All Actuaries Summit
Think bigger, live better
1-3 May 2024 • Gold Coast
Actuaries Institute.

Australian Private Health Insurance: 20 years from now

Prepared by Luke Cassar, Nirosana Maheswaran and Tyler Le Roux
Finity Consulting

Presented to the Actuaries Institute
2024 All-Actuaries Summit
1-3 May 2024

Actuaries Institute
ABN 69 000 423 656
Level 2, 50 Carrington Street, Sydney NSW 2000
P +61 (0) 2 9239 6100 | actuaries.asn.au

Australian Private Health Insurance – 20 years from now

Luke Cassar, Nirosana Maheswaran and Tyler Le Roux

Finity Consulting

Abstract

Over the past 20 years, the ageing population has seen an increase in the use of healthcare services. At the same time, costs per service have increased. These factors have driven private health insurers to increase premiums at a faster rate than wage inflation. This suggests that the affordability of private health insurance has declined over that time and has become less attractive to healthier people who are less likely to benefit from private health insurance. If healthy people lapse their cover, average benefit costs would increase leading to higher premiums again, further conflating affordability issues leaving the private health insurance industry in an unsustainable position which some researchers have termed a "death spiral".

In this paper we find that a death spiral is unlikely to emerge over the next 20 years even when assuming pessimistic assumptions around participation and cost inflation. We find that there are complex movements underpinning participation and benefit cost inflation which mitigate the risk of a death spiral, including:

- Recent increases in youth participation.
- Benefit utilisation which showed signs of slowing down even prior to the COVID-19 pandemic, and has persisted at lower levels well after the direct impacts of the pandemic on access to private hospital services.
- There are cohort effects on participation, which results in a smaller impact of ageing on average benefits going forward.
- Movements in prices do not appear to have a strong an impact on participation.

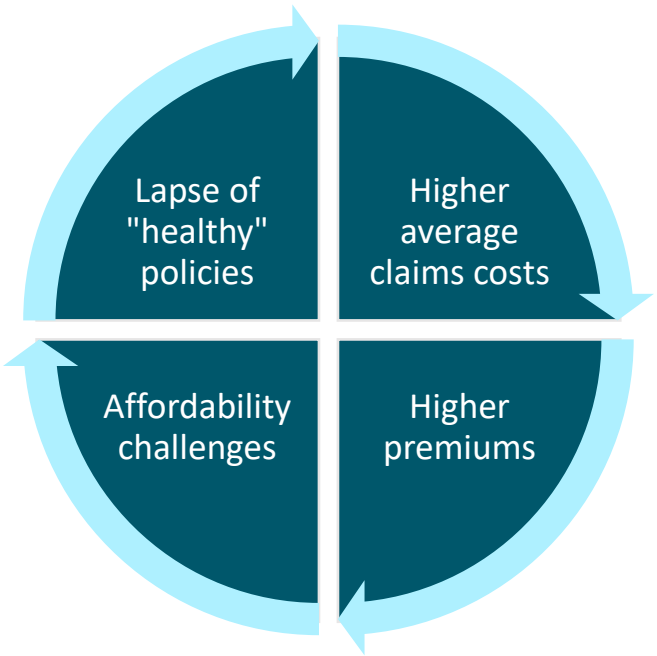
Key words:

Private health insurance; ageing population; affordability; participation; utilisation; death spiral; scenario analysis; projection.

Introduction

Private health insurance (PHI) in Australia is community-rated, meaning insurers cannot set prices or deny cover based on health status, age or claims history. Community rating may be socially desirable in that it allows people to buy the same cover at the same price regardless of health status. However, without intervention, community rating requires people who are in good health to pay premiums significantly in excess of expected claim costs, making it difficult to provide value for money for these people. If, as prices rise, more people in good health lapse cover, the average premiums for remaining policyholders would need to increase, leading to further lapses and creating what some researchers have termed a "death spiral" (Grattan, 2021).

Figure 1 – The "death spiral"



If PHI premiums remain affordable, then a death spiral should be avoided. However, historically, average claims costs have generally necessitated premium increases higher than average wage growth due to:

- The ageing Australian population, which increases the average health needs of the insurable population, and
- Healthcare cost inflation which has generally outpaced wage inflation.

Considering these pressures, one may conclude that a death spiral for PHI is inevitable at same point in the future.

Definition of a death spiral

In general terms, a death spiral could be defined as a sustained period of falling participation resulting in higher benefit costs and premium rate increases, with no way for the PHI industry to manage its way out without Government policy intervention.

One could argue that the PHI industry was in a death spiral in the 1990s, where participation reduced from 45% in 1990 to 30% in 1999, an average reduction of 1.7% per annum. In

1998, the first year that premium rate data was available, the average price increase was 6.8%. (Gale and Brown, 2003)

This death spiral situation prompted the introduction of the Medicare Levy Surcharge, the PHI Premium Rebate, Lifetime Health Cover and national advertising campaigns aimed at incentivising youth participation in PHI. By 2001, PHI participation was back above 45%.

Existing research

The long-term sustainability of the PHI industry in Australia has long been a topic of interest to regulators, practitioners and researchers.

In 2019, the Australian Prudential Regulation Authority (APRA) issued a letter to all private health insurers setting out APRA's expectations for PHIs to improve their resilience to sustainability challenges (APRA, 2019). In this letter, APRA expressed concerns to the PHI industry that PHIs lacked credible strategies to mitigate risks to sustainability. The sustainability challenges identified included:

- higher demand for medical services and increasing health costs leading to increases in premiums and impacts on affordability for policyholders;
- increasing out-of-pocket costs and the perception of low value leading to a decline in PHI participation amongst the younger population group.

The Grattan Institute has produced a number of research papers exploring the sustainability challenges of the PHI industry and how it can improve its value proposition to consumers (c.f. Duckett, 2019; Duckett and Cowgill, 2019; Duckett and Moran, 2021). Findings from Duckett and Moran, 2021 included that:

- While premiums have risen more than wages over the past 20 years, the proportion of consumers paying for exclusionary policies and policies with excesses has grown.
- Ageing is the biggest cause of premium growth.

Among the actuarial profession in Australia, research on this topic includes Ahluwalia et al. 2011, which projected that:

- Over time, the risk equalisation pool would represent an increasing portion of total industry benefits paid.
- Over time, the portion of premium paid by younger policyholders expected to subsidise the claim costs of older policyholders would increase, and
- From 2011 to 2020, the price of insurance in real terms would increase 35%.

This research was updated in Reid et al. 2017 which highlighted that over the ten years to 2017, the size of the risk equalisation pool increased 7.5% per year. The authors projected that by 2030, over half of all hospital benefits will be shared through the risk equalization pool. The paper presents and assesses a number of policy change options to address the growing risk equalisation pool, including moving to a prospective risk equalization system and changes to Community Rating Rules.

Opportunities for improving the sustainability of the PHI industry were further explored in an Actuaries Institute green paper (Damm and Crane, 2019). Similar to the papers discussed above, this paper highlighted the continued declining affordability of PHI and the decline in PHI participation in the years leading up to 2019.

The aims of this paper

Similar to the research cited above, this paper aims to examine the potential participation and premium rate trends over the long term in the context of the ageing population, rising healthcare costs and affordability pressures. Specifically, in this paper we aim to answer the following questions:

- What is the potential for and timing of a death spiral under a best estimate projection?
- What scenarios of participation reductions and/or benefit increases would produce a death spiral?
- Are there factors which may mitigate or accelerate a death spiral?
- How do projections change for insurers with younger or older age profile, or higher expense rates?

This paper is structured as follows:

- The following section reflects on recent industry experience.
- We the present our best estimate projection of PHI hospital cover participation; benefit inflation and premium rate increases over the next 20 years to form an assessment as to whether a death spiral is likely to emerge.
- We conduct scenario analysis to test the plausibility of a death spiral under a number of different long-term assumptions.
- We conclude the paper with a summary of findings and consider other aspects of the PHI industry which may change over the next 20 years.

Where does the industry stand in relation to a death spiral?

In the years prior to 2017, PHI participation was falling, benefits were increasing well above CPI inflation and premium rates were increase higher than wage inflation. Between 2017 and 2019, benefit inflation reduced, particularly for those aged 64 and older.

From 2020, the COVID-19 pandemic had a significant impact on PHI through:

- higher participation due to an increase in the attractiveness of PHI with a public hospital system under stress, and
- lower utilisation as policyholders were unable or were hesitant to seek private hospital services during the pandemic.

