UNIVERSITY OF AUCKLAND Waipapa Taumata Rau NEW ZEALAND | BUSINESS SCHOOL

Economic Policy Centre

The University of Auckland Business School

Long term in-home and residential care for our ageing population

M.Claire Dale[1] **and Susan St John**[2]

February 2022.

Economic Policy Centre,

Pensions and Intergenerational Equity Hub

PIE BRIEFING PAPER NO. 2022-1

This PensionBriefing updates the section on long-term care policy in St John & Dale (2019) *Decumulation, Time to Act*, and contributes an up-to-date context for New Zealand's 2022 Review of Retirement Incomes Policies. Comments on this Pension Briefing are welcome.

[1] Research Fellow, PIE hub m.dale@auckland.ac.nz.

[2] Associate Professor Economics PIE hub s.stjohn@auckland.ac.nz

Introduction

New Zealand's population is ageing but it is less understood that there is also a rapid ageing of the older population itself. In less than 10 years, by 2030, the baby-boomers will begin to swell the 85+ age group where the costs of care can rise sharply. By mid-century while we can expect the numbers over 65 years to nearly double (from 0.79 million in 2020 to around 1.4 million), the numbers over 85 are expected to be roughly treble (from 88,000 in 2020 to around 300,000).[3]

The challenges are huge. As noted by the Minister for Seniors, Ayesha Verrall:

> *It is vital to improve the aged care system as New Zealand's population ages. We need to make sure older New Zealanders experience consistent, quality care that's culturally appropriate for everyone, particularly our Māori and Pacific communities*.[4]

Complementary considerations such as investment early in the life course and in health services to provide equitable opportunities for positive life outcomes and more years of healthy life expectancy are vital,[5] but this briefing is focused primarily on how aged care is currently provided and paid for in New Zealand today.

Context

Table 1 outlines the latest StatsNZ data on life expectancy at birth. These are "period" data which means they are not estimates of how long people will live, but rather how long people would live hypothetically if the death rates current in 2017-19 prevailed at all ages throughout life. Overall life expectancy using period life tables at age 65 is 19.5 years for males and 21.7 years for females.[6]

There are clear differences based on gender and ethnicity with multiple factors at play. Life expectancy at birth was lowest in the most deprived areas of the country, at 78.5 years for females and 74.1 years for males. The highest life expectancies were in the least deprived areas, at 87.5 years for females and 84.7 years for males. On average, Asian residents have longer lifespans, and Māori and Pasifika have shorter lifespans compared to the rest of the New Zealand population.[7] There are also inequalities in health outcomes by ethnicity.[8]

Table 1. StatsNZ life expectancy data (April 2021).[9]

2017-2019	Maori female	Maori male	Pacifica female	Pacifica male	European 'or other' female	European 'or other' male	Asian female	Asian male
Years' life expectancy at birth	77.1	73.4	79	75.4	84.5	81	87.9	85.1

How long can a 65 year-old expect to live?

Life expectancy based on historic death rates are not a good guide of the average length of life remaining for given cohorts. Cohort analysis may give a more realistic picture by taking account of the actual mortality experience of a given cohort.[10]

Whether using period or cohort data, life expectancy is the *average* of the group in question, and do not give a good sense of the variability in outcomes. Further analysis is necessary. Using cohort analysis for the New Zealand population born in 1952 to illustrate how long today's younger superannuitants might expect to live, actuaries, O'Connell et al (2019) write:[11]

> *Of this cohort, 88% of the baby girls and 83% of baby boys survived to their 65th birthday in 2017. Having reached age 65, what lifespan might this cohort expect?*
> *• For women, cohort life expectancy is 89 years, but the most common (modal) age at death is expected to be 92. One in five women from this cohort is expected to live to at least age 95.*

