Spending patterns *through* retirement: implications for retirement planning and drawdown

By the Retirement Income Interest Group
of the New Zealand Society of Actuaries

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Introduction

This report is written by the Retirement Income Interest Group (**RIIG**) and published by the New Zealand Society of Actuaries (**NZSA**). The NZSA is the professional body for actuaries practising in New Zealand. Actuaries find insights by analysing past trends, estimating future outcomes and managing future risks. Actuaries provide advice in sectors including healthcare, superannuation and KiwiSaver, insurance, banking and investments. The NZSA publishes Thought Leadership reports in the public interest.

RIIG has produced thought leadership reports on retirement income policy since 2015, including on longevity in New Zealand and on the future for the public pension New Zealand Superannuation. RIIG has also investigated current and future KiwiSaver account balances and has described a drawdown framework, with a set of Rules of Thumb to help people draw down savings in retirement.

Current members of RIIG are Alison O'Connell, Christine Ormrod, Dinushi Jayasuriya, Ian Perera (Convenor) and Kelvin Prisk. All are members of the NZSA.

Where views are expressed in this paper, they are the personal views of the authors. This paper does not necessarily reflect the positions of our employers or other members of the New Zealand Society of Actuaries. Any errors are our own.

The paper is not financial advice. It is intended for informed readers – policy makers, regulators, providers or advisers – and we hope it is also interesting for individuals who are considering how to prepare for their own retirement.

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Summary

This RIIG report urges those planning for or managing income in retirement to consider how spending patterns can be expected to change *throughout the duration* of retirement. What is assumed on this has a direct and significant effect on calculations of how much people should save to meet a retirement income target and on how much they can safely draw down while in retirement.

Spending patterns change through retirement

- International and local evidence suggests a reduction in real (inflation-adjusted) spending through retirement is likely for many New Zealand retirees.
- Analysis suggests a typical scenario for New Zealand retirees is that **real spending reduces by around 2% a year**, that is, retirees' spending growth is below general price inflation by that amount for each year after age 65 or full retirement (whichever comes later).

This means assumptions underlying savings benchmarks should be reviewed …

- Allowing for real spending to reduce through retirement significantly reduces the amount needed to be saved compared to commonly used benchmarks that assume spending stays level in real terms.
- For example, assuming general price inflation is 2% a year and spending stays level in real terms, then the dollar amount of required income will increase by 2% a year. But if real spending is assumed to reduce by 2% a year from age 65, the dollar amount of required income stays level, and the savings balance needed at age 65 could be 40% smaller.
- We recommend that industry and government agencies **review the assumptions** implicit or stated in their commentary and tools including calculators and savings guidelines and consider how to reflect that real spending typically reduces through retirement.

… and personal planning should consider desired personal spending at different stages of retirement

- Anticipating that real spending will reduce through retirement allows drawdown to last for longer or to be at a higher level in early retirement.
- Even allowing for real spending to reduce through retirement, older New Zealanders will still heavily rely on New Zealand Superannuation, public healthcare, and subsidies for later life care.
- We suggest that **retirees already drawing down income in retirement or near-retirees planning their future drawdown should**:

  - Think about the impact of their own annual spending in retirement reducing in real terms during retirement, and which drawdown Rule of Thumb might suit them.
  - Learn about the public services and subsidies that may be available in later life.
  - Consider their options for using housing equity.
  - Consider how they would pay for private medical expenses, at-home care costs, or residential care if they should need it and they prefer not to depend on public funding.

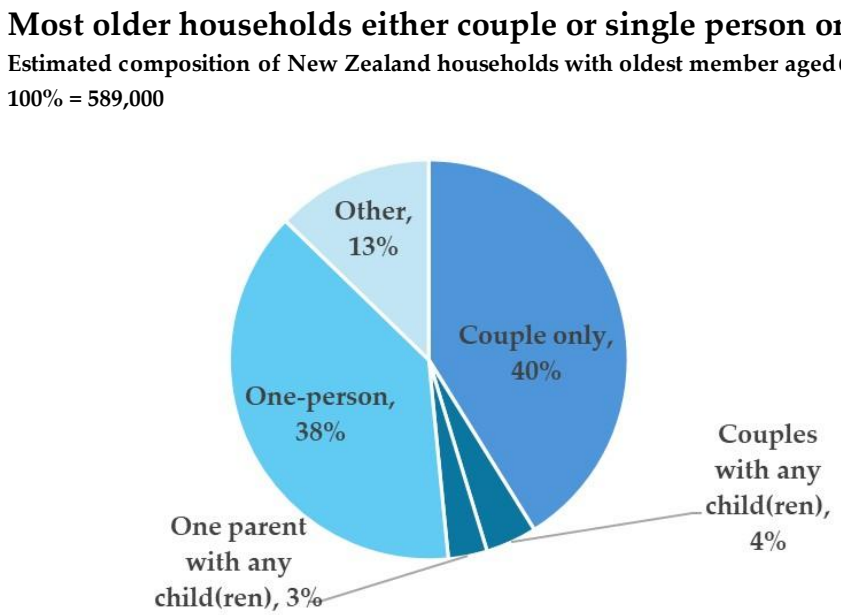
Chapter 1. Spending patterns through retirement

- International and local evidence suggests a reduction in real (inflation-adjusted) spending through retirement is likely for many New Zealand retirees.
- Analysis suggests a typical scenario for New Zealand retirees is that **real spending reduces by around 2% a year**, that is, retirees' spending growth is below general price inflation by that amount for each year after age 65 or full retirement (whichever comes later).

Older retired households in New Zealand spend less than younger retired households

In New Zealand there are around 589,000 private households where the oldest member is aged 65 and over. **Chart 1** shows that around four-fifths of these are formed by either a couple or a single person. We focus on our analysis on these types of households.

Chart 1[1]: Composition of over-65 households



Source: RIIG analysis using StatsNZ data from Household Economic Survey. Individuals in private households only.

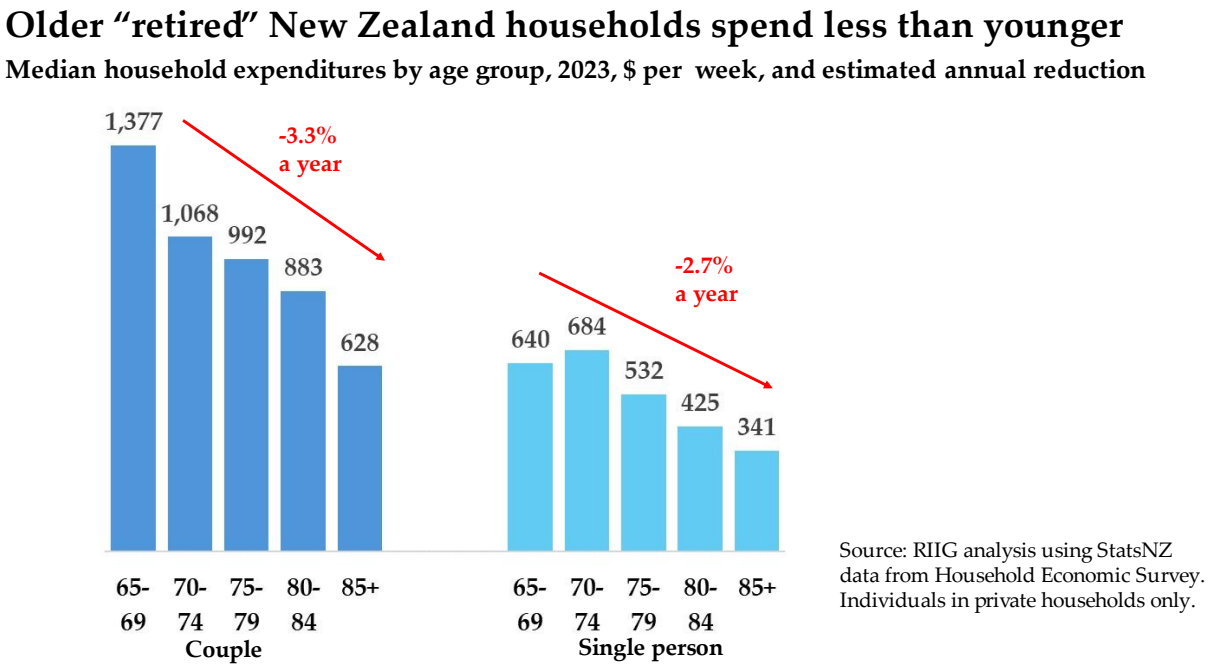
Chart 2 shows the spending each year by the median household in each age group over 65. RIIG obtained this new data from Stats NZ from the latest Household Expenditure Survey. The data is in 5-year age groups which allows for a better understanding of the changes by age than the usually published information.