While the COVID-19 pandemic was a temporary event, changes in participation and utilisation patterns have lasted significantly longer than the immediate effects of the pandemic. Participation amongst younger cohorts continues to increase while utilisation rates for some age groups have never returned to pre-pandemic levels, even almost four years after the start of the pandemic.

Table 1 summarises participation, utilisation and average claim size experience before and after the COVID-19 pandemic.

Table 1 – Changes in experience after the COVID-19 pandemic

	Pre-pandemic	**Post-pandemic**
Participation	Since 2014, notable decline in participation across all ages of -0.6% per year.	+0.5% per year increases since 2020, with increases mainly among those under 60.
Utilisation	Before 2017, increases in utilisation across all ages. Since 2017 a change in trends with insured persons between 30 and 60 having generally flat utilisation with those over 60 seeing decreases.	All age cohorts have seen a notable drop in utilisation particularly those aged over 60. Recovery to pre-pandemic levels is slow particularly for those over 60.
Average claim size	Between 2008 and 2012 average claim size inflation was between 3% and 3.5%. Between 2012 and 2019, average claim size inflation was volatile and averaged around 1.5% across that period.	Volatile during the period. While 2020 had a 3.2% increase, 2021 was 1.9% and 2022 showed a reduction of 1.7%. Changes in the mix of claims, reduction of nil excess gold products, hospital provider contract rate increases are factors which contribute to the observed volatility and experience.

Considering the experience over the last decade, we could say there were three distinct periods:

- The period from 2014 to 2017 saw a reduction in participation of 0.5% per annum with relatively high levels of benefit inflation resulting in average premium rate increases of 6% per annum. Since the introduction of Lifetime Health Cover in 2001, this is as close to a death spiral as the industry got, but notably the rate reduction in participation was lower than the 1.7% observed in the 1990s.
- Between 2017 and 2019, PHI participation reduced at a rate of 0.8% per annum despite lower premium rate increases of 4%. Benefit inflation was lower in this period than the previous period, driven by flat or reducing utilisation for older age groups. This suggests that some of the underlying drivers of a death spiral were changing course even prior to the pandemic.

- Since 2020, we have observed increases in PHI participation, particularly amongst the younger population, with decreases in utilisation and benefit inflation. This period has seen premium rate increase of below 3%, as well as premium givebacks in response to COVID-19 impacts on the ability of policyholders to obtain private hospital services and make claims.

Forming a 20-year projection of the PHI industry is challenging at present because:

- While COVID-19 improved the outlook for the industry, its not clear the extent to which impacts from COVID-19 on participation and utilisation are temporary. Utilisation remains relatively low despite there being no direct impacts from the pandemic remaining.
- Just prior to the pandemic, there were signs that utilisation was levelling off and indeed decreasing for some age groups.
- Some research (see for example McLean et al. 2022) suggests that participation is not significantly impacted by price changes, and therefore the link between price increases and participation is not strong.

There are a number of factors which drive participation and benefit inflation which mean that the emergence of a death spiral in the future may not be as certain as it would seem by simple reasoning.

The remainder of this section reviews the recent experience of key drivers of a death spiral in detail:

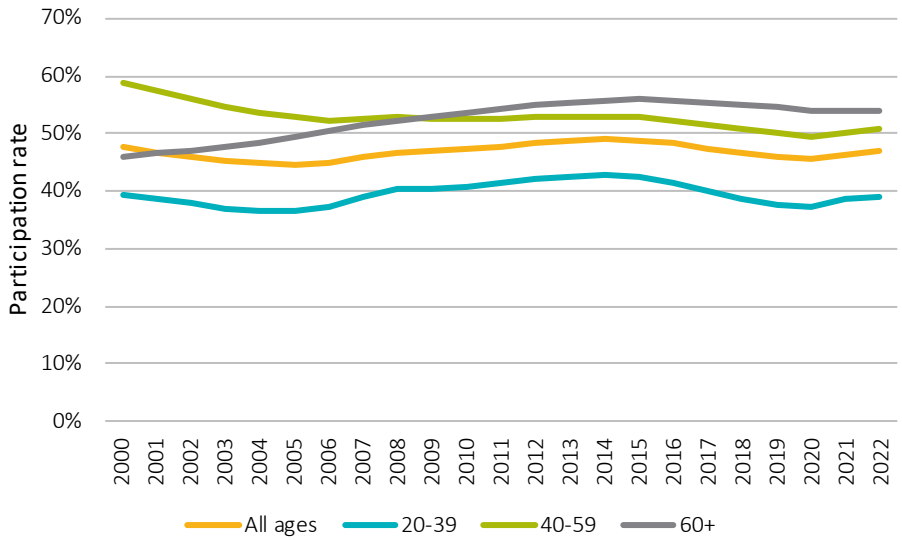
- Participation rates
- Hospital benefit inflation
- Premium rate increases and affordability

Ageing population and participation changes

The Australian population is ageing. In 2013, the average age of the population eligible for health insurance was 37.8 (based on ABS Series 3101.0 Australian Demographic Statistics, Table 59: Estimated Resident population by Single Year, Australia). In ten years, the average age grew by 2 years to be 39.8 in 2023.

Compounding the challenges associated with an ageing population, PHI participation amongst younger cohorts has reduced in recent years, relative to participation amongst older cohorts, as shown in Figure 2.

Figure 2 – PHI participation over time by age



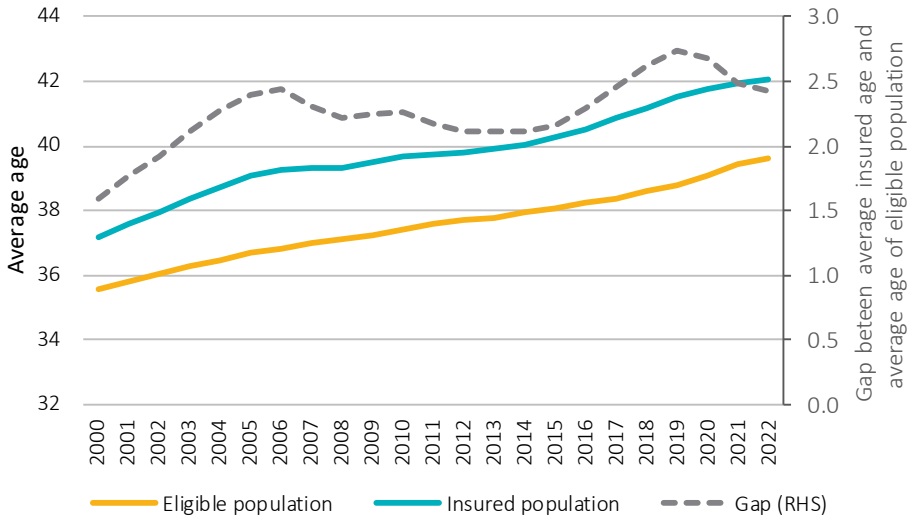
Source: Finity analysis of APRA Statistics: Private health insurance membership and coverage, September 2023; ABS Series 3101.0 Australian Demographic Statistics, Table 59: Estimated Resident Population by Single Year of Age; Department of Veteran Affairs Treatment Statistics; Australian Education International, Time Series - International Student Enrolments in Australia 1994–2020; Gale, A. P. (2019).

The overall rate of participation has fluctuated between 45% and 50% over the period shown. However, the participation rate amongst those age 60 and over has increased from 46% in 2000 to 54% by 2022, while the participation rate for those aged 20-39 has remained at around 40%.

Driven by this disparity in PHI participation between age groups, the average age of the insured population has increased at a faster rate than the average age of the eligible population, as shown in

Figure 3.

Figure 3 – Average age: insured versus population



Source: Finity analysis of APRA Statistics: Private health insurance membership and coverage, September 2023; ABS Series 3101.0 Australian Demographic Statistics, Table 59: Estimated Resident Population by Single Year of Age

During the COVID-19 pandemic, PHI participation increased amongst younger cohorts more than it did older cohorts, resulting in a slow-down, but not a reversal, of the increase in the average age of the insured population. Much of the recent increase in PHI participation amongst younger cohorts was the result of:

- The additional stress that the COVID-19 pandemic placed on public hospitals and the public hospital waiting lists for surgery increased the attractiveness of access to private hospitals and therefore, PHI (see David, 2022).