---

[3] See https://www.stats.govt.nz/information-releases/national-population-projections-2020base2073.
With 90% probability, StatsNZ predict the population aged 65+ (0.79 million in 2020) will increase to 1.36–1.51 million by 2048 and to 1.61–2.22 million by 2073, and the population aged 85+ (88,000 in 2020) will increase to 266,000–318,000 by 2048 and to 348,000–513,000 by 2073.
[4] See https://www.tvnz.co.nz/one-news/new-zealand/aged-care-commissioner-recruitment-begin-18-health-complaints-services.
[5] See https://www.countiesmanukau.health.nz/assets/About-CMH/Performance-and-planning/health-status/2019-08_Counties_Manukau_Life_Expectancy-2018.pdf.
[6] New Zealand abridged period life table: 2017–19 | Stats NZX
[7] See https://www.wgtn.ac.nz/cpf/publications/pdfs/WP03_2014_OConnell-Longevity-and-eligibility-age-RIRP-Full-report-FINAL-2014-01-17.pdf.
[8] Ibid.
[9] See https://www.stats.govt.nz/news/growth-in-life-expectancy-slows.
10 Cohort analysis projects the average length of life left at a given age for a group of people born in the same year based on expected future average death rates.
[11] https://actuaries.org.nz/wp-content/uploads/2019/11/2-Longevity-RIIG-FINAL-Oct-19.pdf

> • *For males, cohort life expectancy is 86 years and the most common age at death expected to be 90. One in five men from this cohort is expected to live to at least age 93.*
> • *The probability of living to age 100 is 6% for women and 3% for men.*

For a woman reaching her 65th birthday in 2021, the prospects are even higher of reaching at least age 95. O'Connell (2021)[12] writes:

> *… those who survive to age 65 can expect to live on average to age 89, and half of them to at least age 90. The most common age at death is expected to be 92. Two in five can expect to live to at least age 95.*

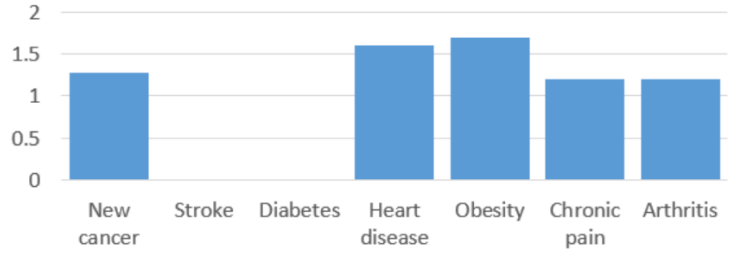
While life expectancy is increasing, 20-30% of the years of life gained over last 25 years are lived in poor health, including the conditions described below; and multimorbidity affects 1 in 4 adults in New Zealand.[13]

> *Long-term conditions include diabetes, obesity, cardiovascular and chronic obstructive pulmonary disease, cancer, asthma and other respiratory conditions, arthritis and musculoskeletal diseases, stroke, chronic pain, dementia, mental illness and addiction. Long-term conditions also include physical, sensory and intellectual disabilities*. (Associate Minister of Health, 2016, p. 33)

New Zealand females have a higher life expectancy than males, however they spend more of their life in poor health: in 2013 females required assistance for 16.7 years of their life, compared with 14.3 years for males (Ministry of Health, 2015). Of those aged 65+ who were InterRAI-assessed in the 2019/2020 year, women comprised 59% of those assessed for home care and 65% for Aged Residential Care (ARC).[14]

Some population groups, such as people with intellectual disabilities, and Māori and Pacific peoples, tend to have higher rates of long-term and age-related conditions at earlier ages, as shown in the Figure below:

Figure 1. Ratio of Māori to non-Māori prevalence for people aged 50 years and over[15]



The number of New Zealanders with dementia is expected to rise from an estimated 50,000 today to 78,000 by 2026, and to reach 170,000 by 2050 (Deloitte, 2017). While the incidence of dementia rises with age[16] the degree of cognitive function is probably best viewed as along a spectrum from mild cognitive impairment to full blown dementia requiring residential care. The progression from mild symptoms of incapacity for independent living can vary, but even mild mental decline makes complex financial management less possible and exposes vulnerable older people to exploitation and fraud.[17]

As people age, management of property and investment income can become increasingly problematic if they experience any cognitive decline. Instead of providing secure income and a peaceful retirement, lump-sums and real asset management can be a source of growing, time-consuming stress. Cognitive decline may be gradual and identified too late, leaving a person's assets at increasing risk.