[1] RIIG analysis of Household Expenditure Survey data obtained from StatsNZ by NZSA. Data received August 2024. This work is based on/includes customised Stats NZ's data which are licensed by Stats NZ for re-use under the Creative Commons Attribution 4.0 International licence.

Chart 2 shows that

- Older retirees in New Zealand spend less than younger (noting that we use households with the oldest person aged 65 and older as a proxy for "retirees").
- The rate of decrease in spending from ages 65-69 to ages 85+ is around **2.7% to 3.3% a year**. Spending at age 65-69 is likely to be influenced by mortgage repayments and income from employment.
- The rate of decrease in spending from the second age group, ages 70-74, is lower for couples, at **2.9%** a year but higher for singles in one-person households, at **3.8%** a year. Spending may have settled into a typical retirement pattern by ages 70-74 as homeowners' mortgage repayments and employment income are less evident in the data.
- The rate of decrease in spending for couples from ages 70-74 to ages 80-84 is around **2%** a year. Using this period excludes the larger drops at the beginning and end of the data series and could be considered a more conservative estimate of spending reduction.

Chart 2[2]: What the Household Economic Survey tells us of spending patterns by age of retiree



Source: RIIG analysis using StatsNZ data from Household Economic Survey. Individuals in private households only.

Looking at the spending categories shows that older retirees spend less overall than younger retirees largely as spending on discretionary categories such as clothing, transport, and recreation and culture decreases[3].

[2] RIIG analysis using StatsNZ data from Household Economic Survey. Data received August 2024. This work is based on/includes customised Stats NZ's data which are licensed by Stats NZ for re-use under the Creative Commons Attribution 4.0 International licence.

[3] Trinh Le and Euan Richardson. 2023. "Expenditure patterns of New Zealand retiree households". Motu Working Paper 23-07

The data does <u>not</u> tell us:

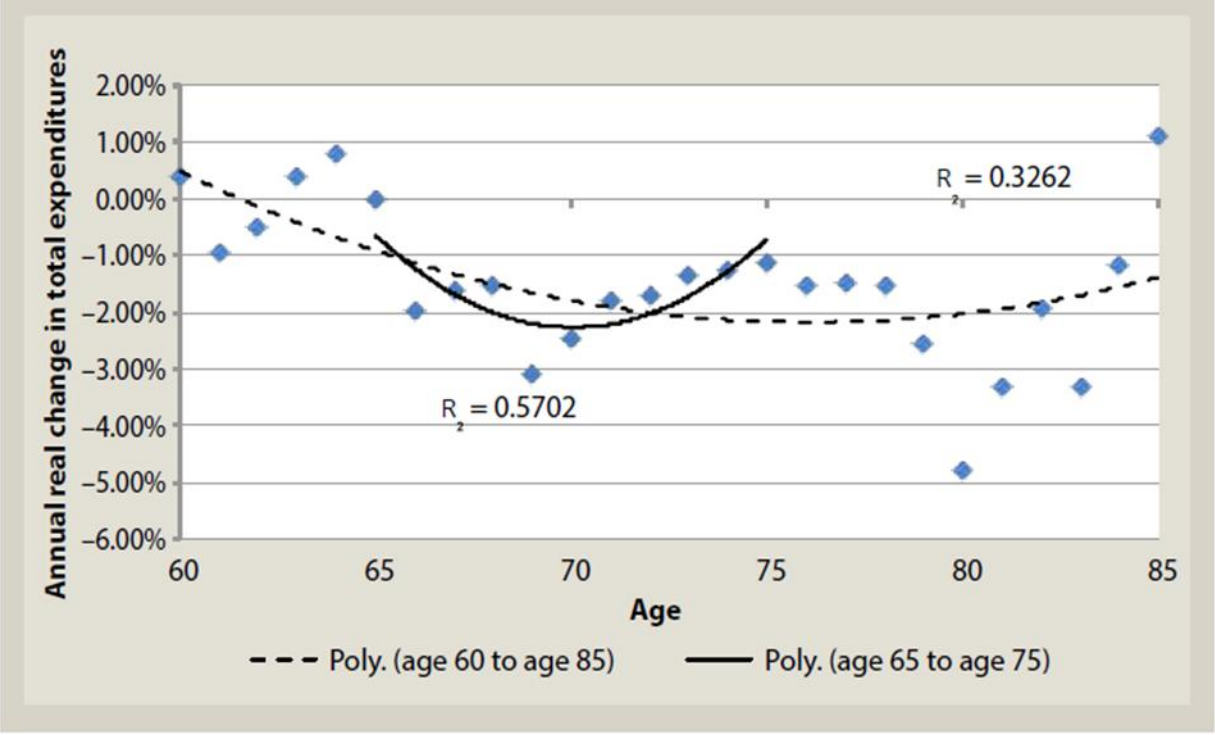
- Whether the lower spending is because people become less active during retirement and choose not to do the things that require this category of spending or become constrained by their resources and must give up such options. This is because **the survey looks at retirees of different ages at a point in time, rather than following the same retirees through retirement**.
- Whether systemic differences between cohorts, such as a higher proportion of owner occupiers among older retirees than younger, affect the trend.
- The cost impact of moving to caring facilities, as the survey is of people in private households only.

Further insight on these questions is available from international studies which follow retirees through retirement. Studies from Australia, US and UK agree that retirees reduce spending in real terms through retirement.

Spending in real terms typically reduces as people go through retirement in the US and UK

The classic starting point for this question is the "smile curve" reproduced in **Chart 3** which shows the annual real change in total expenditure for US retirees as they went through the years 2001 to 2009.

Chart 3[4]: Annual real change in consumption for retirees, US households aged 60-90 years, 2001-9



[4] Blanchett, D. (2014). "Exploring the Retirement Consumption Puzzle." Journal of Financial Planning May 2014

Chart 3 shows the annual real (that is, adjusted for general inflation) change in total expenditure for retirees at each age, based on their actual spend. It is the difference between retirees' inflation and general inflation. There are two takeaways:

- **The annual inflation rate for retirees ages 65-85 in this study was around 1% lower than the general inflation rate**. The inflation was always negative in real terms for all ages 65 to age 85. This shows that retirees spent less each year compared to what they would have done if their spend increased in line with general inflation.
- **Real inflation went above zero at ages 60-65 and over age 85**. This gives rise to the "smile", suggesting that spending increases at or above the general rate of inflation in early retirement (perhaps travel or other activity) and at the oldest ages (likely to be care or health-related costs).

Chart 4 shows further support for the general theme of reducing real spending as retirees age.

