healthcare elderly people. The NHI has subsidized disease screening and preventive care and ensures that elderly people have access to health care and a social safety net.
Program and nature of coverage:	At present, LTC is administed by ministries – Veterans Affairs Commission, Council of Agriculture, Ministry of Interior and Bureau of Nursing& Healthcare by long-term management centers (LTCMC). The system covers daily care services, home nursing, home and community rehabilitation, respite care and institutional services.
Nature of benefit coverage:	The insurance benefits are mainly on the health care services provided by public institutions and civic groups, accompanied with subsidies. Different amount of payments will be delivered according to different levels of disability.
Source of funding:	It is largely funded by a central insurance fund govered by the Long Term Care Insurance Act.
Reforms initiated/ future direction:	Taiwan has a ten year subsidization for long term care under homecare, community care and institutional care. The system aims to encourage home care and increase target population to include disabled and dependent. Subsidies for institutional care are also to be increased. The implementation is expected to completed by 2017.
United Kingdo	m
Current long term care system for elderly:	In the UK, the National Health Service (NHS) pays for some long term care cases requiring continued medical or skilled nursing needs. However, most long term care is covered under adult social care, which offers means-tested coverage. According to the national eligibility criteria, separate government funding is also available to people with disabilities.
Program and nature of coverage:	Adult social care: a means-tested safety net. Disability living allowance: universal benefit coverage for disabled non-elderly (under 65) Attendance allowance: universal benefit coverage for ederly dependents
Nature of benefit coverage:	Adult social care: home and institutional care, cash benefits. State- funded residential care is available free to those with less than UK£23,000 (US\$37,000) in assets. ¹²⁰ Disability living allowance: universal benefit coverage for disabled non-elderly (under 65)
Source of funding:	Adult social care: through taxes at central and local levels ¹²¹ Disability living allowance: tax-based Attendance allowance: tax-based (both based on assessments)
Reforms initiated/ future direction:	In 2011, the Commission on Funding of Care and Support recommended an increase in the assets threshold for state-funded residential care, from UK£23,250 (US\$ 37,301.4) to UK£100,000 (US\$160,436.0). The commission also proposed a cap of UK£35,000 (US\$56,152.6) on payments for lifetime care. 122,123,124 The adult social care system in the UK is undergoing reform in the use it is finded designed and delivered. The UK conservation leads.
	way it is funded, designed and delivered. The UK government is keen to drive reforms to tackle problems with adult social care. In May 2012, a draft bill for overhauling care and support for elderly and disabled people in England was announced in the Queen's Speech. ¹²⁵

United States ^{126,127,128}	
Current long term care system for elderly:	Public long term care is delivered through a mix of programs, with eligibility and coverage varying from one state to another. Eligibility is based mostly on income and personal resources.
Program and nature of coverage:	Medicaid: a means-tested safety net for low-income elderly dependents Medicare: social insurance for elderly dependents aged 65 and above Private long term care insurance: urchased either by individuals or as employer-sponsored group insurance policies for long term care
Nature of benefit coverage:	Medicaid: covers both home and institutional care. Some types of care are mandatory and must be covered in all states; others are optional and may be provided only in states that elect to do so Medicare: provides nursing homes and home health services for a short period of time, following an acute event Private long term care insurance: services covered vary according to the policy purchased
Source of funding:	Medicaid: joint federal and state funding Medicare: partly funded through payroll and income tax and the remaining from Medicare premiums and taxpayer funds Private long term care insurance: paid by individuals or employers (preferential tax treatment available)
Reforms initiated/ future direction:	Over time, at a state and local level, the US introduced healthcare system innovations and reforms to improve access to affordable long-term elderly care and enhance cost efficiency of the healthcare system. 129 Initiatives such as the Program of All-Inclusive Care for the Elderly (PACE) have helped reduce hospital stay and delay assignments to nursing homes. 130,131 Recently, Congress established a Commission to recommend reforms to the current LTC system. The Commission has been established to address three key issues — long term care financing, delivery, and workforce challenges. 132

 $[\]hbox{*Means-tested programs are financial assistance programs available only to people meeting the test of need — based on their income and assets.}$



- WORLD POPULATIONTO 2300, United Nations Department of Economic and Social Affairs/Population Division United Nations, http://www.un.org/esa/ population/publications/longrange2/WorldPop2300final.pdf, 2004, Accessed 1 October 2012
- Wolfgang Lutz, European Demographic Data Sheet 2006; Vienna and Washington, DC: Vienna Institute of Demography, International Institute for Applied Systems Analysis and Population Reference Bureau, 2006, http://www.oeaw.ac.at/vid/popeurope/download/European_Demographic_ Data_Sheet_2006_A4.pdf, Accessed 25 November 2012
- U.S. Census Bureau Projections Show a Slower Growing, Older, More Diverse Nation a Half Century from Now, *United States Census Bureau*, http://www.census.gov/newsroom/releases/archives/population/cb12-243. html, Accessed 29 January 2013.
- S'pore could be 'extremely aged' by 2050: IPS study, Yahoo Newsroom, http://sg.news.yahoo.com/s%E2%80%99pore-could-be-%E2%80%98extremely-aged%E2%80%99-by-2050-ips-study.html, Accessed 29 January 2013.
- Rise in China's Aging Poses Challenge to Beijing, The New York Times, Global Trends, 10 September 2012, http://www.nytimes.com/2012/09/11/business/ global/rise-in-chinas-aging-poses-challenge-to-beijing.html?pagewanted=all&_ r=0, Accessed 5 December 2012.
- New Bank Report Looks at China's Rural Elderly, The World Bank, 9 April 2012, http://www.worldbank.org/en/news/2012/04/09/new-bank-report-looks-atchina-rural-elderly, Accessed 16 October 2012.
- Warning Bell for Developed Countries: Declining Birth Rates, Forbes Asia Magazine, May 2012, http://www.forbes.com/global/2012/0507/currentevents-population-declining-birth-rates-lee-kuan-yew.html, Accessed 17 October 2012.
- Recipients of long-term care, in Health at a Glance 2011 OECD Indicators, OECD Publishing, 2011, http://www.oecd.org/health/ healthpoliciesanddata/49105858.pdf, Accessed 5 October 2012.
- What is Long-Term Care, Medicare.gov-The official U.S. Government Site for Medicare, August 3 2012, http://www.medicare.gov/longtermcare/static/ home.asp, Accessed 3 October 2012.