---

[12] Referenced in 'How to make drawdown a success' at https://actuaries.org.nz/wp-content/uploads/2021/11/How-to-make-drawdown-a-success-FINAL-Nov21.pdf.
[13] See https://www.health.govt.nz/our-work/diseases-and-conditions/long-term-conditions/management-multimorbidity.
[14] See https://www.interrai.co.nz/assets/AR_interRAI_2020_FINAL-v2.pdf.
[15] See https://www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/older-peoples-health-data-and-stats/health-conditions-older-people. note '*For stroke and diabetes, data was not available at the time of publication'*
[16] https://www.health.govt.nz/system/files/documents/publications/healthy-ageing-strategy_june_2017.pdf.
[17] http://www.superseniors.msd.govt.nz/elder-abuse/: As many as one in ten older people in New Zealand will experience some kind of elder abuse.

The nature of care in older age

Long-term care and residential care issues can occur at any age, but the prevalence rises with age in older people.[18] Before residential care is required, home support services may be needed.[19] Although care-workers are not always available, New Zealand legislation provides for state-funded in-home support (but not 24-hour nursing/medical services) for those aged 65+ (Connolly, Broad, Boyd, Kerse, & Gott, 2013).

DHB-funded support services for older people (shown in Table 4) can help a person to maintain their independence and quality of life. Such services also assist a person to stay in their own home for as long as it is comfortable for them, and to continue to participate in their community.

To qualify for DHB-funded support services, the person needing in-home care must be a New Zealand citizen or a permanent resident, and have no immediate family or anyone else living with them who can help. In addition, they must meet the conditions of the needs assessment for care.[20]

A 2021 survey conducted by reverse mortgage provider Heartland Bank found that for 89.9% of respondents it was important or very important to remain in their homes during retirement.

> *The survey, conducted as part of a partnership with lifestyle website GrownUps, asked over 2,000 Kiwis aged 50+ for their thoughts on homeownership, retirement, NZ Super, reverse mortgages and more. The findings support the theory that many Kiwis and Australians are looking to 'age in place' rather than downsize, move to a retirement village or move in with family.*[21]

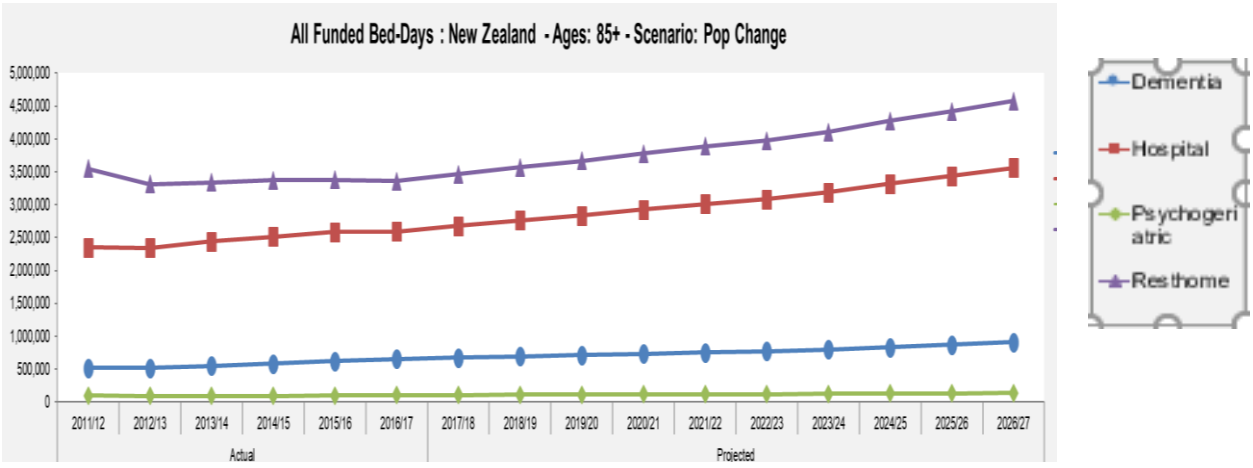
It was also found that only 12.3% of survey respondents feel that New Zealand Superannuation (NZS) on its own would be enough to fund the retirement they desire.

End-of-life care

A major but little understood risk factor for middle-income retirees is that they may incur expensive end-of life-care. Long-term care (LTC) covers all the care regardless of the place provided while Aged Residential Care (ARC) is aged care provided in a residential institution.[22] Residential care covers four levels: rest home care, age-related hospital care, dementia care, and psychogeriatric care. Different levels of care incur different fees and subsidies.