Chart 4[5]: Non-durable spending and incomes in the US and UK by age 1984-2010, in US 2010 dollar terms

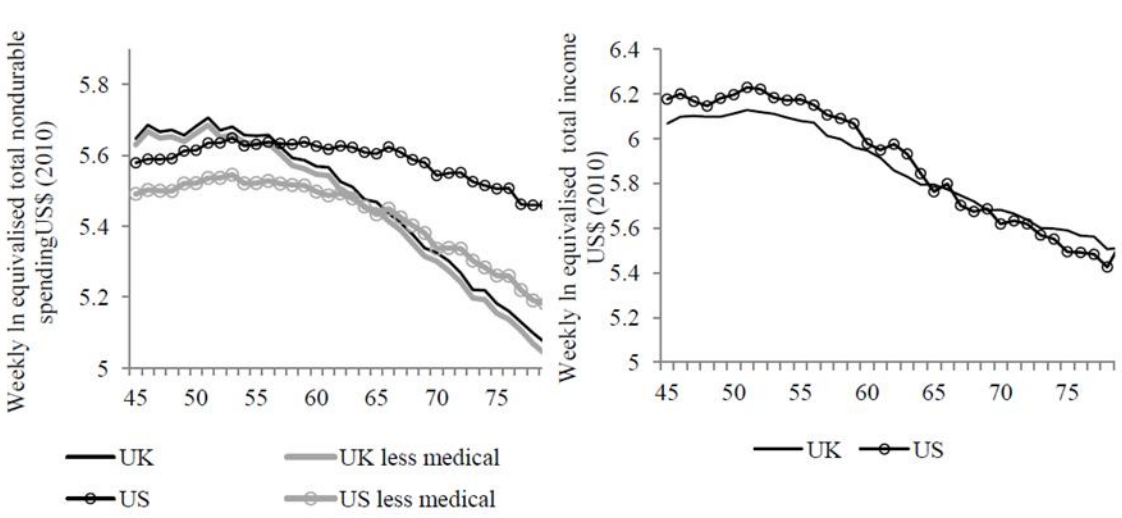


Figure 1. Nondurable Spending and Incomes in the US and UK by Age, 1984-2010

Note: Authors' calculations using BLS Consumer Expenditure Survey 1984-2010 and ONS Living Costs and Food Survey 1984-2010. Values are in US$ (2010). Figures equivalized using the modified OECD scale. The definition of spending includes medical expenditures.

[5] James Banks, R.B., Peter Levell, and James P. Smith. (2018). "Life-Cycle Consumption Patterns at Older Ages in the US and the UK: Can Medical Expenditures Explain the Difference?". https://www.ucl.ac.uk/~uctp39a/BBLS_AEJRevision_June_28_2018.pdf. US expenditures and incomes are deflated to 2010 terms using the Consumer Price Index (CPI). UK variables are deflated to 2010 terms using the Retail Prices Index and then converted into dollars using PPP exchange rates for that year taken from the OECD. Non-durables include food and other daily goods, medical, transport, recreation, and housing related costs, and excludes large purchases such as vehicles and white goods. Non-durables are comparable to the categories included in the New Zealand HES.

The takeaways from this research are that:

- **Average (real) nondurable expenditure fell by 2.2% each year in the UK and 1.4% in the US** between the ages of 45 and 79. In the UK (real) spending started falling around age 50, while in the US the fall started in the age range 60-65.
- The different patterns in spending between the US and UK are not about household incomes which decline in a similar way between the two countries.
- **The differences in decline in real spending instead seem to be because of the high medical costs retirees face in the US, where there is a precautionary motive for retaining savings in case of needing private healthcare.** In the UK, where less healthcare is funded directly by retirees at point of use, the study found a "negligible" precautionary motive. The study suggested this effect increased consumption growth at older ages in the US by around 0.8 percentage points per year on average across the ages studied.

Real spending also typically reduces as people go through retirement in Australia

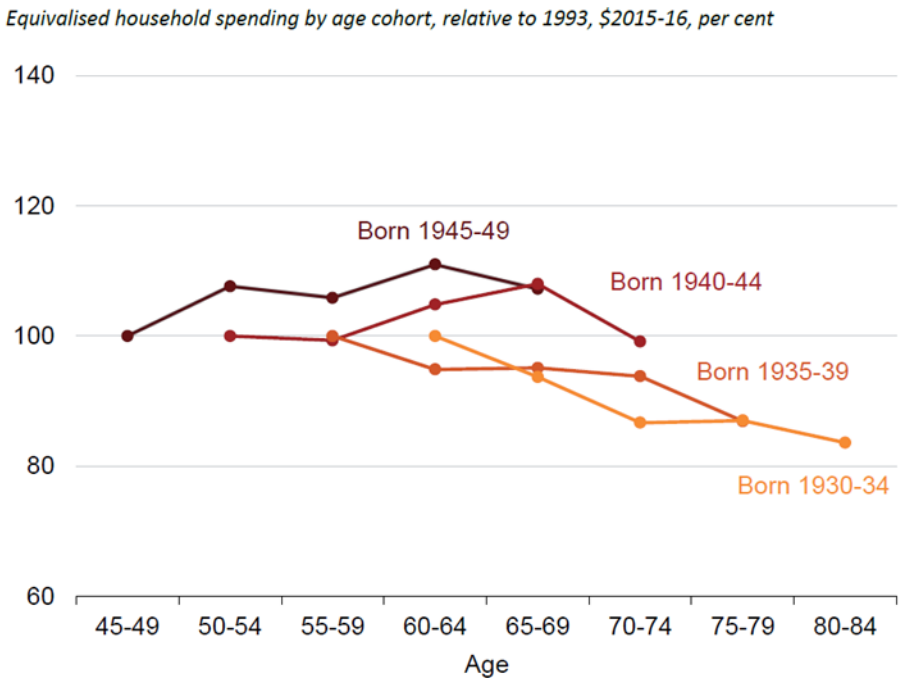
From Australia, a Grattan Institute review[6] gives further evidence to suggest a reduction in real spending through retirement. **Chart 5** shows that reduction in real spending by Australian retirees occurs throughout retirement for different cohorts. **The range of real spending reductions from age band 60-64 is around 0.5% to 1% each year**. The annual reduction is lower for later cohorts still in the early phase of retirement who may still be working.

Key takeaways from the research reviewed in this Grattan publication include:

- **Reducing real spending in retirement is not just a feature of one generation but can be seen for all generations as they age**. The Australian data follows retirees over time through retirement rather than looking at retirees of different ages at a point in time, as the New Zealand data earlier in this section did.
- **The fall in overall spending over age 70 reflects less active lifestyles** as it is mainly a result of lower discretionary spending on transport, recreation, furnishings and food. This is the same as the New Zealand, UK and US findings.
- **Retirees generally feel more financially comfortable than working-age people**. Plausible explanations of this "puzzle" include the natural change in expectations as people age, retirees adapting to lower living standards, retirees' self-assessed comfort levels being influenced by what they see of their peers' situations or retirees wanting less than typical benchmarks assume.
- **Spending typically does not reduce in retirement because people have not saved enough.** Less than half of all Australian retirees draw down on their assets, and more than 40 per cent are net savers (their income is higher than spending). These retirees could spend more if they wanted to.
- **The precautionary motive for reducing spending and retaining savings against the risk of health or later life care costs** exists to some extent in Australia. The study also looked internationally and found that retirees draw down on retirement savings faster in countries with low out-of-pocket medical and care costs, consistent with the US and UK comparison shown earlier.

[6] "The savings behaviour of older households" Submission 435 - Supplementary Submission to Inquiry into the implications of removing refundable franking credits. Draws from: Daley, J., Coates, B., Wiltshire, T., Emslie, O., Nolan, J. and Chen, T. (2018). "Money in retirement: More than enough". Grattan Institute.

Chart 5[7]: Equivalised household spending by age cohort, Australia



In summary, the international and local evidence suggests a reduction in real spending through retirement is likely for many New Zealand retirees. This reflects less spend on discretionary items as lifestyles become less active. It is not necessarily because of lack of income, or lack of savings, but seems a natural theme of retirement.

Taking the above studies together, the international experience suggests a reduction in real spending each year in retirement of between **0.5% to 2.2%** each year. This is less than the rate of decrease seen in New Zealand in **Chart 2**. Given that a precautionary motive to hold back savings to pay for health-related or other care costs is likely to affect this figure, we now turn to the New Zealand context for medical and later life care costs.