- Aging and quality of life, International Encyclopedia of Rehabilitation, Center for International Rehabilitation Research Information and Exchange (CIRRIE), http://cirrie.buffalo.edu/encyclopedia/en/article/296/, Accessed 10 October 2012.
- Health Systems: Improving Performance The World Health Report 2000, World Health Organization, 2013, http://www.who.int/whr/2000/en/, Accessed 7 November 2012.
- OECD The Organization for Economic Cooperation & Development is comprised of 30 member countries. Most are high-income economies with a very high Human Development Index (HDI) and all are regarded as developed countries.
- Long-Term Care (LTC): Financing Overview and Issues for Congress, Congressional Research Service, 1 February 2010, http://aging.senate.gov/crs/ aging27.pdf, Accessed 13 October 2012.
- Health at a glance 2011: OECD indicators, OECD, 2011, http://www.oecd.org/ health/healthpoliciesanddata/49105858.pdf, Accessed 25 October 2012.
- Sizing Up The Challenge Ahead: Future Demographic Trends and Long-Term Care Costs, OECD, May 2011, http://www.oecd.org/els/ healthpoliciesanddata/47884543.pdf, Accessed 10 December 2012.
- The Decline of Nursing Homes, National Care Planning Council, 28
 February 2012, http://longtermcarelink.wordpress.com/2012/02/28/
 thedeclineofnursinghomes/, Accessed 15 December 2012.
- A Shift From Nursing Homes to Managed Care at Home, The New York Times, 23 February 2012, http://www.nytimes.com/2012/02/24/nyregion/managedcare-keeps-the-frail-out-of-nursing-homes.html?tntemail0=y, Accessed 18 November 2012.
- The Coming Nursing Home Shortage, The Fiscal Times, 26 January 2012, http://www.thefiscaltimes.com/Articles/2012/01/26/The-Coming-Nursing-Home-, Accessed AccShortage.aspx#page1, Accessed 20 November 2012.
- Long-Term Care Policy: Yesterday, Today and Tomorrow, Senate Special Committee on Aging Forum, Robyn I. Stone, Dr PH, December 14, 2011, http://aging.senate.gov/events/hr241rs.pdf, Accessed 2 December 2012.
- Should You Buy Long-Term Care Insurance? Maybe Not, Forbes, January 18 2012, http://www.forbes.com/sites/howardgleckman/2012/01/18/should-you-buy-long-term-care-insurance-maybe-not/, Accessed 8 December 2012.

- Sen. Corker: Long-Term Care is "Heading for a National Crisis," Forbes, April 18 2012, http://www.forbes.com/sites/howardgleckman/2012/04/18/sen-corker-long-term-care-is-heading-for-a-national-crisis/, Accessed 17 November 2012.
- Preparing for Long-Term Care: Any Good Options?, *Time U.S*, February 8 2012, http://www.time.com/time/nation/article/0,8599,2044464,00.html, Accessed 10 July 2012.
- Private Long-term Care Insurance: A Niche or a "BigTent"?, OECD, May 2011, http://www.oecd.org/health/healthpoliciesanddata/47884985.pdf, Accessed 10 July 2012.
- 24. Value Walks, KPMG, 2012.
- Scaling up, Saving lives Task Force for Scaling Up Education and Training for Health Workers, Global Health Workforce Alliance, World Health Organization, 2008, http://www.who.int/workforcealliance/documents/Global_Health%20 FINAL%20REPORT.pdf, Accessed 20 November 2012.
- Documenting the development of geriatric medicine, American Geriatrics Society, June 2012, http://www.americangeriatrics.org/files/documents/ Adv_Resources/PayReform_fact5.pdf, Accessed 13 November 2012.
- Future Starts to Age: China's Elderly, Market Watch, September 6, 2010, http://articles.marketwatch.com/2010-09-06/general/30706553_1_seniorcitizens-nursing-elderly-care, Accessed 1 November 2012.
- Rise in China's Aging Poses Challenge to Beijing, The New York Times, Global Trends, September 10, 2012, http://www.nytimes.com/2012/09/11/business/ global/rise-in-chinas-aging-poses-challenge-to-beijing.html?pagewanted=all&_ r=0, Accessed 21 October 2012.
- OECD Data 2010 How Does Japan Compare, OECD, http://www.oecd.org/ japan/BriefingNoteJAPAN2012.pdf, Accessed 11 January 2013.
- Nurses call for cap on aged-care numbers, WA Today, April 5, 2010, http://www.watoday.com.au/national/nurses-call-for-cap-on-agedcare-numbers-20100404-rlu3.html, Accessed 26 October 2012.
- 31. The Senses Framework: improving care for older people through a relationship-centred approach. Getting Research into Practice (GRiP) Report No 2., Nolan, M. R., Brown, J., Davies, s., Nolan, J. and Keady, J. Sheffield Hallam University Research Archive, 2006, http://shura.shu.ac.uk/280/1/PDF_Senses_Framework_Report.pdf, Accessed 17 November 2012.
- Care and Support Briefing, Age UK, http://www.ageuk.org.uk/Documents/ EN-GB/For-professionals/Topic%20briefings/Care%20and%20support%20 topic%20briefing.pdf?dtrk=true, Accessed 25 January 2013.
- Quality of Death Index Ranking end of life care across the world, Economist Intelligence Unit, http://www.eiu.com/site_info.asp?info_ name=qualityofdeath_lienfoundation&page=noads, Accessed 9 January 2013.
- 'Flying squad' helping seniors at home, Aged Care Insight, Oct/Nov 2011, http://www.agedcareinsite.com.au/pages/section/article.php?idArticle=22224, Accessed 7 November 2012.
- Programs of All Inclusive Care for the Elderly (PACE) Manual, Centre for Medicare and Medicaid Services (CMS), June 2011, https://www.cms.gov/ Regulations-and-Guidance/Guidance/Transmittals/Downloads/R2PACE.pdf, Accessed 20 December 2012.
- Program of All-Inclusive Care for the Elderly, Survey No. 13, Health Policy Monitor, 2009, http://www.hpm.org/de/Surveys/JHSPH_-_USA/13/Program_ of_All-Inclusive_Care_for_the_Elderly.html, Accessed 1 December 2012.
- Long-Term Care Pilot Program Virtual PACE, 2011-2013 Medicaid Efficiencies, Department of Health Services- State of Wisconsin, 2011, http://www.dhs. wisconsin.gov/mareform/virt-pace/VirtPace.pdf, Accessed 21 October 2012.