From 2030, the baby-boom bulge will all be over 65 and the oldest will begin to enter the 85+ years age bracket where the demand for ARC can be expected to increase dramatically. Figure 2 shows funded bed days for different forms of geriatric healthcare as expected over time for those over 85 years to illustrate the coming demands.

Figure 2. All funded bed-days source[23]



[18] See https://www.health.govt.nz/publication/healthy-ageing-strategy.
[19] Work & Income 2021 brochure *Services for Seniors*, available here, provides a useful guide to available support and services.
[20] For more information for older people see Needs Assessment and Support Services for Older People: What you need to know.
[21] See https://www.scoop.co.nz/stories/BU2202/S00190/90-of-older-homeowners-want-to-remain-in-their-home-in-retirement.htm.
[22] For a full discussion of long term care in New Zealand, see Dale & St John (2017) *Ageing and the Economics of Caring*, available here.
[23] See https://tas.health.nz/dhb-programmes-and-contracts/health-of-older-people-programme/aged-residential-care-funding-model-review/#Aged.

At 31 March 2020, of the 39,767 ARC beds available at facilities in New Zealand, 34,646 were occupied, and 55% of those were at one of the higher care levels.[24] Of a population of around 790,000 aged 65+ at that time, about 4.4% were in ARC. This small percentage disguises the reality that over the course of retirement, the probability of being in ARC is much higher, and around half the older aged population will use residential care at some point (Broad et al., 2015).

Demographic change means the absolute numbers in care are expected to increase by 72% from now until 2031, providing that the facilities are available to meet demand.[25] The New Zealand Aged Residential Care Association publishes an annual *Aged Residential Care Industry Profile.* The 2019-20 edition[26] reports that:

> *Of New Zealand's 668 ARC facilities, 49% are operated by major groups of care facilities, and these groups provide 62% of ARC beds. 50% of ARC facilities are operated by individuals or are part of a minor group (up to 4 homes or 200 beds) and these provide 38% of beds. Some 1% of ARC facilities are owned by DHBs…. Around 77% of facilities are in the commercial sector, providing 79% of beds. Some 22% of facilities are in the charitable sector and provide 21% of beds. The balance of around 1% of beds are in DHB owned ARC facilities.*

The issue of age care, its quality and cost, particularly affects women. *Gender and ethnicity are interwoven in caregiving and care receiving*.[27] At older age brackets, the dominance of female numbers over male numbers in the population becomes increasingly pronounced. Moreover, male partners are more likely to be looked after by their wives when care is required. When women themselves need care, ARC is more likely to be necessary.

This disparity in ARC use by gender is shown in Table 2. Research in New Zealand (Broad, et al., 2015, Table 1) found around 45% of females die in ARC compared to around 31% of males and that use of ARC is much higher at each age group for women than men.

Table 2. Deaths & lifetime use of residential aged care in New Zealand 2006-2010

	Annual deaths registered in period			Estimations	
	Annual average N	Died in acute hospital %	Died in RAC %	Hospital deaths from RAC[b] %	Lifetime use of RAC[c] %
Men					
65-74 years	2,770	36.9	15.3	4.0	19.3
75-84 years	4,522	37.9	29.7	7.2	36.9
85+ years	3,273	34.1	46.7	10.9	57.6
Men 65+	10,565	36.5	31.2	7.5	38.7
Women					
65-74 years	1,988	38.9	18.7	4.8	23.5
75-84 years	3,903	37.6	36.7	9.0	45.7
85+ years	5,979	26.8	58.5	11.8	70.3
Women 65+	11,870	32.4	44.7	9.7	54.4

Provision of Aged Care

The public health system provides free-of-charge care for ordinary health emergencies such as a broken hip or heart attack, and GP visits are subsidised (although specialists in the private sector are expensive).

Older people who need extra care or support can receive this either in their private home or in a retirement village, rest home, hospital or respite facility. While assistance to live independently may be provided by family, friends, and/or community groups, some people prefer or require assistance from paid workers. As noted above, many older people have their care needs (including personal care) provided in their home by DHB-funded care-workers. Table 3 shows examples of types of support provided by aged care workers.

---

[24] See https://nzaca.org.nz/wp-content/uploads/2020/08/ARC-Industry-Profile-2019-20-Final.pdf.
[25] Ibid.
[26] See https://nzaca.org.nz/advocacy-and-policy/arc-industry-profile-2019-20/.
[27] See https://doi.org/10.1111/ajag.12671.