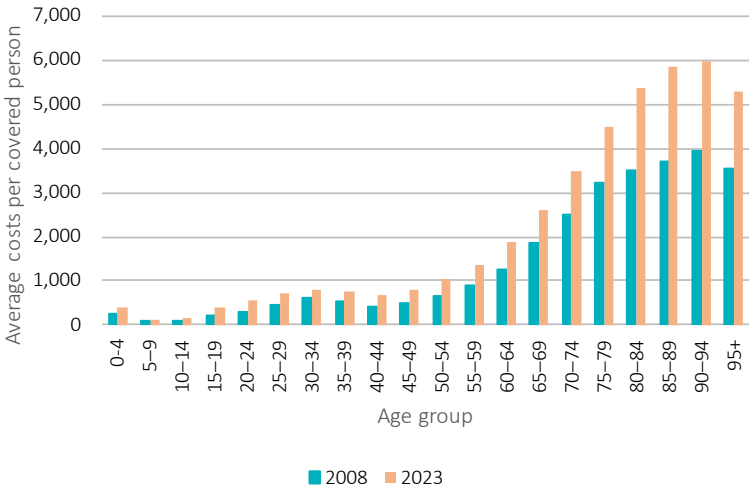
- Reforms in 2021 to allow insurers to offer “extended dependents” cover to those up to age 30.
- Lower than average premium rate increases compared to prior years.

These effects on youth participation are expected to be temporary in part, though the timing for these effects to return to “normal” is highly uncertain.

Hospital benefit inflation

Changes in the age mix of the insured population have been a key driver of hospital benefit inflation, due to differences in average costs by age, as shown in Figure 4.

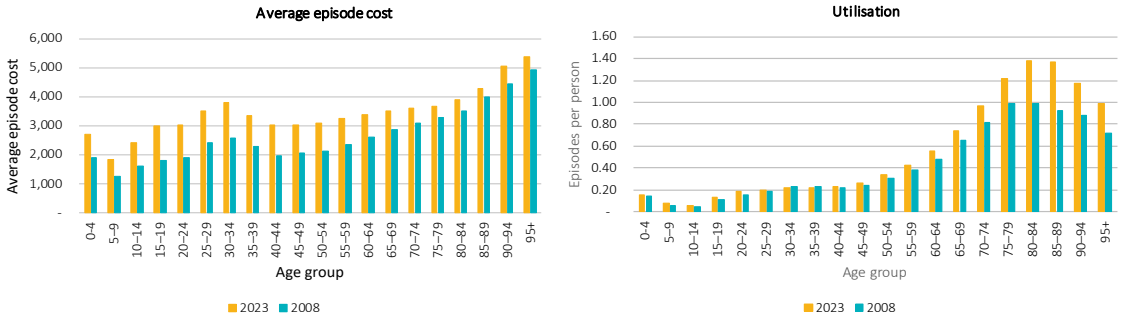
Figure 4 – Average hospital benefits per person by age.



Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

Average drawing rates (claims costs per covered person) are more than five times higher for those aged 80+ compares to those aged under 50, mainly driven by differences in utilisation rates (number of hospital episodes reported per insured persons), as shown in Figure 6.

Figure 5 – Average size and utilisation

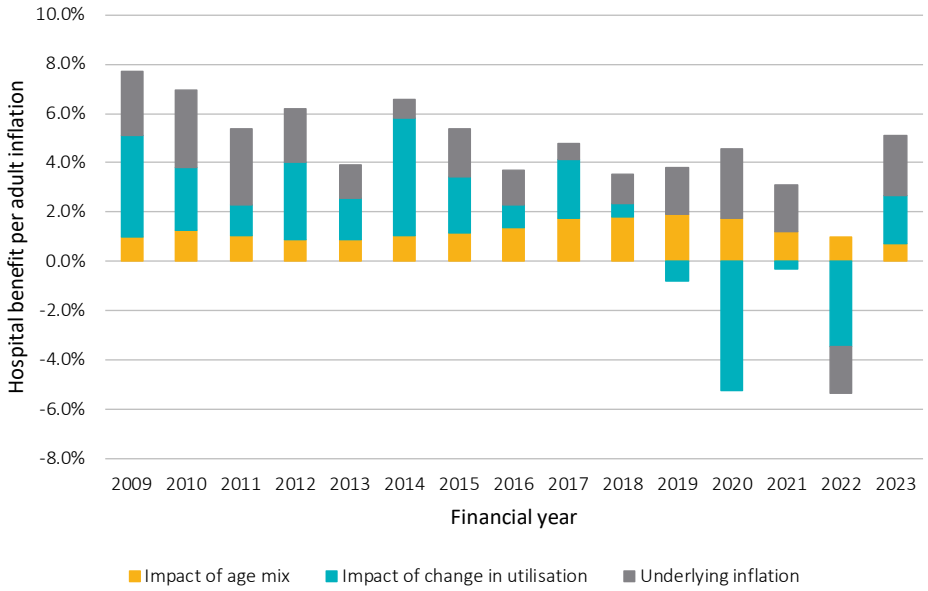


Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

Differences in utilisation drive most of the difference in average benefits by age, and increases in costs at older ages have been driven by utilisation over the past 15 years. However, average claim sizes have flattened by age group over the past 15 years.

Figure 6 dissects the overall movements in drawing rates over time into inflation driven by the aging of the insured population, other changes in utilisation not explained by aging and other changes in average claim size not explained by aging.

Figure 6 – Benefit inflation by driver over time



Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

We observe that:

- Changes in age mix have contributed to industry benefit inflation of between 1% and 2% per annum since 2009. The aging impact was particularly strong in 2017 to 2020, but has reduced over the past three years with the growth in participation at younger cohorts.
- Prior to 2018, change in utilisation, particularly amongst those aged 65 and over, was the biggest driver of benefit inflation, with an impact of between 4% and 5% per annum. In 2018 and 2019 utilisation was notably lower.
- In 2020 the COVID-19 pandemic caused significant disruption to utilisation as hospital services were restricted.

Overall benefit inflation has reduced significantly as a result of the COVID-19 pandemic, and it is challenging to know how much of the decrease in utilisation is permanent and how much is temporary. Additionally, there have been other effects in recent years which mean lower benefit inflation may not be sustained in the future, including:

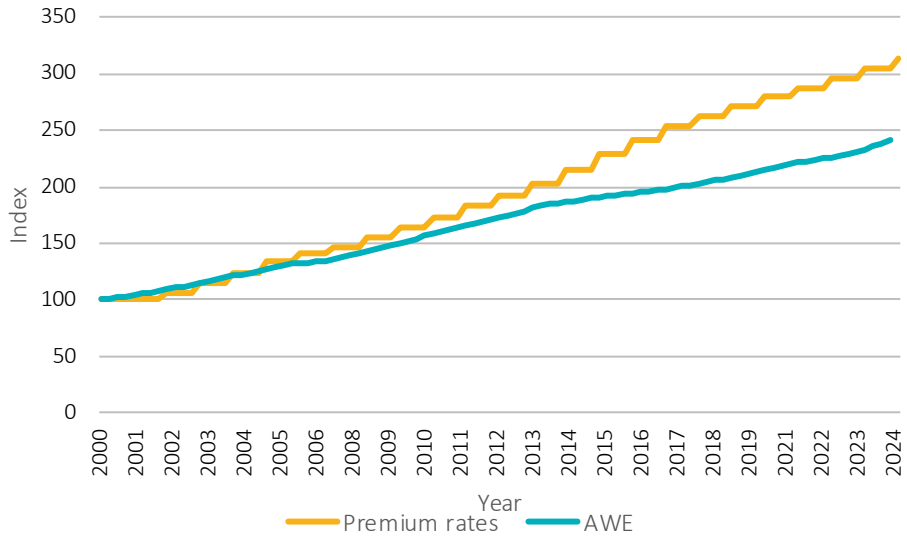
- Savings arising from prosthesis benefit reforms, which are expected to have had a material impact on benefit inflation since 2018. It's uncertain as to how much longer savings from these reforms will continue, and the extent to which there will be additional benefit reforms (not just to prosthesis benefits) in the next 20 years.

- The proportion of products with excesses has increased over time, which would have a dampening impact on benefit inflation. It's uncertain as to how much of an impact this effect will continue into the future as excess choice stabilises.
- Private hospitals have seen reduced volumes since COVID-19 while the costs of labour and supplies have increased at a higher rate than previously. Private hospital providers may be seeking to pass on these costs via higher contracting with private health insurers at least in the short-term.

Premium rate increases and affordability

Benefits generally make up more than 90% of outflows for a private health insurer, and are therefore the key driver of premium rate increases year-on-year. As insurers raise premium rates in response to benefit inflation shown above, premium rate rises have outstripped wage increases over the long run, as shown in Figure 7.