- Wisconsin's Demonstration to Integrate Care for Individuals Dually Eligible for Medicare and Medicaid, Department of Health Services Division of Long Term Care, Draft proposal for public comment, March 2012, http://www.cms. gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/ Medicare-Medicaid-Coordination-Office/Downloads/WisconsinProposal.pdf, Accessed 30 October 2012.
- Choices, Policy Logics and Problems in the Design of Long-term Care Systems, Social Policy & Administration, December 2002.
- Antipsychotic drugs used to treat dementia shorten life, News Medical, http://www.news-medical.net/news/2007/06/05/26086.aspx, Accessed 18 January 2013.
- The Village: A Growing Option for Aging in Place, AARP Public Policy Institute, March 2010, http://www.aarp.org/home-garden/housing/info-03-2010/fs177-new.html, Accessed 23 October 2012.
- The "Village" Model: A Consumer-Driven Approach for Aging in Place, The Gerontologist, 25 August, 2011, http://gerontologist.oxfordjournals.org/ content/early/2011/08/25/geront.gnr083, Accessed 7 November 2012.
- It takes a village: Creatively aging in place, Davidson News, 15 February 2012, http://davidsonnews.net/fran/2012/02/15/it-takes-a-village-creatively-aging-inplace/, Accessed 7 November 2012.
- 44. How We Serve, Eden Alternative, http://www.edenalt.org/, Accessed 8 November 2012
- 45. *Grand-Aides*: The Program, Grand-Aides, 2012, http://www.grand-aides.org/index.php/program, Accessed 19 November 2012.
- Patient Hotels a concept worth further consideration? Baroness Greengross's Patient Hotel Group, June 2012. Provided by Baronness Sally Greengross.
- 47. Value walks, KPMG, 2012.
- Community nurse makes comeback with Buurtzorg, Go Dutch, February 11 2011, http://www.godutch.com/newspaper/index.php?id=1969, Accessed 29 October 2012.
- A New Way of Delivering Home Health Care, University of Minnesota, November 2011, http://www1.umn.edu/news/features/2012/UR_ CONTENT_424638.html, Accessed 27 October 2012.
- How to Prepare for the Future Long-term Care Workforce? OECD, May 2011, http://www.oecd.org/els/healthpoliciesanddata/47884930.pdf, Accessed 17 October 2012.
- Home Care for Elderly People: Good Practices and Education in European Countries, EQUIP Project 2006-2009, *Turku University of Applied Sciences*, November 2009, http://julkaisut.turkuamk.fi/isbn9789522161178.pdf, Accessed 11 October 2012.
- 52. Consumer Direction and Choice in Long-Term Care for Older Persons, Including Payments for Informal Care: How Can it Help Improve Care Outcomes, Employment and Fiscal Sustainability?, OECD Health Working Papers No. 20, OECD, May 11 2005, http://www.oecd.org/health/ healthpoliciesanddata/34897775.pdf, Accessed 7 November 2012.
- What Does the Future Hold for Healthcare IT in Long-Term Care? Billian's Health Data, October 20 2011, http://www.billianshealthdata.com/news/ SiteNews/news_items/2011/October/What_Does_the_Future_Hold_for_ Healthcare_IT_in_Long-Term_Care, Accessed 9 November 2012.
- Long-term care providers use IT to help keep patients safe, Healthcare IT News, April 11, 2012, http://www.healthcareitnews.com/news/long-term-careproviders-use-it-help-keep-patients-safe, Accessed 13 November 2012.