Table 3. Types of support provided to assist with in-home independence[28]

Support with:	Examples:
Wellbeing	-Looking for and reporting changes in wellbeing -Assisting with medication, medical procedures and tests, physical therapy -Helping with rehabilitation after surgery, injury or illness -Respite care (to give family carers a break) -Palliative care (caring for someone who is terminally ill)
Mobility	-Providing strength and balance exercise support -Moving or lifting people with limited mobility, including using special equipment
Personal care	-Showering -Toileting -Cleaning teeth, brushing hair, shaving, cutting toenails -Dressing and undressing
Daily activities	-Preparing meals and help with eating -House cleaning (vacuuming, cleaning kitchen and bathroom floors and surfaces, washing and hanging out clothes) -Shopping

Paying for Age Residential Care (ARC): the means test

Unlike in-home care, ARC subsidies are subject to a means test, which reduces a person's entitlement based on both income and assets, with certain exemptions allowed. These tests apply dollar for dollar, one dollar more of allowable assets or income means one dollar more of costs of care up to the cap must be paid. The cap varies by region, in 2021 from $66,393.60 in Auckland (up from $60,020 in 2019) to $61,084.40 per annum in Buller (up from $55,357 in 2019).[29]

Self-funding, high-needs people (for example, requiring hospital-level care) receive a top-up subsidy but do not pay more than the maximum cap.

> *The maximum contribution is the maximum weekly amount (inclusive of GST) that a resident assessed as requiring long-term residential care (through a needs assessment and service coordination agency) is required to pay for contracted care services provided to them in the region in which their rest home or continuing care hospital is located.*
>
> *The maximum contribution is the same for all residents regardless of the type of contracted care services they receive. It is equivalent to the rest home contract price applying to residential care facilities in each territorial local authority region.*[30]

For residential care, costs must be first met from a person's assets until they are exhausted to the low limit as shown in Table 4.

Table 4. Aged Residential Care allowable assets 2019[31] and 2021[32]

Years	Single person	Married couple with one in care	Married couple, both in care
2019 CPI linked	$ 230,495	$ 126,224, plus house and car Or $ 230,495 total	$ 230,495
2021	$239,930	$ 131,391, plus house and car Or $ 239,930 total	$ 239,930

The Income Test[33] includes NZS and any other pensions and other sources of income, but excludes earnings of a partner in paid employment, NZ War Disablement pension and 50% of private super schemes as detailed below. In addition, a declaration of assets sold or gifted and any trust documents may be required.

There is no public funding available for premium room fees (common in residential care) or additional services. Those on the Residential Care Subsidy may choose to pay premium room fees privately to access the benefits. Premium fees of $20 to $50 per week may apply to rooms with private bathrooms, extra space, or garden access,

[28] See https://www.health.govt.nz/your-health/services-and-support/health-care-services/services-older-people/support-services-older-people, and see https://www.newzealandnow.govt.nz/resources/working-in-aged-care.
[29] See https://www.gazette.govt.nz/notice/id/2021-go3187.
[30] See https://www.gazette.govt.nz/notice/id/2021-go3187.
[31] See https://www.health.govt.nz/our-work/life-stages/health-older-people/long-term-residential-care/income-and-asset-testing.
[32] See https://www.workandincome.govt.nz/products/a-z-benefits/residential-care-subsidy.html.
[33] See https://www.seniorline.org.nz/rest-homes-hospitals/cost-of-care/income-and-asset-testing/.

but do not apply to features that can be switched off, such as newspaper delivery, a Netflix or Sky TV subscription, or a private phone line.[34]

Impact of the means test

People aged 65+ who meet the means test are fully state-subsidised (based on an InterRAI Needs Assessment)[35] into basic long-term ARC but may retain a small amount of spending money from their NZS. However, the retention of a small amount of NZS will not pay for dental and podiatrist care, glasses, hearing aids or better amenities in the aged-care facility. Fully subsidised residents may have to draw on their meagre allowable savings limits or might have to endure a large drop in living standards.

People with high incomes, on the other hand, can often pay the capped fee for ARC from their income without depleting their savings and may even continue to accumulate assets.