[7] "The savings behaviour of older households" Submission 435 - Supplementary Submission to Inquiry into the implications of removing refundable franking credits. "Equivalised" means the measure is made equivalent for all household sizes and compositions.

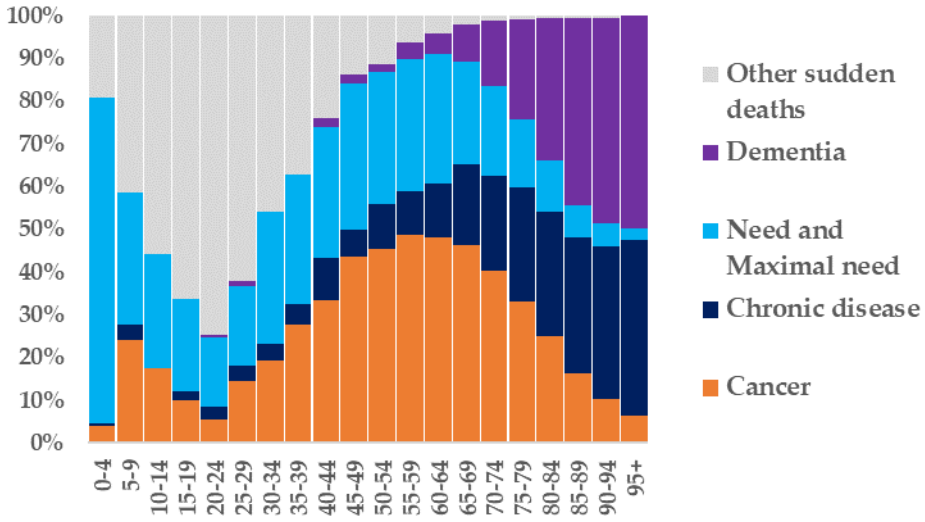
Precautionary motive to retain savings for care is similar in New Zealand to many other countries

As mentioned earlier, the need, or perceived need, to pay for medical or care costs may change the strength of the precautionary motive for holding back savings. As we considered in a previous RIIG analysis[8], we expect more deaths at older ages of people with more co-morbidities and a high prevalence of dementia.

- Around half of retirees, more likely to be female, are expected to spend some time in a residential care facility. The estimated likelihood that people aged 65 and over will use residential care at any time before they die has been projected to increase to 53% by 2040[9].
- Half of those age 65 and over are likely to die in residential care (or in an acute hospital setting having been transferred from a residential care facility) [10].
- Retirees move into residential care on average aged 85 years, with median stay 18 months[11].

Chart 6 shows the proportions of projected deaths in 2019 by health trajectory, meaning a group of people who have similar care needs at end of life. From age 80 onwards, the largest trajectory group is people who will die with some dementia, meaning that their residential or at home care needs at the end of life are high. Those in the dementia trajectory are likely to be in residential care. Many of the frail elderly with chronic disease also need residential or at-home care, and those who will die of cancer or other acute illnesses will have more need of care in a hospice or hospital.

Chart 6[12]: Estimated proportion of deaths in each age band in 2019 by health trajectory group



[8] RIIG. (2019). "Longevity in New Zealand: Implications for Retirement Income Policy." Retirement Income Interest Group of the New Zealand Society of Actuaries.
[9] Broad et al (2015) "Likelihood of residential aged care use in later life: a simple approach to estimation with international comparison" Australian and New Zealand Journal of Public Health
[10] Broad et al (2015)
[11] EY (2019). "Aged Residential Care Funding Model Review"
[12] From DHB Births and Deaths Projections 2019-2038 (2018 Update) supplied to Ministry of Health by StatsNZ. Analysis of trajectory groups by Heather McLeod and June Atkinson for Trajectories Project, linked data for deaths in New Zealand in 2015. Need and Maximal Need: all other causes of death that are included in the need for palliative care.

Retirees needing residential care must pay for that care. Residential care is provided by various care facilities which are licensed by the Ministry of Health. Health NZ Te Whatu Ora sets the base fees.

There are subsidies available for retirees with insufficient assets or income to pay for themselves[13]. People receiving a subsidy will have most of their NZ Super diverted to pay for care, with a small allowance retained for personal items. Residents of later life care facilities could therefore be bearing some cost by giving up nearly all their NZ Super, by paying for extras, or by paying the full cost of care if they receive no subsidy.

At-home care is available for over-65s following a needs assessment. Medical costs are mostly provided by public healthcare free at the point of need. Some retirees may prefer to pay for private healthcare for some procedures if they can.

In summary, **the funding and provision of care towards the end of life is complex. For individual retirees, there is much uncertainty**. People do not know:

- what health situation they will be in at the end of life,
- what type of care they might need, if any,
- how long they will need care,
- where they will receive it,
- how much of the cost they will need to cover and the financial implications for them or whānau.

However, this is not too different from the situation in many other countries. Countries have developed different models for the provision of later life care[14]. However, while the level of state intervention can range from low to high, the level of complexity and uncertainty is still significant. This is intrinsic to the wide range of individual need. Insurance or state provision can still leave uncertainty because of thresholds and definitions for benefit admissibility.

In countries such as France and Germany with low out-of-pocket medical and care costs, retirees draw down on retirement savings much faster than, say, the US which is an example of high private funding as shown earlier[15]. New Zealand, like the UK, falls between these two extremes with a mixed model of some private funding at point of need.

The precautionary motive for holding back savings to cover the cost of later life care or medical costs is likely to be low in New Zealand, as in countries with similar state funded provision.

- While saving in working life, and even in early retirement, retirees may not have a good sense of the probability of needing care or the cost of medical needs in later life, but this is likely to be true in most other countries where real reduction in spending is seen.
- This suggests New Zealand retirees in aggregate may reduce real spending through retirement like other countries with a similar approach to funding healthcare costs. While some individuals will underspend or hold back savings, and others will be comfortable to rely on others for later life care and medical costs. In aggregate, there is no evidence to suggest New Zealand would see widespread holding back of savings.

[13] https://www.workandincome.govt.nz/products/a-z-benefits/residential-care-subsidy.html

[14] See for example, David McDwyer, Sue Elliott and Tom Kenny "Age old questions – six countries' differing approaches to social care", 5 October 2023 *The Actuary*

[15] See Grattan Institute and Banks et al studies referenced earlier, and McDwyer et al (2023) *The Actuary*

However, there is a puzzle here in that the point of time evidence from New Zealand in **Chart 2** suggests a decrease in median spending through retirement above the 0.5% to 2.2% range seen in other countries. The data is not entirely comparable of course, because of different age bands, retirement income levels, and prevalence of working at later ages.

Hypotheses for why New Zealand retirees reduce their spending faster than in other countries include the following. We do not have fixed views on whether any of these may be correct:

- New Zealand retirees typically have **lower retirement savings** than retirees in other countries, while New Zealand Superannuation provides a certain index-linked income at a liveable level for many. This *may* result in less precautionary retention of savings at the beginning of retirement – savings are enough to cover one-off purchases such as travel.
- There *may* be a confounding effect if different **age cohorts behave differently**. For example, if the oldest cohorts are thriftier and spend less at older ages than younger cohorts will want to, then the point in time analysis will show a faster reduction in spend than younger cohorts will want to follow.
- New Zealand has one of the highest **levels of working** at ages 65-69 in the OECD[16], and so the drop in spend as measured from that age-band would be expected to be higher than in other countries. However, the reduction in spend starting from age band 70-74 is similar.
- There *may* be a data effect as the **number of the oldest households in New Zealand is smaller** than in other countries. It would be expected that there is a wide range of spending across all households, but only the median is shown. The HES data (Charts 1 and 2) does have some sampling error for one-person households aged 70-74 and couples aged 85 and over.
- There *may* be a data effect because of the HES data is from **private households only**. Older people needing some care may have moved into another type of residence. This could mean there are a disproportionately high number of low spending people in the HES sample.