- Evaluating telecare and telehealth interventions, WSDAN briefing paper, The Kings Fund, 2011, http://www.kingsfund.org.uk/sites/files/kf/Evaluatingtelecare-telehealth-interventions-Feb2011.pdf, Accessed 10 October 2012.
- What Does the Future Hold for Healthcare IT in Long-Term Care? Billian's Health Data, 20 October 2011, http://www.billianshealthdata.com/news/ SiteNews/news_items/2011/October/What_Does_the_Future_Hold_for_ Healthcare IT in Long-Term Care. Accessed 13 October 2012.
- Long-term care providers use IT to help keep patients safe, Healthcare IT News, April 11, 2012, http://www.healthcareitnews.com/news/long-term-careproviders-use-it-help-keep-patients-safe, Accessed 27 November 2012.
- Wearable and implantable wireless sensor network solutions for healthcare monitoring, Sensors, 2011, http://www.mdpi.com/1424-8220/11/6/5561, Accessed 25 August 2012.
- Sensors Facilitate Health Monitoring, Sensors, April 2011, http://www.mdpi.com/1424-8220/11/6/5561, Accessed 8 December 2012.
- Assistive social robots in elderly care: a review, Gerontechnology Vol. 8, No 2, 2009, http://gerontechnology.info/index.php/journal/article/view/ gt.2009.08.02.002.00, Accessed 9 December 2012.
- Can robotics replace the family pet? Aged Carer, July 2011, http://www.agedcarer.com.au/blog/emma-hamilton/can-robotics-replace-family-pet, Accessed 9 December 2012.
- UMO Platform, Verklizan: Smart Support for Life, http://www.verklizan.com/ content/, Accessed 15 December 2012.
- 63. Personal health budgets, *The Health Foundation*, September 2010, http://www.health.org.uk/public/cms/75/76/313/2594/personal%20health%20 budgets.pdf?realName=wiYPsk.pdf, Accessed 10 January 2013.
- A Healthcare Contract with America (No. 110), National Center for Policy Analysis, July 2012, http://www.ncpa.org/pub/ib110, Accessed 8 November 2012.
- Personal healthcare budgets: what can England learn from the Netherlands? British Medical Journal 344:e1383, 2012, http://nvl002.nivel.nl/postprint/ PPpp4488.pdf, Accessed 9 October 2012.
- Consumer Direction and Choice in Long-Term Care for Older Persons, Including Payments for Informal Care: How Can it Help Improve Care Outcomes, Employment and Fiscal Sustainability?, OECD Health Working Papers No. 20, OECD, May 11 2005, http://www.oecd.org/health/ healthpoliciesanddata/34897775.pdf, Accessed 10 October 2012.
- Expert guide to direct payments, personal budgets and individual budgets, CommunityCare, July 2012, http://www.communitycare.co.uk/ articles/25/07/2012/102669/direct-payments-personal-budgets-and-individualbudgets.htm, Accessed 13 October 2012.
- Defusing the demographic "time-bomb" in Germany, World Health Organisation, http://www.who.int/bulletin/volumes/90/1/12-020112/en/index. html, Accessed 10 January 2013.
- Can We Get Better Value for Money in Long-Term Care, OECD, http://www. oecd.org/health/healthpoliciesanddata/47885662.pdf, Accessed 21 June 2012.
- The Changing Demographics of Nursing Home Care: Greater Minority Access... Good News, Bad News, Center for Medical Advocacy, Centre for Medicare Advocacy Inc, http://www.medicareadvocacy.org/2011/08/18/ the-changing-demographics-of-nursing-home-care-greater-minorityaccess%E2%80%A6-good-news-bad-news/, Accessed 21 June 2012.
- The Decline of Nursing Homes, National Care Planning Council, http://longtermcarelink.wordpress.com/2012/02/28/ thedeclineofnursinghomes/, Accessed 21 June 2012.
- 72. Ibid