It is the middle-income group who face a rapid erosion of their capital and income under the severe means test. This can impact on their family who either see their inheritances rapidly disappearing or must pay the bill.

The exemption levels shown in Table 4 are indexed to the CPI each July and do not reflect the growth in housing prices. There are some disturbing anachronisms such as the treatment of couples in care vs the treatment of singles with the same low asset exemption for both. Few assets are excluded. These are primarily pre-paid funeral expenses, personal belongings such as clothing and jewellery, and household furniture and effects.

An older person whose spouse enters care may find their joint financial assets quickly eroded. Assets that are included in the Asset Test are:

- cash or savings
- investments or shares
- life insurance policies with a surrender or cash asset value
- loans made to other people (including family trusts)
- boats, caravans and campervans
- investment properties
- Assets given away in the last 5 years over $6,500 of assets per individual or couple when one is in care. Both in care, the exempt gift amount doubles.
- Assets given away over 5 years ago above $27,000 a year regardless of whether one or two of a couple are in care.

Examples of income that may be considered in the income test include

- New Zealand Superannuation or any other benefit
- 50% of private superannuation payments received by the person and their spouse (partner)
- 50% of life insurance annuities received by the person and their spouse (partner)
- Overseas Government pensions (excluding a War Disablement Pension)
- Contributions from relatives
- Accident insurance payments
- Earning from investments or business or employment
- Redundancy or termination payments
- Income from a family trust
- Income that the person or their spouse has directly or indirectly deprived themselves of.

As of 1 July 2021, income from any assets is included in the income test except for:

- the first $1,042 for a single person
- the first $2,083 for a couple with both in care
- the first $3,125 for a couple with one partner in the community
- for a couple with one partner in care, any income from paid employment of the partner living in the community is also excluded.[36]

---

[34] For more information about when premium room fees can and cannot apply, see section A13 of the Age-Related Residential Care Services Agreement.
[35] See https://www.health.govt.nz/your-health/services-and-support/health-care-services/services-older-people/support-services-older-people.
[36] See https://www.workandincome.govt.nz/map/deskfile/extra-help-information/residential-care-subsidy-tables/income-from-assets-exemption-current.html.

The small exempt amounts compromise the ability to access premium options, dental care beyond check-ups, specialist care and possibly gifts for children and grandchildren.

Total ARC revenue in 2021/22 is estimated to be $3.8bn (up 7.1% over 2020/21)[37] including the residential care subsidy received in part or in full by two-thirds of ARC residents. The public cost of ARC is now around $1.4 billion per year, with an annualised growth since 2017 of 5.8%. There is a further estimated $2.4 million contributed by residents under the means test or to meet 'premium' charges and other personal expenses (Jones, 2019).

It is clear that as the asset exemption level has become further out of touch with housing prices, more is effectively contributed by residents who fail the means test. With such a severe means test in place, including looking at past gifting, there is a danger that people structure their affairs early to qualify for means-tested long-term care subsidies in later retirement. This may lead to alienation of assets to family members who won't necessarily act to protect the interest of the older person who requires care and finds that only a bare minimum is provided by the state.

Another critical issue: finding the necessary carers

New Zealand data shows that, as at January 2018, around 16,000 staff were working in in-home care, and around 22,000 caregivers and 5,000 nurses were working in aged residential care facilities. By 2026, between 12,000 and 20,000 more residents will need aged residential care, and demand for workers is expected to increase by between 50% and 75% (full time equivalents).[38]

> Staff shortages may be the primary risk facing the sector. In February 2022, the SEEK website showed 3,069 aged care vacancies.[39] *This crisis of staffing also comes at a point when demand is steady and growing. While our aging population in New Zealand is increasing, we are also seeing changes in the way care is being accessed. The biggest trend is that older New Zealanders are choosing to wait longer to access formal care, which means by the time they arrive at a facility their stay will be shorter, but their need for expert care is more acute... A big challenge facing the sector is that the 'age in place' option will continue to grow, particularly as the nursing shortage continues to bite. The prospect of going into care becomes a bleak one when it's clear our loved ones will not be able to receive the care they need or deserve.*[40]

Government funding for a person in ARC is between $130 and $250 per night, compared to close to $1,000 per day in a public hospital. The larger ARC providers are able to maintain necessary levels of care through profitable property development and their retirement villages. For those ARC providers where government funding is the only revenue stream, the chances of survival are low, and small provincial providers are often the first places to close. This leaves ageing Kiwis in small towns with limited choices: moving away from family and friends to go into a retirement village or aging in place with inadequate support.