Figure 7 – Average premium rate increases and average weekly earnings

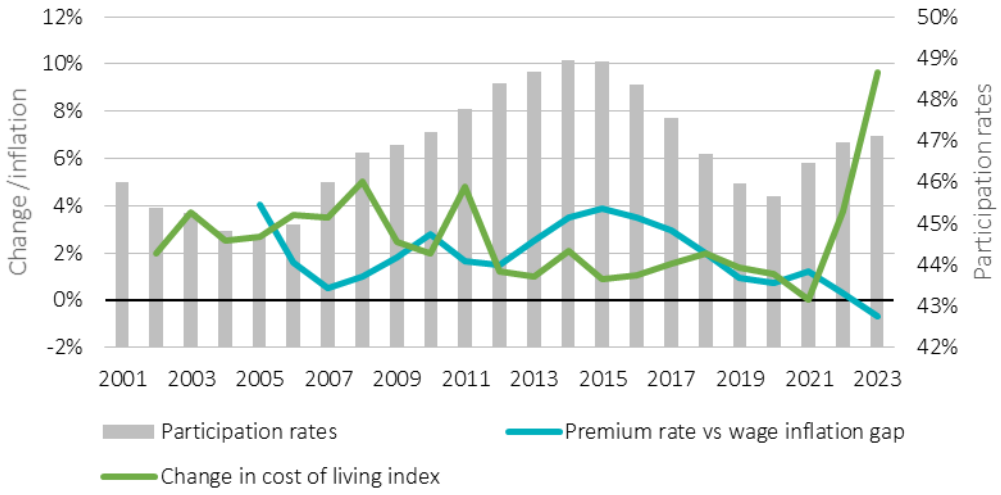


Source: Finity analysis of Department of Health and Aged Care premium rate data and ABS data on average weekly earnings.

Between 2000 and 2014, the reported industry premium increase averaged 5.6% per annum and compared to AWE increases of 4.6% over the same period – a gap of 1.0% per annum. Since 2014, this gap has widened slightly, with average premium increases of 3.8% per annum compared to AWE increases of 2.6% per annum.

Figure 8 compares how participations rates (grey columns) have changed over the last 20 years with changes in the cost of living index for employee households (green) and the difference between the premium rate increase and wage inflation (blue).

Figure 8 – Participation rates vs premium increases and economic indicators



Source: Finity analysis of Department of Health and Aged Care premium rate data, ABS data on wage price index, APRA Quarterly Private Health Insurance Statistics and ABS data on cost of living (series 6467)

There is not a clear trend regarding the impact of cost of living pressures, differences between wage inflation and premium rate increases on participation rates:

- Between 2004 and 2011, PHI participation increased while cost of living increases were relatively high.
- Premium rate increases and their relativity to wage inflation may affected participation rates between 2012 and 2018, but if so, the effect was lagged.
- The lower premium rates increases between 2019 and 2023 may have supported the increase in participation rates. However, we note that this period also includes the impact of the extended dependents reform and the perception that the public system was under stress due to COVID-19.

Analysis of survey data in McLean et al. (2022) suggests PHI premium rate increases have very low impacts on PHI participation. This study found that removal of the PHI rebate (which results in a premium subsidy of around 25% for most policyholders) would reduce participation by 4.2%, and that price changes of 10% did not have a statistically significant impact on PHI participation.

There are a number of reasons why it may be challenging to directly link increases in the headline reported industry average premium increase to PHI participation, for example:

- Average measures of wage inflation and the cost of living may not be a good indicator of PHI participation, as movements in disposable income are not uniform. The Reserve Bank of Australia's January 2024 Bulletin (Beckers et al.) shows that between December 2021 and June 2023, the lower quintile of disposable income saw an increase in real disposable income of around 10%, while the highest quintile saw a reduction of 10% in real disposable income over the same period.
- PHI participation of those with higher levels of real disposable income is less likely to be affected by changes in income due to the impacts of the Medicare Levy Surcharge which incentivises high income earners to participate in PHI.
- The reported average premium increase may not reflect the actual increases of the cheapest available products within each product tier. For example, in Queensland, the cheapest available Bronze and Bronze Plus product increased by 2.3% per

annum between 1 January 2020 and 1 January 2024, compared to an average headline rate of 2.8%.

Therefore, while premium rates have increased higher than wage inflation over the past 20 years, the impact on participation is not obvious.

Projections

In the previous section, we showed that trends in participation and benefit inflation have been varied over the past twenty years, and the longevity of recent trends is difficult to ascertain. In this section we consider this experience and present a base projection and identify the key areas of uncertainty of our projection.

Overview of projection results

Our best estimate projections over the next 20 or so years result in the following:

- Overall participation is projected to fall from 47% to 45% - a reduction which is not indicative of a death spiral.
- The average age of the insured population is projected to continue to increase, but at a slower rate than that observed in the lead up to the COVID-19 pandemic. Participation rates have exhibited a strong cohort effect, where participation rates are relatively stable once a cohort reaches age 35-39. The population currently aged 70-79 has a relatively high participation rate, but the size of this cohort is expected to reduce over the next 20 years due to mortality. This has the effect of slowing down the increase in the average age.
- Utilisation was significantly impacted by COVID-19, but in the few years leading up to the pandemic there were signs of a flattening off and reductions in utilisation for some age groups. We have assumed utilisation will increase on average at rates higher than this experience, but lower than increases observed pre-2017.
- The proportion of total benefits shared through risk equalisation is expected to increase from 47% to 52%. This is a slower rate of increased observed between 2016 and 2023.
- Premiums per covered adult will need to increase by between 3% and 4% per annum in order to sustain an industry net margin of 5%.
- Given existing research on price elasticities with respect to PHI, we have not assumed these increases will have a material impact on participation going forward.

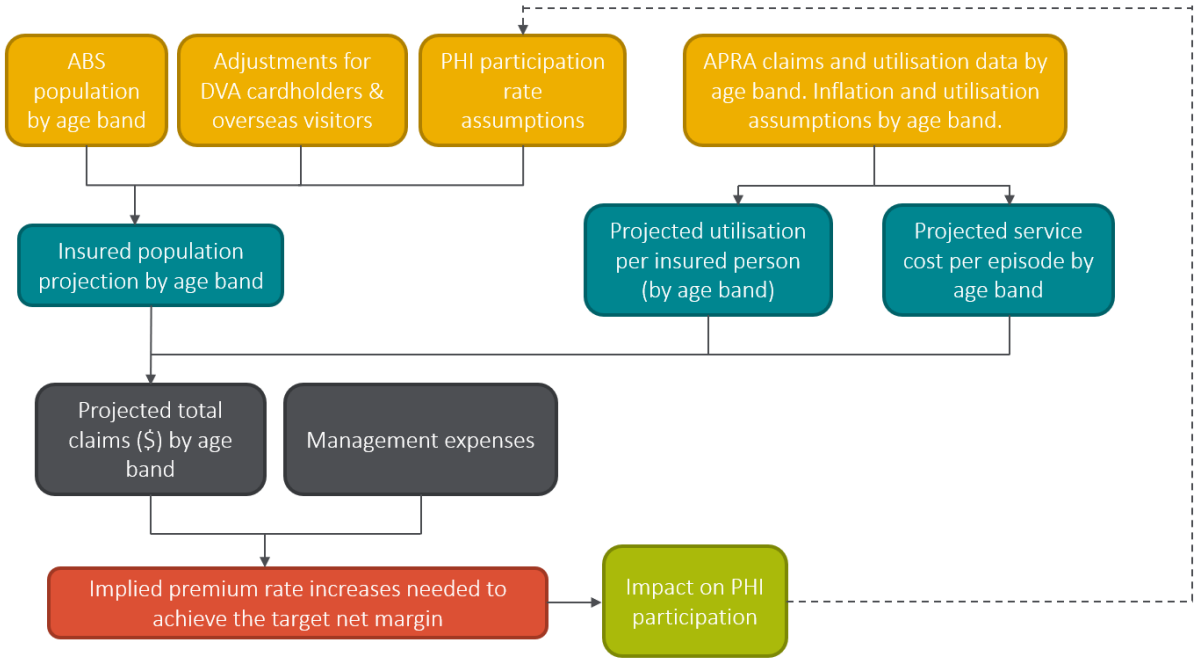
Our best estimate projection does not result in a death spiral in the next 20 years. However, the projection relies on a number of uncertain assumptions regarding future participation and utilisation. We explore other scenarios and scenarios which may give rise to a death spiral in the following section.

The following sub-sections discuss our projection in more detail, with some projection assumptions further documented in the appendix to this paper.

Approach

Figure 9 shows an overview of our projection approach.