- 73. Community Action for Seniors Independence, *United Way Lower Mainland*, http://www.uwlm.ca/blog/community-action-seniors-independence, Accessed 13 January 2013.
- Ombudsperson details senior care problems, government promises new advocate, The Tyee, http://thetyee.ca/Blogs/TheHook/BC-Politics/2012/02/14/ SeniorReport/, Accessed 15 July 2012.
- Seniors' Healthy Living: Report on Progress, Province of British Columbia, http://www2.gov.bc.ca/gov/theme.page?id=E2F17E8BD56D50D8D4BAA289 2C68960F, Accessed 16 June 2012.
- Can We Get Better Value for Money in Long-term Care? OECD, http://www. oecd.org/health/healthpoliciesanddata/47885662.pdf, Accessed 21 June 2012.
- The Changing Demographics of Nursing Home Care: Greater Minority
 Access... Good News, Bad News, Center for Medical Advocacy, Centre
 for Medicare Advocacy Inc, http://www.medicareadvocacy.org/2011/08/18/
 the-changing-demographics-of-nursing-home-care-greater-minority access%E2%80%A6-good-news-bad-news/, Accessed 21 June 2012.
- Caring for Older Australians: Productivity Commission, Enquiry Report, *Productivity Commission*, http://www.pc.gov.au/projects/inquiry/aged-care/ report, Accessed 23 June 2012.
- The Coming Nursing Home Shortage, The Fiscal Times, 26 January 2012, http://www.thefiscaltimes.com/Articles/2012/01/26/The-Coming-Nursing-Home-Shortage.aspx#page1, Accessed 20 November 2012.
- 80. Balancing Incentives Program: New Hampshire First to Receive Grant, *Leading Age*, http://www.leadingage.org/Article.aspx?id=5134, Accessed 10 May 2012.
- NJ Program Aims to Keep Seniors out of Nursing Homes, NJ Spotlight, http://www.njspotlight.com/stories/12/0402/2019/, Accessed 1 June 2012.
- 82. Global Options (GO) for Long-Term Care, State of New jersey Department of Health and Senior Services, http://www.nj.gov/health/senior/go.shtml, Accessed 28 July 2012.
- 83. Long-Term Services and Supports: Challenges and Opportunities for States in Difficult Budget Times, *National Governors Association*, http://www.hilltopinstitute.org/publications/LTSSChallengesandOpportunitiesforStatesindifficultBudgetTimes-December2011.pdf, Accessed 20 July 2012.
- 84. Global Budgeting: Promoting Flexible Funding to Support Long-Term Care Choices, *Rutgers Center for State Health Policy*, http://www.cshp.rutgers.edu/Downloads/4710.pdf, Accessed on June 14, 2012.
- A National Conversation on Healthy and Positive Ageing, Prime Minister for Mental Health and Ageing, http://www.health.gov.au/internet/ministers/ publishing.nsf/Content/5220AC20AD59A3DCCA2578E70022590E/\$File/ MB094.pdf, Accessed 29 January 2013.
- 86. Who Uses Dialogue App, *Dialogue App*, http://www.dialogue-app.com/info/clients, Accessed 30 January 2013.
- In the Press: 60 give views at first Our SG conversation, Our SG Conversation, https://www.oursgconversation.sg/in-the-press-60-give-views-at-first-our-sg-conversation/, Accessed 29 January 2013.
- Home. International Longevity Centre Global Alliance. http://www.ilc-alliance. org/. Accessed 18 January 2013.
- Aged care, Department of Health and Aging, Australia, Accessed on May 1, 2012, http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/theme-agedcare, Accessed 4 June 2012.
- National Health Reform: Progress and Delivery, Australian Government, September 2011, http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/nhr-progressdelivery/\$File/National%20Health%20Reform%20Progress%20and%20Delivery.pdf, Accessed 4 June 2012.

- International Profiles of Health Care Systems, The Commonwealth Fund, 2011, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2011/Nov/1562_Squires_Intl_Profiles_2011_11_10.pdf, Accessed 3 June 2012
- Canada Long-term care,18 May 2011, http://www.oecd.org/canada/47877490.pdf, Accessed 25
 February, 2013
- Canada Long-term care,18 May 2011, http://www.oecd.org/canada/47877490.pdf, Accessed 25
 February, 2013
- Millions of Chinese families face elderly care challenge, India Today, March 26, 2012, http://indiatoday.in/story/china-chinese-families-elderly-care/1/179412.html, Accessed 10 May 2012
- Eai bulletin, East Asian Institute, March 2012, http://www.eai.nus.edu.sg/EAI%20Bulletin%20 (Mar2012).pdf, Accessed 5 June 2012.
- Long-term care in Finland, European Network of Economic Policy Research Institutes, June 2010, Accessed 21 February 2013
- Finland Long-term care, OECD, 18 May, 2011 http://www.oecd.org/finland/47877648.pdf.
 Accessed 21 February. 2013
- Finland Long-term care, OECD, 18 May, 2011 http://www.oecd.org/finland/47877648.pdf. Accessed 21 February, 2013
- Long-term care in Finland, European Network of Economic Policy Research Institutes, June 2010. Accessed 21 February 2013
- Finland Long-term care, OECD, 18 May, 2011 http://www.oecd.org/finland/47877648.pdf.
 Accessed 21 February, 2013
- Act on Care Services for the Elderly to ensure a high standard of quality nationwide, 27 Dec, 2012, http://www.stm.fi/en/pressreleases/pressrelease/-/view/1847332#en, Accessed 21 February, 2013
- France Long-term care, 18 May, 2011, http://www.oecd.org/france/47902097.pdf, Accessed 21
 February, 2013
- Long-term care financing reform Lessons from the U. S and Abroad, February 2010, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2010/Feb/1368_Gleckman_longterm_care_financing_reform_lessons_US_abroad.pdf, Accessed 23 February, 2013
- 104. International Profiles of Health Care Systems, The Commonwealth Fund, 2010, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2010/Jun/1417_Squires_intl_Profiles_622.pdf, Accessed 3 June 2012.
- Germany's Long Term Care Insurance System, CARP, October 2011, http://www.carp. ca/2011/10/21/germanys-long-term-care-insurance-system/, Accessed 3 June 2012.
- 106. International Profiles of Health Care Systems, The Commonwealth Fund, 2011, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2011/Nov/1562_Squires_Intl_Profiles_2011_11_10.pdf, Accessed 5 June 2012.
- Healthcare Reform Series Canada, http://www.examiner.com/article/health-care-reform-seriesthe-canadian-health-care-system. Accessed 25 February, 2013
- 108. International Profiles of Health Care Systems, 2011, The Commonwealth Fund, November 2011, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2011/ Nov/1562_Squires_Intl_Profiles_2011_11_10.pdf, Accessed 3 June 2012
- Netherlands Long-term care, 18 May, 2011, http://www.oecd.org/netherlands/47877903.pdf, Accessed 21 February, 2013
- Long-term care in the Netherlands and the role of CIZ, http://www.ciz.nl/sites/ciz/files/ filemanager/presentaties/Presentatie_Engels_2012.pdf,Accessed 21 February, 2013
- Netherlands Long-term care, 18 May, 2011, http://www.oecd.org/netherlands/47877903.pdf, Accessed 21 February. 2013
- Healthcare reform and long-term care in the Netherlands,11 Jan 2013 http://www.oecd.org/ eco/reform/2013-2.pdf, Accessed 21 February, 2013
- 21st, Nordic Congress Of Gerontology, Dilemmas in Ageing Societies, Abstracts and Program, June 2012, http://www.21nkg.dk/program/NKG_2012_low.pdf, Accessed 4 February 2013
- Pensions, Health Care and Long-term Care, asisp Annual Report Norway, May 2012, http://www.socialprotection.eu/files_db/1273/asisp_ANR12_NORWAY.pdf, Accessed 4 February 2013