Understaffed facilities result in overworked carers who burn out and leave the industry, exerting even more pressure on those who remain. Lower staffing levels means lower levels of care. As aged care facilities struggle to survive, more people requiring care will create a heavier burden on the public healthcare system. DHBs under greater pressure will cause the level of care for the wider population to deteriorate.

> *The sector did an extraordinary job around covid last year – the best in the world – and they should take heart from that. But the shortage of nurses is causing a ripple effect across the healthcare sector and without immediate solutions the care of older New Zealanders may be impacted.*[41]

Discussion

There are multiple significant systemic risks facing people as they age identified in this paper, including that there will be insufficient care beds and nursing staff to accommodate the expected increased demand. The risks that are faced by middle income retirees that are largely uninsurable in the private sector[42] include:

- unanticipated inflation or low interest rates eroding savings,
- living longer than expected,
- dementia,

---

[37] See https://www.ibisworld.com/nz/bed/total-government-expenditure-on-aged-care-services/90/.
[38] See https://www.newzealandnow.govt.nz/resources/working-in-aged-care.
[39] See https://www.seek.co.nz/aged-care-jobs.
[40] See https://www.grantthornton.co.nz/insights/care-worker-shortage-here-comes-the-tipping-point/.
[41] See https://www.grantthornton.co.nz/insights/care-worker-shortage-here-comes-the-tipping-point/.
[42] See St John and Dale (2019) for a discussion of risk and uncertainty and market failures in private insurance markets for many of the risks that older people face.

- requiring expensive long-term care, and
- being able to access suitable caregivers or ARC beds.

If middle-income people are to have insurance for the uncertainties they face, public policy intervention is likely to be required. Social insurance can overcome some of the limitations of private insurance. New Zealand has two relevant social insurance programmes in the context of LTC: a public health system and a basic state pension, NZS. While a public health system and a basic wage-indexed state pension provide some degree of protection, the question is: Will they be sufficient for the next 40 years or more, or are other state-interventions required?

Financial protection for middle income people may be improved through some kind of state-supported LTC insurance as considered in RPRC's next briefing on KiwiSpend.[43] but financial innovation alone cannot solve the emerging problems of extra demand. ARC is labour intensive and supply side policies are needed if there are to be enough real resources to provide for the LTC needs of the older population in the future.

References

Associate Minister of Health. (2016). Healthy Ageing Strategy. Wellington: Ministry of Health.

Broad, J., Ashton, T., Gott. M., McLeod, H., Davis, P., & Connolly, M., J. (2015). Likelihood of residential aged care use in later life: a simple approach to estimation, with international comparison. *Australian New Zealand Journal of Public Health*.

Connolly, M., J, Broad, J. B., Boyd, M., Kerse, N., & Gott, M. (2013). Residential aged care: The de facto hospice for New Zealand's older people. *Australasian Journal on Ageing*.

Dale, M. C. (2017). Ageing and the economics of caring (2016 Report Updated) *Working Paper*. Auckland: Retirement Policy and Research Centre, Department of Economics, University of Auckland.

Jones, N. (2019, 20 August). Rest-home costs under microscope, *NZHerald*, p. A9.

Ministry of Health. (2015). Mortality and Demographic Data 2012. Wellington: Ministry of Health.

O'Connell, A. (2021). New Zealand longevity update, 2021. longlifepensions.com. https://longlifepensions.com/2021/06/03/new-zealand-longevity-update-2021

St John, S. & Dale, M.C. (2019) *Decumulation: time to act*, Retirement Policy and Research Centre, https://cdn.auckland.ac.nz/assets/business/about/our-research/research-institutes-and-centres/RPRC/publications/TOR%208%20FINAL%20St%20John%20and%20Dale%205%20September.pdf

RIIG (2019). "Longevity in New Zealand: Implications for Retirement Income Policy." Retirement Income Interest Group of the New Zealand Society of Actuaries https://actuaries.org.nz/wp-content/uploads/2019/11/2-Longevity-RIIG-FINAL-Oct-19.pdf

[43] For a discussion of the approach to LTC insurance taken in other countries see St John and Dale (2019).