Because of the unexplained puzzle of why New Zealand spend appears to reduce faster than in other countries, we tend to be conservative and estimate a typical reduction in spending from the New Zealand data of around **2% a year**.

Conclusion

Analysis suggests **a typical scenario for New Zealand retirees is that real spending reduces by around 2% a year**, that is, retirees' spending growth is below general price inflation by that amount for each year after age 65 or full retirement (whichever comes later).

[16] Pensions at a Glance 2023, OECD and G20 Indicators

Chapter 2. Implications of retirement spending patterns for savings benchmarks

- Allowing for real spending to reduce through retirement significantly reduces the amount needed to be saved compared to commonly used benchmarks that assume spending stays level in real terms.
- For example, assuming general price inflation is 2% a year and spending stays level in real terms, then the dollar amount of required income will increase by 2% a year. But if real spending is assumed to reduce by 2% a year from age 65, the dollar amount of required income stays level, and the savings balance needed at age 65 could be 40% smaller.
- We recommend that industry and government agencies **review the assumptions** implicit or stated in their commentary and tools including calculators and savings guidelines and consider how to reflect that real spending typically reduces through retirement.

Commonly used benchmarks assume level real spending in retirement

The last chapter showed robust evidence that retirees reduce their spending in real terms as they go through retirement. However, the few available benchmarks on how much people need to have saved before retirement to cover retirement income do not allow for this.

For example, Massey University's Fin-Ed Centre provides the **New Zealand Retirement Expenditure Guidelines**[17]. These Guidelines are based on spending from all retired households at a point in time, which implicitly assumes spending stays the same in real terms as retirees age. If instead, retired New Zealanders reduce spending on average through retirement, these Guidelines will overweight the higher spending of the more numerous newly retired[18]. These Guidelines may therefore suggest too high estimates of the savings balances needed at age 65 for retirement income.

Benchmarks calculated using a similar approach are found in the UK (The Pensions and Lifetime Savings Association's Retirement Living Standards[19]) and Australia (The ASFA Retirement Standard[20]). Both are calculated for a current year, averaging over all ages in the group, so implicitly assume constant real spending. However, the ASFA standard is calculated separately for ages 65-84 and age 85 and over. The standard budget is around 7% lower for the older age group.

A different approach to setting benchmark savings guidelines comes from **Te Ara Ahunga Ora Retirement Commission (TAAO)**[21] who recently explored adequacy of contribution rates by calculating how long savings balances at age 65 would last on the assumption of different "replacement rates".

[17] https://www.massey.ac.nz/documents/1554/new-zealand-retirement-expenditure-guidelines-2023.pdf
[18] Of the population aged 65+, 30% are aged 65-69, 25% aged 70-74, 20% aged 75-79, 13% aged 80-84, 7% aged 85-89 and 4% aged 90 and over (does not sum to 100% due to rounding). RIIG analysis from StatsNZ Estimated Resident population as at June 2024.
[19] https://www.retirementlivingstandards.org.uk/details
[20] https://www.superannuation.asn.au/resources/retirement-standard/
[21] TAAO RC (2024) "KiwiSaver Opportunities for Improvement"

- As TAAO noted, some international studies consider a target replacement rate, that is, gross income required post-retirement as a constant proportion of gross immediate pre-retirement earnings, reflecting that "retirees generally pay less tax, save less and have lower costs for example in relation to travelling to work and raising children".
- Suggested proportions are 70% for median earners, nearer to 80% for those on low incomes and around 50% for high income earners.
- To calculate how long balances would last in retirement to match spending at a level set by the chosen replacement rate, constant real spending through retirement is assumed.

Assuming real spending reduces through retirement lowers targets

If, instead of assuming spending stays *level* in real terms through retirement, it is assumed that real spending *reduces* through retirement, then holding all else equal, lower savings balances at the start of retirement would be needed. We test this effect on a benchmark using a replacement rate method:

- A balance of **$605,000** is required at age 65 to top up NZ Super of $27,000 a year to give $56,000 total income each year of retirement until age 90 (a replacement rate of 70% working on a median income). This assumes total retirement income increases by 2% inflation each year, with NZ Super also increasing in line with general inflation at 2% a year[22].
- If instead, income matches spending which reduces in real terms by growing at **2% below** the rate of general inflation each year (so is level in dollar terms when general inflation is also 2% a year) then a starting savings balance of **$375,000** is needed. **This is a reduction of two-fifths (40%) from the initial $605,000**.
- Alternatively, if income matches spending which reduces in real terms by growing at **1% below** the general rate of inflation (so grows in dollar terms by 1% a year) then a starting balance of **$480,000** is needed.
- Income matching spending which reduces in real terms at **2.5% below** general inflation (so reduces in dollar terms by 0.5% a year) requires a balance of **$328,000**.

The drawdowns needed to match level real spending and spending declining in real terms at 2% a year are illustrated in **Chart 7**. Because NZ Super increases in line with general inflation, the amount appears level in the chart which is in real terms (that is, it shows today's spending power). If retirees spend at a rate which also increases in line with general inflation, then the drawdown also appears as a level amount. But if retirees spend at a reducing rate in real terms, then the drawdown in today's terms reduces. A significantly smaller savings balance is needed as a result.

This effect is significant. We suggest that New Zealanders will find estimates in the order of $375,000 more motivational and feasible than $605,000 and may be comfortable with the required reduction in real spending. **Note that we are not commenting on whether any of these benchmarks are "correct" but making the point that the assumption on how spend changes *throughout* retirement has a significant impact.**

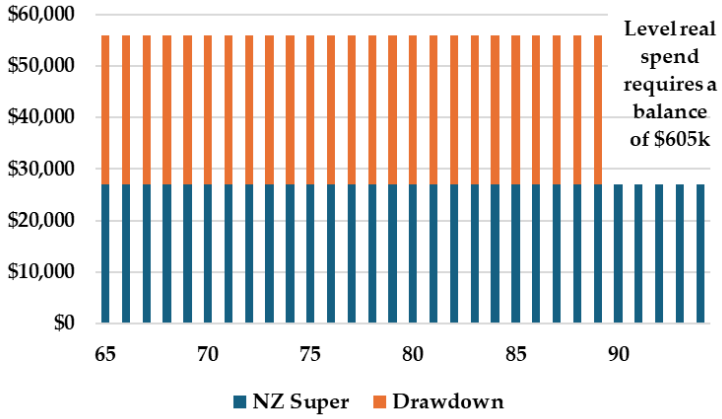
[22] The calculation is based on NZ Super for a single person after tax at the 'M' rate and a 3.5% after tax and fee investment return.

Conclusion

Given the significant effect of allowing for spending to reduce in real terms through retirement, **we recommend that industry and government agencies review the assumptions implicit or stated in their commentary and tools including calculators and savings guidelines and consider how to reflect that real spending typically reduces through retirement.**

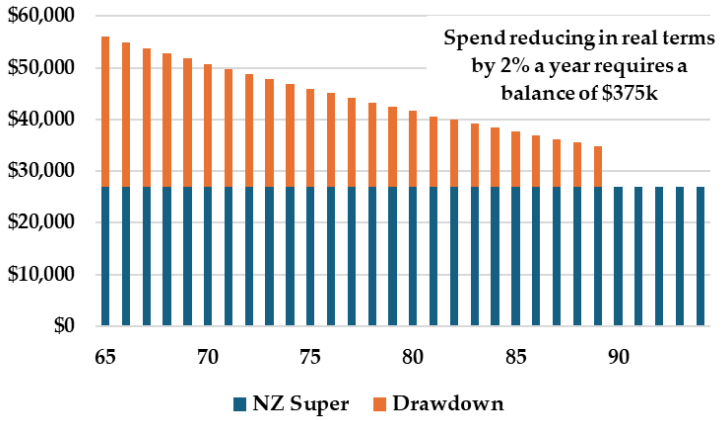
Chart 7[23]: Illustration of level and 2% declining inflation adjusted spending patterns

Income in real terms from New Zealand Super and drawdown set for 25 years, both increasing with general inflation at 2% a year



Source: RIIG analysis. Assumes 3.5% pa after tax and fee investment return and 2% general inflation. NZ Super for a single person after tax at 'M' rate.