- 115. The Economics of Long-Term Care, CESifo, Venice Summer Institute 2012, http://www.cesifo-group.de/portal/page/portal/CFP_CONF/CFP_CONF_VSI/VSI%202012/vsi12-ltc-Cremer/Papers/vsi12-cbm_oeien.pdf, Accessed 4 February 2013
- Singapore Healthcare System, Ministry of Health Singapore, http://www.moh.gov.sg/ content/moh_web/home/our_healthcare_system.html , Accessed 8 May 2012.
- Long-term care for the aged in developed Asia; takeaways for developing Asia?, Asian Trends,
 November 23, 2011, http://www.asiantrendsmonitoring.com/2011/11/23/long-term-care-for-the-aged-in-developed-asia-takeaways-for-developing-asia/, Accessed 10 June 2012.
- Insufficient care given to the elderly and chronically ill in Singapore, Sgpolitics, April 27, 2012, http://www.sgpolitics.net/?p=7535, Accessed 10 May 2012.
- 119. Long term care policy and practice in Taiwan, http://asiaforum.tsaofoundation.org/pdfDownloads/Day2/D2%20Plenary/Plenary%202/Long%20Term%20Care%20Policy%20 in%20Taiwan%20-Shiao%20Chi%20Wu.pdf, Accessed 21 February, 2013
- International Profiles of Health Care Systems, 2011, The Commonwealth Fund, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2011/Nov/1562_Squires_Intl_Profiles_2011_11_10.pdf, Accessed 15 June 2012.
- 121. Ibid
- Highlights from Help Wanted? Providing and Paying for Long-Term Care, OECD Publishing,
 2011, http://www.oecd.org/health/healthpoliciesanddata/47908664.pdf, Accessed 16 June
- Elderly care: politicians urged to 'pull their heads out of the sand', The Telegraph, April 17,
 2012, http://www.telegraph.co.uk/health/elderhealth/9230997/Elderly-care-politicians-urged-to-pull-their-heads-out-of-the-sand.html, Accessed 21 April 2012.
- 124. Average conversion rate for 2011, GBP1 = US\$1.60436, Oanda.com, Accessed 9 May 2012.
- Queen's speech 2012: Draft bill on social care announced, BBC News, May 2012, http://www. bbc.co.uk/news/health-18003629, Accessed 17 July 2012.
- 126. International Profiles of Health Care Systems, 2011, The Commonwealth Fund, http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2011/Nov/1562_Squires_intl_Profiles_2011_11_10.pdf, Accessed 10 May 2012.
- Consumer Direction and Choice in Long-Term Care for Older Persons, Including Payments for Informal Care: How Can it Help Improve Care Outcomes, Employment and Fiscal Sustainability?, OECD, 2005, http://www.oecd.org/health/healthpoliciesanddata/34897775.pdf, Accessed 27 April 2012.
- Make Long-Term Care Insurance Part Of Health Care, Forbes, April 11, 2012, http://www. nytimes.com/2012/02/24/nyregion/managed-care-keeps-the-frail-out-of-nursing-homes. html?pagewanted=all&_r=1&, Accessed 11 June 2012.
- 129. Ibid
- Managed care keeping the frail out of nursing homes, New York Times, http://www. nytimes.com/2012/02/24/nyregion/managed-care-keeps-the-frail-out-of-nursing-homes. html?pagewanted=all&_r=1&, 2012. Accessed 1 June 2012.
- Program of All-Inclusive Care for the Elderly (PACE), Medicaid website, http://www. medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Support/ Integrating-Care/Program-of-All-Inclusive-Care-for-the-Elderly-PACE/Program-of-All-Inclusive-Care-for-the-Elderly-PACE.html, Accessed 14 June 2012.
- What Ever Happened to the Long-Term Care Commission, Forbes, February 2013, http://www. forbes.com/sites/howardgleckman/2013/02/25/what-ever-happened-to-the-long-term-care-commission/, Accessed February 2013.

Acknowledgments

Interviewees

As part of the research for this paper, KPMG interviewed experts within the aged care sector from across the world, including thought leaders, professionals and practitioners. The time and insights of these individuals are greatly appreciated.