Figure 9 – Projection approach

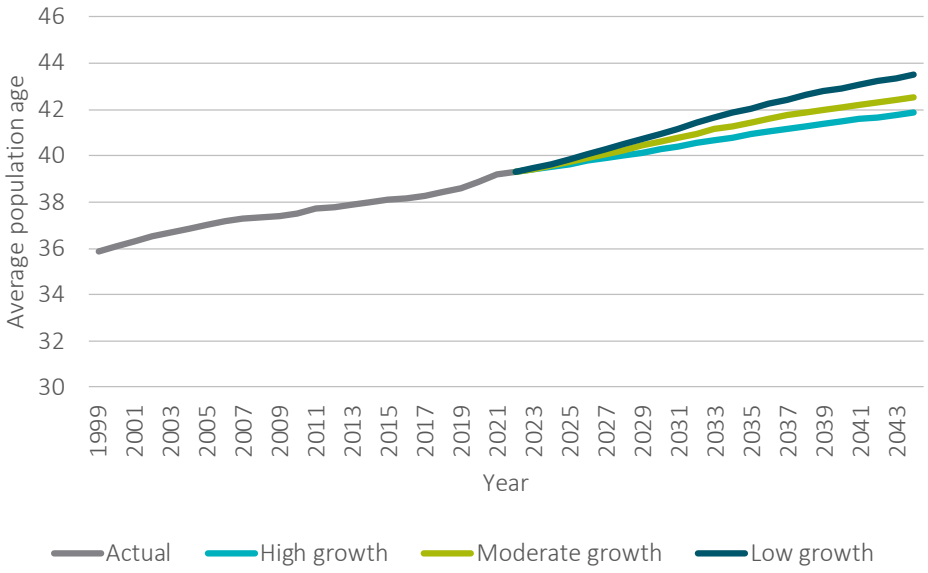


Our approach is to make an initial projection of participation ignoring the impact of premium rate increases. We then consider the estimated premium rate increases required to maintain a stable net margin of 5% (reflective of industry experience prior to the COVID-19 pandemic). We then consider the potential impact on participation, if the projected average premium rate increases are significantly higher than wage inflation.

Insured population by age

In projecting the insured population, we have adopted ABS population forecasts by age (ABS Series 3101.0 Australian Demographic Statistics, Table 59: Estimated Resident population by Single Year, Australia). Figure 10 shows the projected average age under three different scenarios projected by the ABS.

Figure 10 – Australian population average age forecast

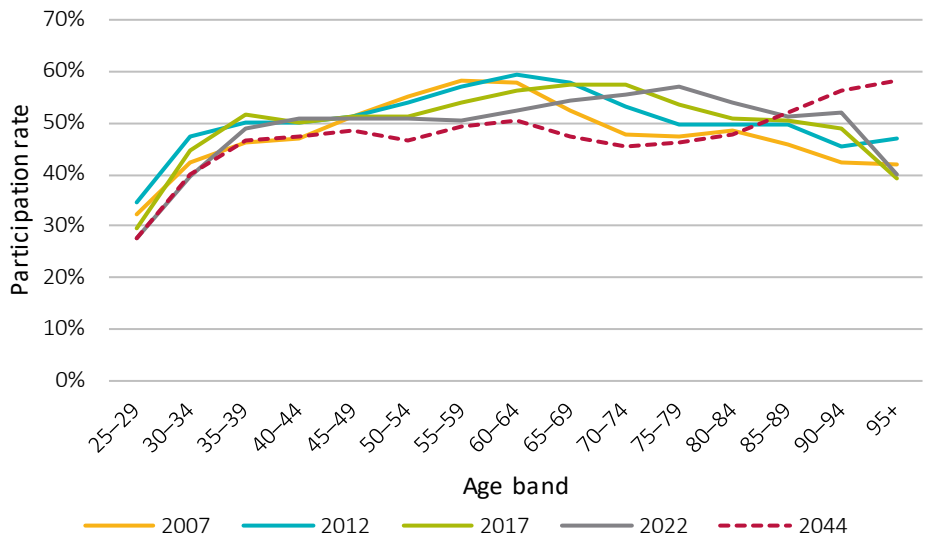


Source: Finity analysis of ABS population data

The ABS publishes low, moderate and high population growth scenarios, with the average age projected to increase from 39.3 in 2022 to 41.8 under a high growth scenario, and 43.5 under a low growth scenario. For the purposes of our modelling, we have adopted the moderate scenario projected by the ABS, with the average age projected to increase to 42.5 by 2043.

Figure 11 shows forecast participation rates for 2044 against historical snapshots.

Figure 11 – Forecast participation by age

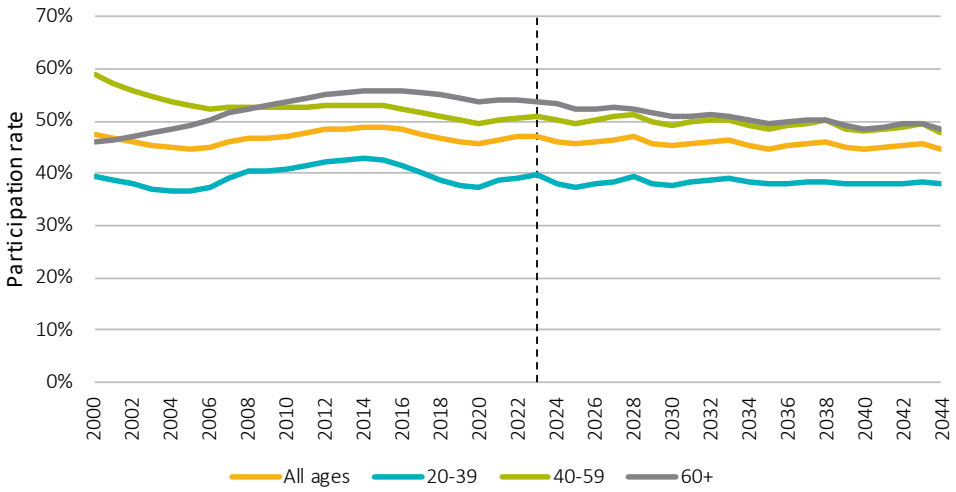


Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

Historical participation rates have demonstrated a cohort effect, with the peak in participation at each point over the years shown driven by the cohort who in 2022 were aged 75-79 (and were aged 70-74 in 2017 and so on). By 2044, we have projected this cohort to retain its relatively high rate of participation, but the cohort will be aged 95+ at this point. Additional detail on how we have projected participation, recognising this cohort effect, is shown in the appendix.

Figure 12 shows projected participation rates over time by age group.

Figure 12 – Participation over time by age group



Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

Perhaps surprisingly, participation rates for those aged 60 and older are expected to decline over time. This is driven by the aging of the cohort aged 75-79 in 2022, which will become a smaller proportion of the insured population over time. While this cohort effect is not enough to reduce the average age of the insured population, it is projected to slightly narrow the gap between the average age of the eligible population and the insured population, from 2.2 years in 2022 to 1.9 years in 2044.

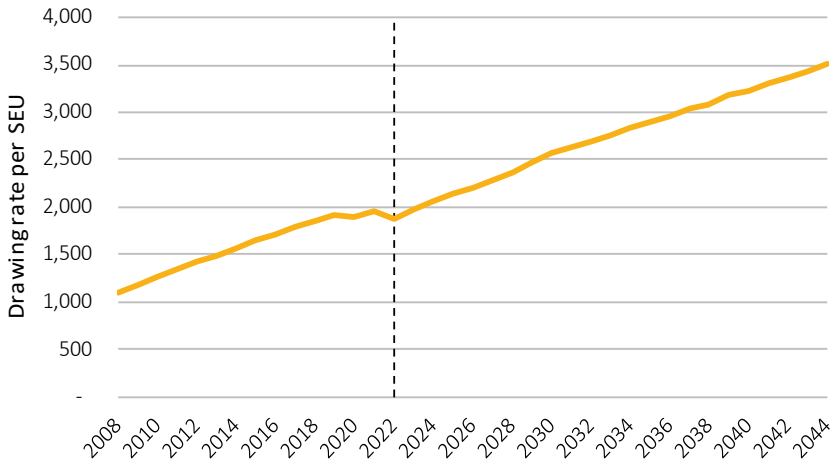
Hospital benefit inflation

Our projection of benefits is comprised of:

- Projected utilisation rates by age group
- Projected average claim sizes by age group