Income in real terms from New Zealand Super increasing with general inflation at 2% a year and drawdown set for 25 years with *total income reducing* in real terms by 2% a year



Source: RIIG analysis. Assumes 3.5% pa after tax and fee investment return and 2% general inflation. NZ Super for a single person after tax at 'M' rate.

[23] RIIG analysis

Chapter 3. Implications of spending patterns through retirement for retirees

- Anticipating that real spending will reduce through retirement allows drawdown to last for longer or to be at a higher level in early retirement.
- Even allowing for real spending to reduce through retirement, older New Zealanders will still heavily rely on New Zealand Superannuation, public healthcare, and subsidies for later life care.
- We suggest that retirees already drawing down income in retirement or near-retirees planning their future drawdown should:

➢ Think about the impact of their own annual spending in retirement reducing in real terms during retirement, and which drawdown Rule of Thumb might suit them.
➢ Learn about the public services and subsidies that may be available in later life.
➢ Consider their options for using housing equity.
➢ Consider how they would pay for private medical expenses, at-home care costs, or residential care if they should need it and they prefer not to depend on public funding.

Spending reduction through retirement means drawdown can be at a higher level in early years

RIIG developed a set of Rules of Thumb (see Appendix) to help people in retirement decide on annual drawdowns from savings (likely KiwiSaver) and help near-retirees plan their future drawdown. The Rules are not "set and forget" but are designed to be reviewed regularly through retirement.

While we illustrate the Rules of Thumb by the profile of income able to be drawn down in future years, in practice the income taken could vary each year according to how the size of the fund has actually changed and forward-looking assumptions on investment returns or mortality. Retirees can adjust their drawdown amount if they find they are spending less than expected. This paper suggests this is the typical experience, and that it is reasonable to assume expenditure will reduce through retirement, with around a reduction in real terms of around 2% a year.

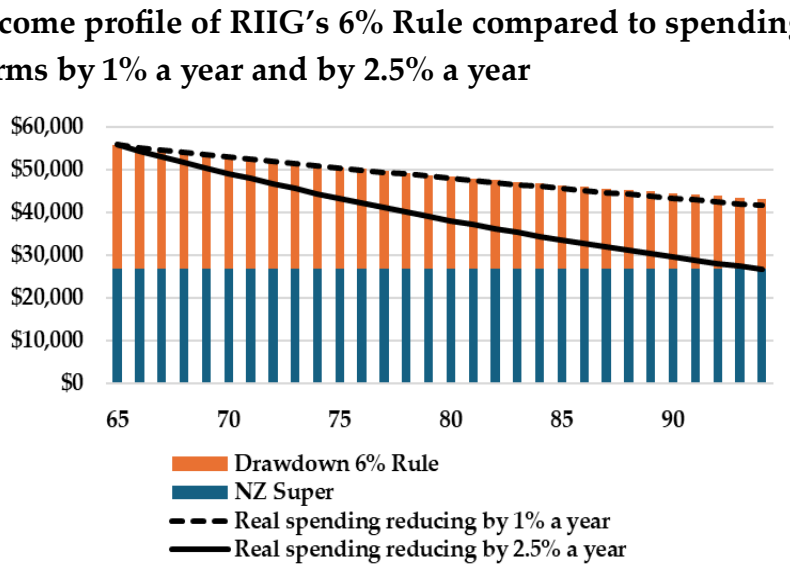
If spending reduces more than expected (and income not needed is kept invested in the fund) then either drawdown can last for longer, or more income can be drawn down in early years than later. The 6% Rule, which "front-loads" spending at the start of retirement, is a better fit for the typical experience of declining real spending than, say, the Inflated 4% Rule where drawdown keeps up with the rate of general inflation.

Chart 8 shows the income profile of the 6% Rule, split between income from NZ Super and income from drawdown. It also shows a total desired income reducing by 1% a year in real terms and by 2.5% a year in real terms – this gives a range around the typical scenario of 2% a year.

The example in **Chart 8** shows the 6% Rule giving drawdowns close to those required if real income reduces by 1% a year. The analysis in this paper suggests this is a conservative assumption. The 6% Rule in this case gives more income than needed if spending reduces at a higher rate in real terms.

The 6% Rule is not without risk (see Appendix for the pros and cons). Retirees should consider scenarios of their own future personal spending patterns carefully so that they can assess how different Rules could work for them. However, **anticipating that real spending will reduce through retirement allows drawdown to be at a higher level in early retirement.**

Chart 8[24]: Example of RIIG's 6% Rule compared to spending reducing in real terms



Source: RIIG analysis. Example assumes general inflation at 2% a year and sets initial balance at $480,000 to enable drawdow n starting at $56,000 a year assuming 3.5% pa after tax and fee investment return. NZ Super for a single person after tax at 'M ' rate.

Retirement provision is not all about KiwiSaver

Previous RIIG work has shown that KiwiSaver balances expected at age 65 for members currently aged 45 and above are low, partly because KiwiSaver only started in 2007 and partly because of low contributions (relative to other countries with similar schemes). **Chart 9** shows the estimated distribution in 2021.

Chart 9 suggests that only around 10% of contributing KiwiSaver members aged 50, and around 15% of contributing KiwiSaver members aged 45 look likely to reach a balance of $375,000 at age 65. This was the benchmark used in the last chapter to show the effect of assuming a spending reduction of 2% a year in real terms through retirement. (And note we are not advocating for any specific benchmark). This means that, without using other assets, **most KiwiSaver members will have to accept that their spending may not be able to keep pace with general inflation and they will need to make hard choices on duration or amount of annual drawdown throughout retirement**.

[24] RIIG analysis

Chart 9[25]: Indicators of distribution of estimated future account balances at age 65, in present day (2021) dollars, for *contributing* KiwiSaver members aged 45-59 in 2021

	Percentile: Proportion of contributing members estimated to have KiwiSaver balances at age 65 below this amount					
Age in 2021	**5%**	**25%**	**50% Median**	**75%**	**95%**	**Average**
59	12,900	40,900	72,400	121,800	259,100	97,800
55	15,400	53,700	95,200	155,100	325,200	124,200
50	17,800	70,800	124,400	201,800	435,900	164,900
45	17,900	86,100	156,900	254,000	539,600	202,200

It also means that **inflation-linked New Zealand Superannuation will remain crucial to the vast majority of New Zealanders**, especially to cover non-discretionary spending.

Any required spend on medical or care costs or residential care in later life may be considered as follows:

- The RIIG drawdown framework assumes retirees keep an emergency fund separately from the drawdown fund (likely KiwiSaver). This emergency fund may be considered as available for private medical expenses or at-home care costs if needed. If this fund is exhausted, a retiree will rely on family or public provision.
- Those New Zealand retirees who have non-KiwiSaver financial or housing assets will be able to top up income from those sources. However, those with low KiwiSaver assets tend to be those with low other financial assets[26].
- If housing equity is available, it may be able to be used, but much depends on personal circumstances[27]. Some products are available which "lend" a portion of the value of suitable houses at a cost. Some property could be sold for the owner to downsize or move in with family or into a retirement village. Currently, around 80% of New Zealanders aged 65 and over own a home, while 20% rent. By 2048, this is expected to shift to 60% homeowners and 40% paying rent[28]. Therefore, **housing equity may be a source of some income for some retirees, but a declining proportion. It is very much a choice dependent on personal circumstances and requiring personalised advice.**

In summary, **even allowing for real spending to reduce through retirement, older New Zealanders will still heavily rely on New Zealand Superannuation, public healthcare, and subsidies for later life care**.