Australia

Paul Gregersen

BUPA Care Services Managing Director

Dr. Stephen Judd

HammondCare Chief Executive Officer

Steve Teulan

UnitingCare Ageing Director

Brazil

Dr. Alexandre Kalache

International Longevity Centre – Brazil President

Canada

Dr. Dennis Kodner

The King's Fund International Visiting Fellow

Janet E. McElhaney

Health Sciences North and Advanced Medical Research Institute of Canada HSN Volunteer Association Chair in Geriatric Research and Medical Lead for Seniors Care

Scott McLeod

Central West Local Health Integration Network Chief Executive Officer

China

Ninie Wang

Pinetree Senior Care Services Founder and Chief Executive Officer

Finland

Dr. Harriet Finne-Soveri

National Institute for Health and Welfare Chief of the Ageing and Services Unit

Juhani Lehto

University of Tampere Professor of Social and Health Policy

France

Gilles Duthil

Silver Life Institute President

Germany

Michael Plazek

Public Governance Institute, Germany Research Associate

Hong Kong

Patrick Cheung

Jade Club

Founder and Chief Executive Officer

Dr. Edward Leung

Hong Kong Association of Gerontology President

Japan

John Creighton Campbell

Institute of Gerontology, Tokyo University Visiting Research Associate

Toshiaki Hashimoto

Message Co. Ltd.

Chairman and Chief Executive Officer

Shozo Ikeda

Ryukoku University Emeritus Professor

Shigeru Tanaka

Graduate School of Business Administration, Keio University

Professor and Associate Dean

Osamu Utsunomiya

Health and Welfare Bureau for the Elderly, Ministry of Health, Labor and Welfare Director, Ageing and Health Division

Netherlands

Jos de Blok

Buurtzorg Nederland Founder and Managing Director

Gabrielle Davits

Foundation for Regional Healthcare (SVRZ) Chief Executive Officer

Dr. Joris Slaets

Groningen University Professor

Norway

Jon Magnussen

Norwegian University of Science and Technology Professor of Health Economics and Head of the Department of Public Health and General Practice

Singapore

Janice Chia

Ageing Asia Pte. Ltd Managing Director

Dr. Gerald C H Koh

Saw Swee Hock School of Public Health Associate Professor & Director of Undergraduate Medical Education

Dr. Mary Ann Tsao

Tsao Foundation
President and Founding Director

Yeoh Lam Keong

Institute of Policy Studies & Economics Society of Singapore Senior Adjunct Fellow & Vice President

Taiwan

Dr. Chung-Fu Lan

National Yang-Ming University Honorary Professor



United Kingdom

Dr. Clive Bowman

Bupa Care Services Medical Director

Ali Crossley

McCarthy and Stone Executive Director

Carolyn Denne

Social Care Institute for Excellence, London

Head of Service Quality

Baroness Sally Greengross

Equality and Human Rights Commission Commissioner

Peter Hay

Birmingham City Council Strategic Director, Adults and Communities

Richard Humphries

The King's Fund Senior Fellow

Ruthe Isden

Age UK

Public Services Program Manager

Dr. David Oliver

National Clinical Director for Older People Department of Health

Lord Chai Patel

Court Cavendish Chairman

Jeremy Porteus

Housing Learning and Improvement Network Director

United Nations

Manfred Huber

United Nations Agency Aging Policy Specialist

US

Michael Adams

Services and Advocacy for GLBT Elders (SAGE)

Executive Director

Eric Dishman

Intel Corporation Intel Fellow and General Manager of Health Strategy and Solutions

Dr. Ruth Finkelstein

New York Academy of Medicine Senior Vice President for Policy and Planning

Dr. Arthur Garson, Jr.

The Grand-Aides Foundation Chairman

Donna Green

The Grand-Aides Foundation Chief Executive Officer

Lilliam Barrios-Paoli

New York City Department for the Ageing Commissioner

Bobbie Sackman

Council of Senior Centers and Services of New York City Director of Public Policy

Project team

This paper would not have been possible without the input and support of the following people:

Core project team

Dr. Loke Wai Chiong Nigel Edwards Piumi Abeywardana

Research

Tanvi Arora Gaurav Narang

Interviewers

Ruth Lewis Beatrice Brooke Andrea Cohen Emmeline Kunst Sachiko Wada Noriyasu Furuya Dominic Carrell Anne Fitzpatrick

Expert panel

David Hansell Kathy Ostin Keiichi Ohwari Marc Berg Nancy Valley

Overall project support

Gerald Crowell
Jan De Boer
Eric Tsao
Janet Davidson
Jet Wiechers
Benoit Pericard
Dr. Sören T. Eichhorst