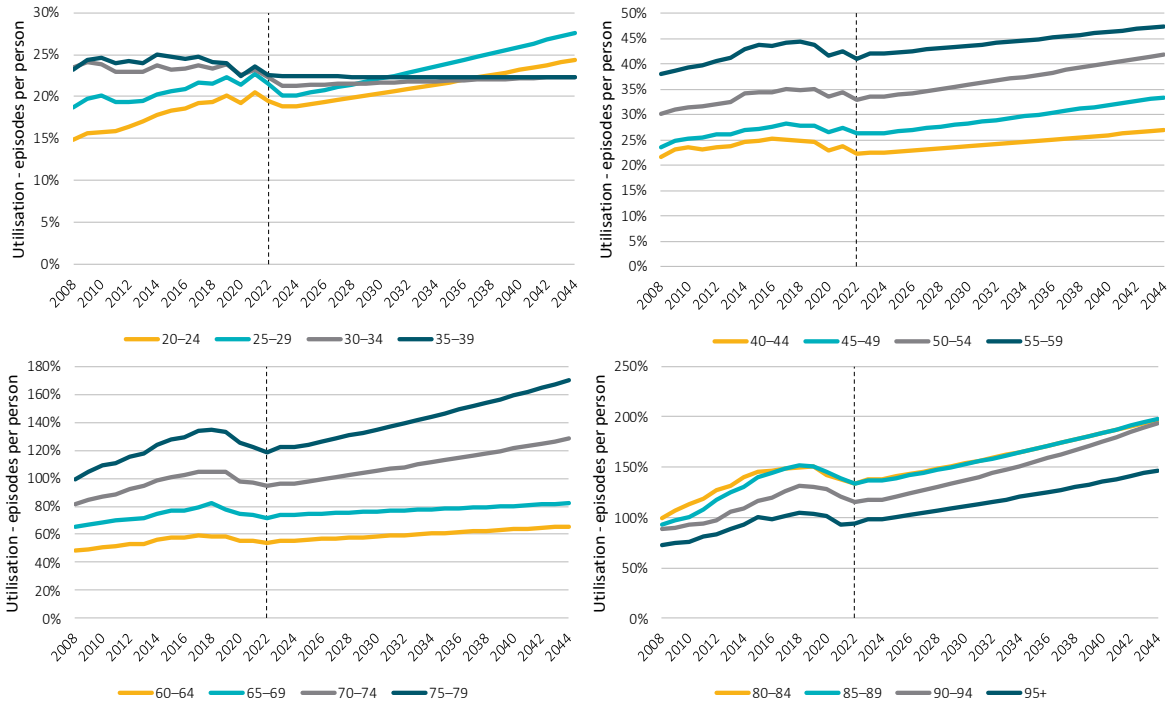
The outworking of these projections is shown in Figure 13, as average benefits per covered adult.

Figure 13 – Average benefits per covered adult



At an overall level, our base forecast would appear to assume that pre-pandemic benefit inflation levels continue, with no sharp recovery in benefit levels in the short-term. However, analysis of utilisation rates by age group shows significant variation in recent experience, as shown in Figure 14.

Figure 14 – Utilisation rates by age (episodes per person)



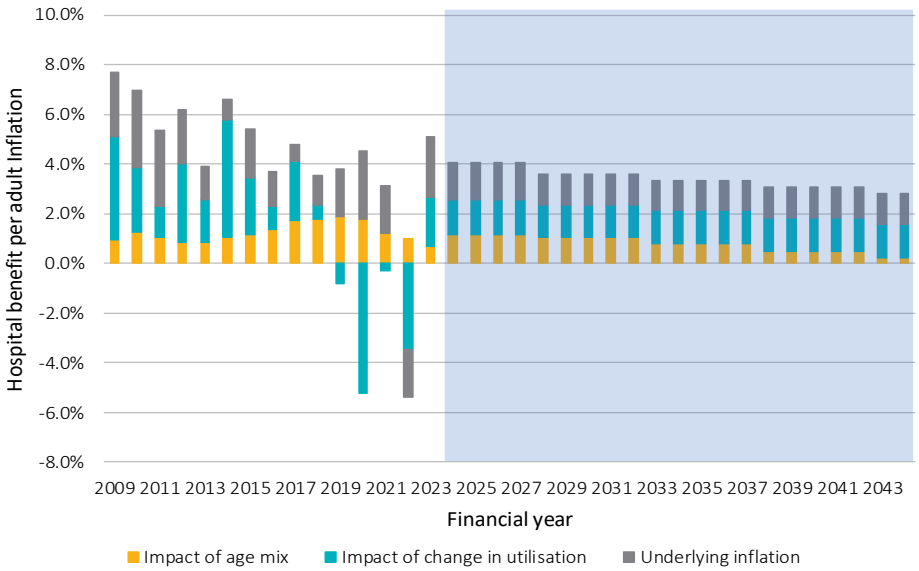
Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

While utilisation rates have generally shown and increasing trend, 2017 to 2019 saw utilisation rates level off for ages 40 to 79, or decrease for ages 80 and oder. Our projections of utilisation rates by age are based on a weighting between the pre-2017 and 2017-2019 experience. We do not apply any weight to the COVID-19 impacted years.

Average claim sizes have been more stable to project than utilisation. Further detail on our projections of average claim size are shown in the appendix.

Figure 15 shows the resulting benefit inflation outcomes of our projections of participation (which drives inflation due to aging), utilisation and average benefit size inflation.

Figure 15 – Benefit inflation by component

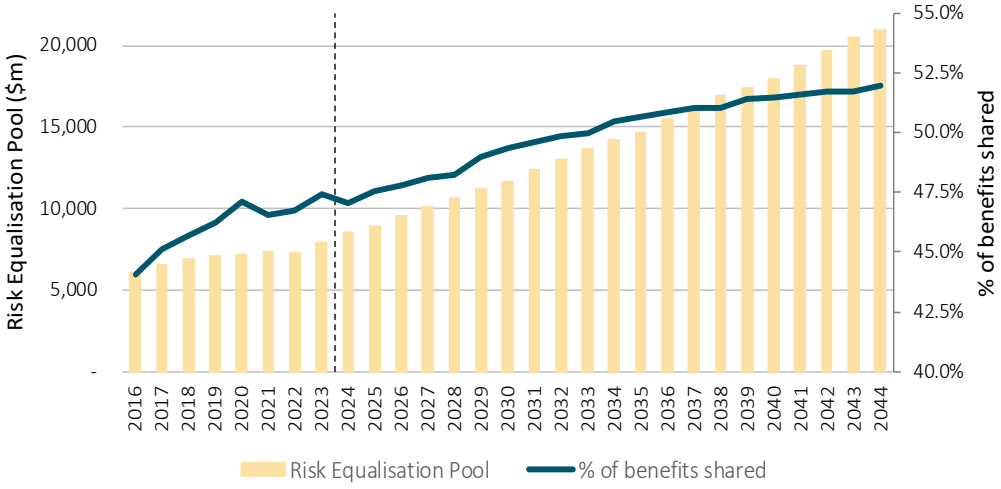


Inflation due to aging is expected to have a lower impact in the future than in the lead up to the COVID-19 pandemic. Utilisation and other inflation impacts are lower than pre-2017 experience, but higher than 2017 to 2019 experience.

Risk equalisation pool

Under risk equalisation, proportions of benefits incurred by those aged 55 and older are shared across the industry. Figure 16 shows the projected size of the benefits shared, and the proportion of total benefits which are shared through risk equalisation.

Figure 16 – Risk equalisation pool



The proportion of hospital benefits shared through risk equalisation is projected to increase to above 52% by the end of the projection period. We also project the proportion of benefits to be shared to reach 50% in 2033, slightly later than 2030 as projected in Reid et al. (2017) likely due to the impacts of the COVID-19 pandemic.

The rate of increase is expected to slow down over time due to:

- Younger relative mix of policyholders.
- Utilisation of the older cohort of the population projected to increase at a lower rate than pre-2017 trends.

The risk equalisation pool divided by the number of covered adults is projected to increase by 3.8% per annum over the projection period. This rate is important because younger participants typically purchase PHI products which provide lower coverage, and where most of the premium for the product goes towards the insurer's contribution into the risk equalisation pool. The rate of increase therefore represents a guide to premium increases for basic and low coverage product which are popular amongst younger participants.