[25] RIIG. (2022). " Future KiwiSaver balances and implications for retirement income policy." Retirement Income Interest Group of the New Zealand Society of Actuaries.
[26] Household Net Worth Statistics 2021 – comparison of quintile 4 vs quintile 2
[27] Benison, Thomas and Trinh Le. 2024. "Do New Zealand home equity release schemes provide value for money?". Motu Working Paper 24-03. Motu Economic and Public Policy Research.
[28] Te Ara Ahunga Ora Retirement Commission "Review of Retirement Income Policies 2022"

Conclusion

Bringing together all the evidence in this paper for retirees already drawing down income in retirement or near-retirees planning their future drawdown, we suggest that retirees or those planning for retirement should:

- Think about the impact of their own annual spending in retirement reducing in real terms during retirement, and which drawdown Rule of Thumb might suit them.
- Learn about the public services and subsidies that may be available in later life.
- Consider their options for using housing equity.
- Consider how they would pay for private medical expenses, at-home care costs, or residential care if they should need it and they prefer not to depend on public funding.

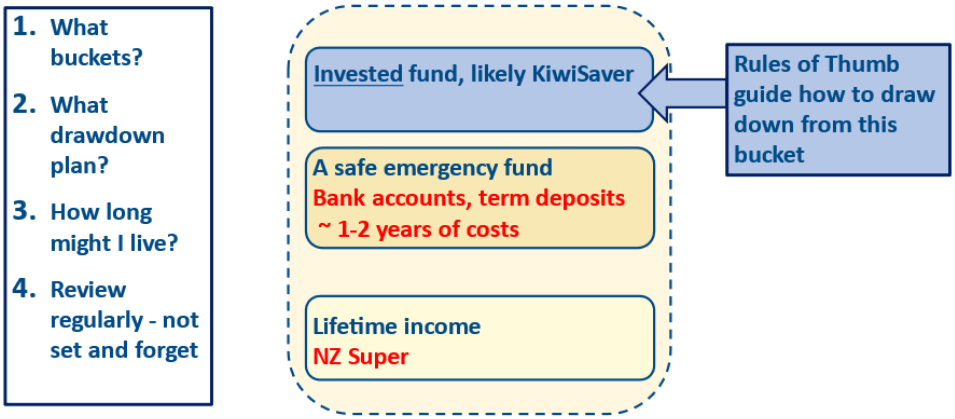
Appendix - RIIG's drawdown framework, Rules of Thumb and longevity risk

Chart A1 shows RIIG's drawdown framework and **Chart A2** gives a summary of RIIG's Rules of Thumb.

- The **drawdown framework** starts with ensuring people know what 'buckets' their money is in. It recognises the role of NZ Super and recommends an emergency fund. For most people, the rest of their money is likely to be in a KiwiSaver account, which can be kept as an invested fund from which income and capital can be taken from age 65. To draw down the capital, savers must make choices and take positive action.
- **Rules of Thumb** give a reliable, useful steer, suitable for making a drawdown plan in a range of personal drawdown priorities**.** The four Rules provide different income profiles over the duration of the drawdown period, with different fixed and varying features. The Rules offer a way of engaging retirees in thinking about the implications of drawdown decisions.

The drawdown framework shows that understanding the starting position (the buckets) and choosing the drawdown plan (based on the Rules of Thumb) is only part of the job. Remaining tasks are to understand how long the drawdown may last and how that compares with likely lifespan, and to keep reviewing the drawdown plan to ensure it keeps meeting needs and is on track to meet individual priorities.

Chart A1[29]: RIIG's drawdown framework



RIIG's Rules of Thumb are designed to be used within a drawdown framework in which the retiree makes decisions on the age at which drawdown starts, the investments from which drawdown is made and which Rule of Thumb is used. The results of these decisions are illustrated by income profiles which are informed by actuarial expertise on investment, sequencing[30] and inflation risks[31]:

[29] RIIG. (2021). "How to make drawdown a success."
[30] Poor investment returns at or near the start of the drawdown period, which has a more significant impact on the level of income available than poor returns later
[31] RIIG. (2021). "How to make drawdown a success."

Chart A2[32]: RIIG's Rules of Thumb – a summary

Rule of Thumb	Most suitable for	Pros	Cons
6% Rule: Each year, take 6% of the starting value of your retirement savings.	People who want more income at the start of their retirement, to "front-load" their spending, and are not concerned with inheritance.	Very simple. Known, regular income	Income will not rise with inflation. Risk of retirement fund running out within lifetime.
Inflated 4% Rule: Take 4% of the starting value of your retirement savings, then increase that amount each year with inflation.	People worried about running out of money in retirement or who want to leave some inheritance.	Fund likely to last near to a full lifetime. Income will rise with inflation.	Lower income initially than other options.
Fixed Date Rule: Run your retirement savings down over the period to a set date – each year take out the current value of your retirement savings divided by the number of years left to that date.	People comfortable with living on other income (for example New Zealand Superannuation) after the set date. Those wanting to maximise income for most of their life and not concerned with inheritance.	Income for a known selected period.	Amount of income varies from year to year. Annual calculation necessary.
Life Expectancy Rule: Each year take out the current value of your retirement savings divided by the average remaining life expectancy at that time.	Those wanting to maximise income throughout life and not concerned with inheritance.	Efficient use of fund to provide income for whole of life.	Amount of income varies from year to year, low in later years. Annual calculation necessary; relatively complicated.

The retiree then compares the results with their longevity expectations and spending needs to choose an acceptable drawdown starting plan, which will be reviewed throughout retirement. Unexpected changes in circumstances or shocks such as physical or mental health problems or the need to care for dependents can affect spending needs**.** Such risks mean **RIIG recommends flexibility over 'set-and-forget' retirement plan.** This means regular review of how drawdown is going and whether income should be raised or lowered to match needs or drawdown of the fund should be slower.

Charts A3 and A4 show how long people retiring about now can expect to live by looking at the range of expected lifespans of people in one cohort – those born in 1958. **Chart A3** takes 100,000 female New Zealanders from this cohort who reached their 65th birthday in 2023 and plots how many are expected to live until each age from then on. **Chart A4** shows the same for males. Age 65 is no longer the cliff-edge for retirement, but it is the age at which NZ Super and KiwiSaver withdrawals become available.

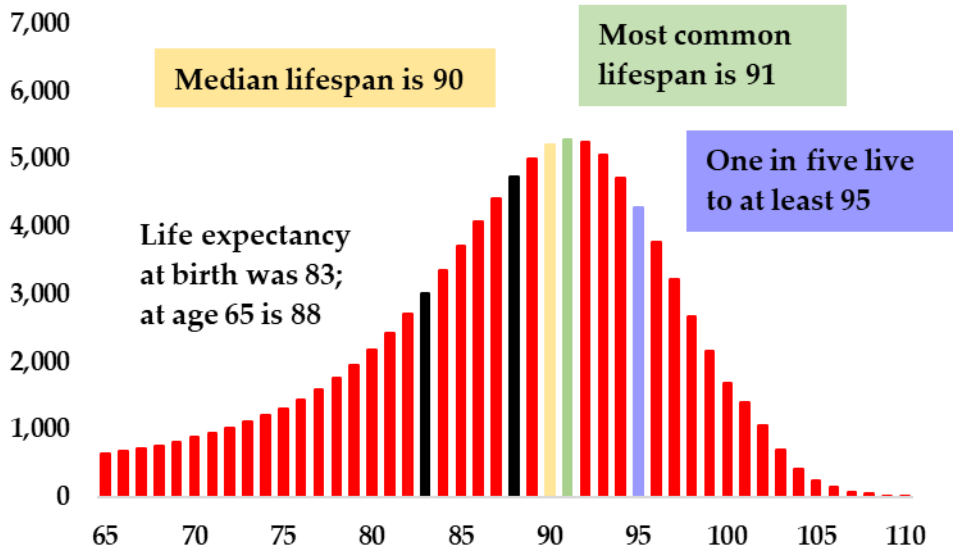
[32] Based on RIIG. (2023). "Drawdown Rules of Thumb: Update 2023."