Global Healthcare Contacts

Chairman

Global Health Practice Mark Britnell

T: +44 20 7694 2014

E: mark.britnell@kpmg.co.uk

Africa

Sven Byl

T: +27 11 647 6713

E: sven.byl@kpmg.co.za

Angola

Fernando Mascarenhas

T: +244 227 280 102

E: femascarenhas@kpmg.com

Argentina

Mariano Sanchez

T: +5411 4316 5774

E: marianosanchez@kpmg.com.ar

Australia

Liz Forsyth

T: +61 2 9335 8233

E: Iforsyth@kpmg.com.au

Austria

Johann Essl

T: +43 732 6938 2238

E: jessl@kpmg.at

Brazil

Humberto Salicetti

T: +55 11 21833006

E: hsalicetti@kpmg.com.br

Bulgaria

Iva Todorova

T: +35 95 269 9650

E: itodorova@kpmg.com

Cambodia

Cong Ai Nguyen

T: +84 83 821 9266

E: acnguyen@kpmg.com.nv

Canada

Georgina Black

T: +1 416 777 3032

E: gblack@kpmg.ca

Central/Eastern Europe

Miroslaw Proppe

T: +48 604 496 390

E: mproppe@kpmg.pl

China

Norbert Meyring

T: +86 (21) 2212 2888

E: norbert.meyring@kpmg.co.cn

Czech Republic

Karla Vorackova

T: +420222123500

E: kvorackova@kpmg.cz

Denmark

Claus Hammer-Pedersen

T: +45 25 294 721

E: chammerpedersen@kpmg.dk

France

Benoit Pericard

T: +33 1 55 68 86 66

E: benoitpericard@kpmg.fr

Germany

Volker Penter

T: +49 30 2068 4740

E: vpenter@kpmg.com

Hungary

Andrea Nestor

T: +36 1 887 7479

E: anester@kpmg.hu

India

Amit Mookim

T: +91 22 3090 2141

E: amookim@kpmg.com

Indonesia

Tohana Widjaja

T: +62 21 574 2333

E: tohana.widjaja@kpmg.co.id

Ireland

Alan Hughes

T: +353 17004169

E: alan.hughes@kpmg.ie

Israel

Haggit Philo

T: +972 3 684 8000

E: hphilo@kpmg.com

Italy

Alberto De Negri

T: +39 02 67643606

E: adenegri@kpmg.it

Japan

Keiichi Ohwari

T: +81 3 5218 6451

E: keiichi.ohwari@jp.kpmg.com

Korea

Min Shik (Michael) Cho

T: +82 2 2112 7777

E: mcho@kr.kpmg.com

Luxembourg

Patrick Wies

T: +352 22 51 51 6305

E: patrick.wies@kpmg.lu

Malaysia

Yeekeng Lee

T: +60 3 7721 3388

E: leeyk@kpmg.com.my

Mexico

Andrés Aldama Zúñiga

T: +01 55 5246 8589

E: aaldama@kpmg.com.mx

the Netherlands

Wouter Bos

T: +31 0 20 656 7428

E: bos.wouter@kpmg.nl

New Zealand

Gareth Jones

T: +64 4 816 4812

E: gjones5@kpmg.co.nz

Norway

Lisbeth Normann

T: +47 406 39607

E: lisbeth.normann@kpmg.no

the Philippines

Emmanuel P Bonoan

T: +63 2 885 7000

E: ebonoan@kpmg.com.ph

Portugal

Fernando Faria

T: +351210110108

E: ffaria@kpmg.com

Qatar and Bahrain Tim Bentlev

T: +974 44576444

E: tbentley@kpmg.com

Romania

Maria Elisei

T: +40 37 237 7800

E: melisei@kpmg.com

Russia

Victoria Samsonova

T: +74959374444

E: vsamsonova@kpmg.ru

Saudi Arabia

Sashikanth Ramakrishnan

T: +966 1 874 8615

E: rsashikanth@kpmg.com

Singapore

Wah Yeow Tan

T: +65 641 18338

E: wahyeowtan@kpmg.com.sg

Spain

Candido Perez Serrano

T: +34 914 513091

E: candidoperez@kpmg.es

Sweden

Annacari Astner Wimmerstedt

T: +46 8 7236120

E: annacari.astnerwimmerstedt@kpmg.se

Switzerland

Michael Herzog

T: +41 44 249 31 53

E: michaelherzog@kpmg.com

Taiwan

Eric K. J. Tsao

T: +88 628 101 6666

E: erictsao@kpmg.com.tw

Thailand

Chotpaiboonpun Boonsri

T: +66 267 721 13

E: boonsri@kpmg.co.th

UK

Andrew Hine

T: +44 121 2323744

E: andrew.hine@kpmg.co.uk

US

Ed Giniat

T: +1 312 665 2073

E: eginiat@kpmg.com

Vietnam

Kwang Puay Chong

T: +84 8 3821 9266

E: chongkwangpuay@kpmg.com.vn

Global Human & Social Services Contacts

Global Chair

Government & Infrastructure John Herhalt

T: +1 416 777 8778

E: jherhalt@kpmg.ca

Global Chair

Human & Social Services

Paul Hencoski

T: +1 212 872 3131

E: phencoski@kpmg.com

Global Head

Human & Social Services Center of

Excellence

David Hansell

T: +1 212 954 2867 **E:** dahansell@kpmg.com

Canada

Craig Fossay

T: +1 416 777 3394

E: cfossay@kpmg.ca

Germany

Axel Bindewalt

T: +49 211 475 7707

E: abindewalt@kpmg.com

India

Sudhir Singh Dungarpur

T: +91 (124) 307 4171

E: sdungarpur@kpmg.com

Italy

Pier Luigi Verbo

T: +39 06 80971251

E: pverbo@kpmg.it

UK

Alan Downey

T: +44 20 73116541

E: alan.downey@kpmg.co.uk

US

Nancy Valley

T: +1 518 427 4610

E: navalley@kpmg.com

South Africa

Roy Muller

T: +273 13 276101

E: roymuller@kpmg.com

kpmg.com/socialmedia









The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

© 2013 KPMG International Cooperative ("KPMG International"), a Swiss entity. Member firms of the KPMG network of independent firms are affiliated with KPMG International. KPMG International provides no client services. No member firm has any authority to obligate or bind KPMG International or any other member firm vis-à-vis third parties, nor does KPMG International have any such authority to obligate or bind any member firm. All rights reserved.

The KPMG name, logo and "cutting through complexity" are registered trademarks or trademarks of KPMG International.

Designed by Evalueserve.

Publication name: An uncertain age: reimagining long term care

Publication number: 121549 Publication date: April 2013