Other assumptions

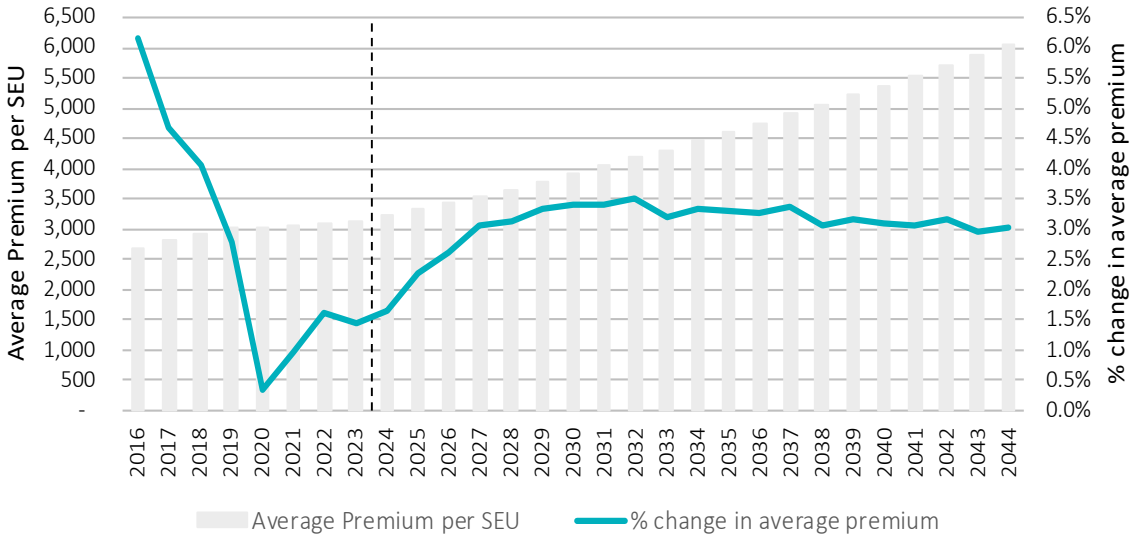
Other key assumptions are as follows:

- General treatment costs per covered adult are assumed to increase at a rate of 3.6%.
- Because we are looking at changes in the total premium required by the industry, we implicitly allow for the impacts of Lifetime Health Cover to be unchanged over time.
- For simplicity we have ignored State ambulance levies, as these represent a small proportion of costs and increase with CPI inflation over time (per covered adult).
- We assume overall product mix and use of excesses does not materially change over time. A more detailed analysis would need to consider how insureds change cover with age, income and at different price increases, and how this might then impact benefits.
- Management expenses per covered adult are projected to increase by around 2% per annum. Further details on our projection of expenses is shown in the appendix.

Resulting average premium increases

Figure 17 shows the projected average increase in premiums per adult covered over time, if insurers target a net margin of 5%.

Figure 17 – Average premium increase



Based on our forecast of participation rates, utilisation and average claim size by age, the implied long-term premium rate increase required to ensure that the industry meets a target net margin of 5% is between 3% and 4% per annum with an average of 3.2%.

It is important to note that the percentage change in average premium is as per the reported total industry premiums divided by covered adults, and hence different to the reported premium rate increases by the Department of Health and Aged Care (DOHAC). Between 2020 and 2023, the headline rate reported by DOHAC was around 3%, much higher than the effective increase of 0.5% to 1.5%. The difference is driven by COVID-19 related premium givebacks (which for some insurers are captured as a reduction in premium revenue) as well as changes in product and excess choice by policyholders.

Impacts of premium rate increases on participation

Projected average premium increases of 3.0% to 4.0% per annum are similar to long term wage inflation trends. This would suggest that the population could absorb required premium rate increases with wage inflation. Additionally, it's not clear that changes in premiums of the levels projected would have a material impact on PHI participation.

Analysis of survey data in McLean et al. (2022) found that a $100 increase in monthly premiums would reduce participation by:

- 3% for holders of a Bronze or Basic policy
- 1% for holders of a Gold policy

Current pricing of these products (a few hundred dollars per month) means that increases of more than 20% would be required to generate these impacts.

Even if we were to assume participation for 25-29 year olds reduced by 1% per annum as a result of premium increases, as we observed between 2012 and 2017, the average premium rate increase would need to increase by an additional 0.3% each year to offset the resulting changes in age mix.

Therefore, for our base projection, we have assumed no material impact on participation from the projected premium increases. It is important though, to consider whether more pessimistic scenarios on benefit utilisation and participation would result in unsustainable premium rate increases. We explore this in the following section.

Scenario analysis

To understand the potential for a death spiral under alternative assumptions at the industry level, we have considered:

- Two scenarios to test the impact of the change in participation rates of new cohorts.
- A scenario to test the impact of higher than projected benefit inflation.
- A scenario combining low PHI participation and high benefit inflation

An addition to the two industry scenarios, we have conducted two scenarios to test how our projections may impact insurers with different age profiles.

An outline of our scenarios is shown in Table 2 below.

Table 2 – Scenarios

Scenario	Changes from base
Low PHI participation	Assumes that participation of 25-29 years declines 2% per annum to a minimum of 10% and that incremental increases in participation between ages 30 and 40 are half of the base assumption for each cohort
High PHI participation	Assumes that participation of 25-29 years increases 1% per annum to a maximum of 32% and that incremental changes in participation between ages 30 and 40 are 1.5% higher than the base
Higher benefits	Benefit inflation is higher due to a continuation of average size and utilisation trends pre-2017.
Low PHI participation and higher benefits	Combines the low PHI participation scenario with the higher benefits scenario.
Insurer with older age profile and higher expenses	Average age of policyholders is 8 years higher than the industry average at the start of the projection.
Insurer with younger age profile and higher expenses	Average age of policyholders is 5 years lower than the industry average at the start of the projection.

Table 3 shows the results of the scenario analysis.

Table 3 – Summary of key metrics by scenario

	End of period participation rates	Average age	Average premium rate increases	Gross Benefit Inflation	Benefits shared with industry	Expenses
Historical						
2003	45.2%	38.9	7.4%			
2023	46.9%	42.6	2.9%	4.0%	47.0%	12.6%
2044 Forecast						
Base	44.8%	46.1	3.2%	4.2%	51.4%	9.5%
Increased participation	48.4%	44.7	3.1%	4.4%	50.5%	9.7%
Lower participation	32.6%	52.8	3.9%	3.4%	54.4%	8.8%
Increased benefits	44.8%	46.1	4.5%	5.6%	53.0%	8.2%
Increased benefits & lower participation	32.5%	52.9	5.5%	5.1%	54.9%	7.4%
Older population	44.8%	54.1	2.7%	3.9%	58.7%	13.6%
Younger population	44.8%	41.1	3.0%	4.0%	44.6%	14.9%

We make the following observations:

- Lower participation rates (see Figure 18) do not appear to have a material impact in the long-term average premium increases required for the industry to maintain a 5.0% net margin target.
- The most material increases in premium rates will arise under a scenario of lower participation combined with higher benefits, where pre-2017 trends in benefit inflation continue (see Figure 19). However, this would only result in a 2.3% higher year-on-year increase, and is still lower than the average premium rate increases put through between 2000 and 2014, a period over which the participation rate increased.
- Individual insurers with higher expense ratios may be able to put through lower premium rate increases, as a lower proportion of premium revenue is paid out in the form of benefits, and benefits are projected to inflate at a higher rate than expenses.
- The impact on premium rate increases of differences in age profile is small, and those insurers with a younger profile may need to increase rates at a slightly higher rate than those with a older age profile.

None of the scenarios above appear to replicate a death spiral as we observed in the 1990s. Discounting one off shocks to the market, it is difficult to project a death spiral without using a very pessimistic set of assumptions over an extended period of time.