The charts show:

- **Retirement can be long**. Over half of today's 65-year-olds can expect another twenty years of life at least and one in five may live to at least 95 years old. Few people of this cohort are expected to die in their late 60s. Most people are expected to die around age 90 and then smaller numbers die at older ages, with some living beyond age 100. A lot can happen to change circumstances and spending needs in that time. **Planning for the potentially lengthy period after retirement should consider the whole duration of spending needs, not only the transition from work to retirement.**

- **The length of retirement is uncertain**. Average life expectancy is a poor guide to the range of outcomes. People may think they understand their own mortality risk factors, but there is always an element of chance[33]. People tend to underestimate how long they will live, which may in hindsight lead to regret for drawing down too much too early. On the other hand, being overly concerned with how long money needs to last for may mean people do not draw down as much as they could, so their income in retirement is not as high as it could be, their retirement is less enjoyable than it could have been and they leave more than they want to in their estate.

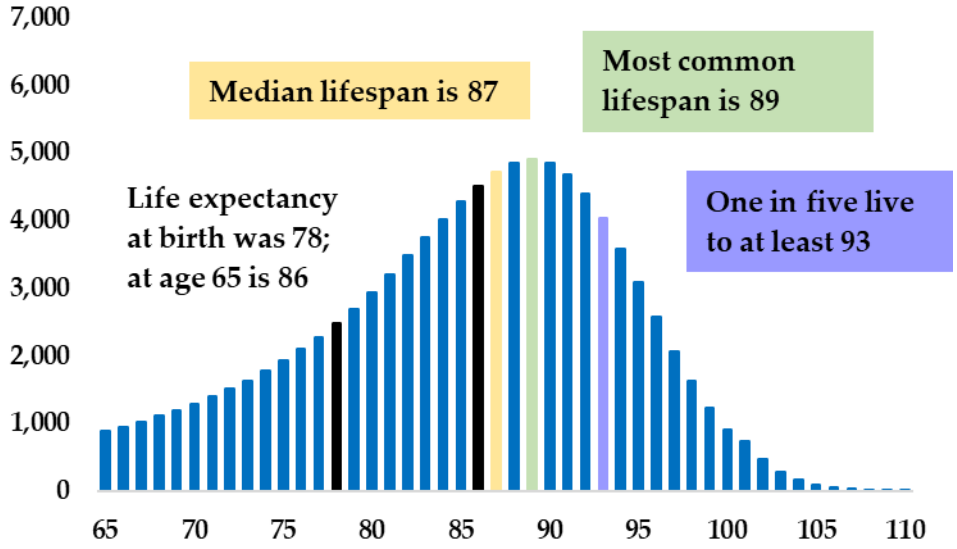
Chart A3[34]: Estimated number of deaths at each age from 100,000 female New Zealanders born in 1958, who reached age 65 in 2023



[33] O'Connell, A. (2012). "Variation in longevity." In Longevity Bulletin 03. London: Institute and Faculty of Actuaries. https://actuaries.org.uk/media/kklayt2a/longevity-bulletin-issue-3.pdf

[34] Calculated using StatsNZ cohort life tables published March 2023, using the median scenario of the 2022-base National population projections

Chart A4[35]: Estimated number of deaths at each age from 100,000 male New Zealanders born in 1958, who reached age 65 in 2023



Based on analysing longevity evidence, RIIG[36] has recommended that **New Zealanders who may be not too far off thinking about drawdown (aged 45 years or above) should consider the implications of living to about 90-95 years**.

Longevity risk is the risk of living longer than was expected when planning retirement. It is not necessarily the case that longevity risk means 'running out of money' or living longer than your money lasts. For some people, an acceptable approach is to plan to complete drawdown at a set age and then rely on NZ Super and other state or family support for income and care if needed after this. This is the basis behind RIIG's Fixed Date Rule of Thumb.

[35] Calculated using StatsNZ cohort life tables published March 2023, using the median scenario of the 2022-base National population projections

[36] RIIG. (2019). "Longevity in New Zealand: Implications for Retirement Income Policy." Retirement Income Interest Group of the New Zealand Society of Actuaries.

Glossary

KiwiSaver is New Zealand's regulated private retirement investment scheme. KiwiSaver started in 2007 and has just over 3 million members, from a total population of 5.1 million people. Members choose, or are auto-enrolled into, a KiwiSaver account from one of more than 30 providers.

New Zealand Superannuation (**NZS** or **NZ Super**) is New Zealand's public (tier one) near-universal pension.

Typically, people save into a retirement fund during their working life, then supplement New Zealand Superannuation and other income in retirement, if any, by taking money from that fund. This process of spending down a fund in later life is known as **decumulation, income streaming or drawdown**. The focus in RIIG's work is on drawing down money from a fund each year, not necessarily of the same amount each year.

"Drawdown" is the process by which amounts are taken each year from an accumulated investment fund (such as KiwiSaver) which remains invested and so continues to benefit from investment growth. The amount taken – the **"income"** each year – will normally exceed the investment return on the fund, with the rest of the "income" coming from the investment fund itself. The investment fund is therefore expected to reduce in size over time.

The term **"retirement"** is used in this paper for the phase of life when most people do significantly less or no paid work and need income from their savings, investments, or other sources. While some individuals may transition from full employment to being fully retired on a specific, pre-planned day, the reality is rarely this straightforward.

By **"retiree"** we mean an individual who is close to or in retirement and thinking about how much income to draw down from their retirement fund. A retiree need not be of any specific age, but we envisage that people start thinking about their drawdown options at any time over age 50 and start drawing down after age 65. For people who work beyond age 65, age 70 may be a typical time to start drawing down.

Longevity is a general term indicating long life. More people are living longer lives than ever before.

Lifespan measures how long an individual has lived or might live. It is equal to age at death. For example:

- The lifespan estimated to be achieved on average by female New Zealanders aged 65 in 2023 is 88 years (see **Chart A3**).
- The maximum verified lifespan for humans is 122 years[37].

Life expectancy does not always mean the lifespan which anyone should expect[38].

- ***Period life expectancy* is often used in analysis of the health of groups of people** as it measures average mortality between populations at a point in time. It is calculated as the average length of life left at a given age, assuming people experience the population's age-specific death rates of a specific period from the given age onwards.
- ***Cohort life expectancy* is a better measure of potential lifespan** because it uses information on how death rates change throughout life. It is the average length of life left at a given age for a group of people born in the same year, based on their death rates over their lifetime.

Cohort life expectancy is only known when everyone from that cohort is dead, and the average lifespan of that cohort is confirmed. Cohort life expectancy for cohorts that are still alive must use estimates of future death rates.

Cohort life expectancy, as the average lifespan, is just one indicator of longevity for a cohort. Other indicators should also be used to show potential lifespans and uncertainty in age at death. The most useful indicators are:

- ***Median lifespan*** is the age for which half the lifespans of a cohort are longer and half shorter.
- ***Modal lifespan**, or the **mode**,* is the most common age at death.
- ***Probabilities of living to specific ages***, for example the probability of living to 100.

[37] Robine a Robine, J.-M. and M. Allard. (1999). "Jeanne Calment: Validation of the Duration of Her Life." In Validation of Exceptional Longevity: Odense Monographs on Population Aging, 6, eds. Bernard Jeune and James W Vaupel: Odense University Press.

[38] Stats NZ. (2016). "Cohort life expectancy – the best measure of average lifespan." https://statsnz.contentdm.oclc.org/digital/collection/p20045coll1/id/3101/ ; ONS (2023) "Period and cohort life expectancy explained" https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/methodologies/periodandcohortlifeexpectancyexplained