Figure 18 – Participation rates scenario assumptions

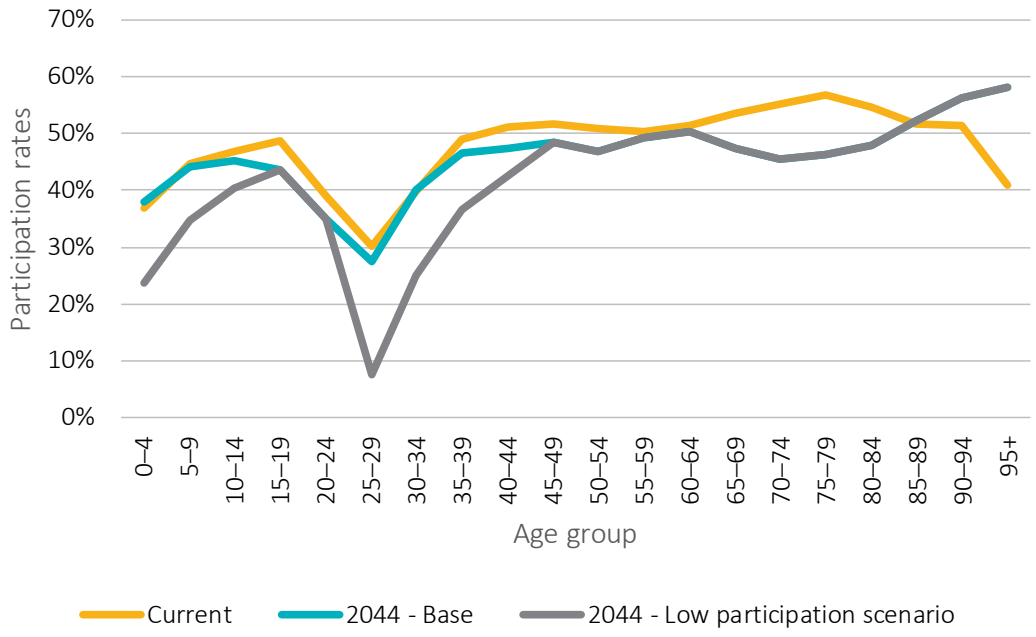
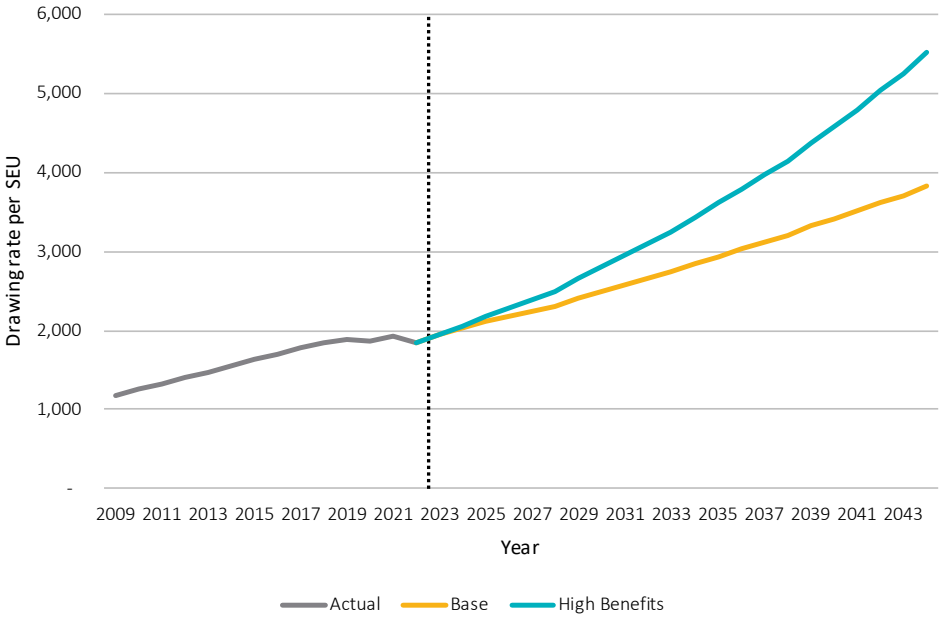


Figure 19 – Higher benefit inflation scenario



Conclusion

Intuitively it would seem that the impacts of an aging population and healthcare cost inflation would lead to a death spiral for the PHI industry. However, our projections and scenario analysis show that the conditions indicative of a death spiral are difficult to produce under a range of assumptions and that there are more complex and uncertain movements underpinning participation and benefit inflation. These areas of complexity and uncertainty include:

- The impacts of the perception of the public hospital system on youth participation and how long this recent trend will last.
- Utilisation was significantly affected by COVID-19, but it has not returned to pre-pandemic levels. It's not clear what is driving this prolonged period of lower utilisation, and without understanding the drivers, it is difficult to know how long this level of utilisation will persist.
- Prior to COVID-19, the period from 2017 to 2019 saw flat or falling utilisation rates for some age groups.
- There are cohort effects on participation, which results in a smaller impact of ageing on average benefits going forward.
- Movements in prices do not appear to have a strong impact on participation due to:
  - Low price elasticities;
  - Differences in changes in disposable income by income level;
  - The impact of the Medicare Levy Surcharge which incentivises high income earners to participate;
  - Lifetime Health Cover which incentivises participants to maintain cover.
- Participants changing their level of cover, with an increasing proportion of participants on cover with a $750 per person per year excess versus a $500 or lower excess (see Private health insurance reform data quarterly trends report for December 2023, published by the Department of Health and Aged Care).

Additionally, there may be the presence of automatic stabilisers which would suppress the emergence of a death spiral. For example, the increase in youth participation in response to public hospital waiting lists and perceptions from COVID-19 highlighted the value in the private health insurance sector for many Australians. Without adequate planning or preparation, a reduction in PHI participation could result in longer public hospital waiting lists which would in turn increase the attractiveness of the private hospital system and PHI, dampening the effects of a death spiral.

Implications for the PHI industry

While a death spiral may not seem an immediate threat to the sustainability of the PHI industry, the industry should not be complacent, for the following reasons:

- The industry has benefited from reforms to benefit costs (prosthesis in particular) and investments in providing more efficient forms of care (e.g. rehabilitation and hospital services provided in the home, digital health platforms and health management programs). Some of the impacts of these reforms and investments would be captured in our assumptions, and therefore our projections assume to some extent, that these investments and activities continue.
- Although we have shown that differences in age profile do not significantly impact required premium rate increases, those insurers with a higher age profile will become more reliant on the current risk equalisation framework.

- The PHI industry is reliant on the private hospital sector to deliver services as efficiently as possible. Staff shortages, increases in operational expenses may result in higher benefit inflation.
- We have assumed no changes to policy settings, however its possible that policy changes will occur over the next 20 years.
- Our projections and scenario analysis do not consider one-off shock events, such as the commercial failure of a large network of private hospitals, which could significantly impact the value of private health insurance.

Other changes over the next 20 years

There are numerous other aspects of the PHI industry that may change materially over the next 20 years which are not captured in our projections, but are worth considering in future research. These include:

- Increasing focus on preventative care and the emergence of patient-centred, integrated models of care. The PHI industry is well positioned to offer a holistic service to its insureds and help them navigate through a relatively fragmented health system. This would have impacts on participation, expenses and benefit costs in the long run.
- Changes in service mix. Utilisation levels and average benefits by age will vary over time with changes in the use of existing services and advancements in medicine.
- Changes to policy settings. While PHI does not appear to be a priority for the current Government, this is unlikely to be the case for the next 20 years. Since 2020, the Government has commissioned reviews of the Medicare Levy Surcharge, Lifetime Health Cover, the PHI Rebate and hospital contracting and default benefits and may look to implement reform in any of these areas in the next 20 years.
- Over the past few years, the Department of Health and Aged Care has made a number of reforms to prostheses benefits and costs have reduced. If cost pressure were to build for other services we may see additional benefit reforms.
- The public health system and private health system work in tandem to support the healthcare needs of Australia. Inefficiencies in the public health system through increased elective surgery backlogs may change the perceptions of the value of private health insurance.
- Population health changes are gradual and can lead to a system that does not meet the needs of its patients. The treatment and focus on health can change across generations with emerging issues such as chronic conditions, weight loss medications and mental health reshaping the utilisation and cost of services.
- Preferences in cover may change over time, and participants may show a preference for higher excesses and/or co-payments to manage costs.

References

Ahluwalia, A., Reid, J. and Tripolitano, S., “Risk Equalisation 2020: Is the current system sustainable?” Presented to the Institute of Actuaries of Australia Biennial Convention, Sydney, 10 – 13 April 2011.

Beckers, B., Clarke, A., Gao, A., James, M. and Morgan, R. “Developments in Income and Consumption Across Household Groups”, Reserve Bank of Australia Bulletin, January 2024.

Damm, B. and Crane, M. “How to make private health insurance healthier” Actuaries Institute Green Paper, June 2019.

David, R., “Australia’s great private health insurance comeback” Australian Financial Review, 13 December 2022.

Duckett, S. “Saving private health 1: Reining in hospital costs and specialist bills”. Grattan Institute. November, 2019.

Duckett, S. and Cowgill, M. “Saving private health 2: Making private health insurance viable”. Grattan Institute. December, 2019.

Duckett, S. and Moran, G. “Stopping the death spiral: Creating a future for private health”. Grattan Institute. May, 2021.

Gale, A. P. and Brown, A., “Health after lifetime health cover: recent health insurance experience”, Institute of Actuaries of Australia, 2003 Biennial Convention, 18-21 May 2003.

Gale, A. P., “Health, Defence and Immigration: The impact of health coverage arrangements for military, overseas visitors and students on private health insurance”, Presented to the Actuaries Institute Actuaries Summit, 3-4 June 2019.

McLean, M., Metzakis, E. and Paolucci, F., “Private Health Insurance in Australia: an experimental approach”, Draft presentation for discussion purposes, September 2022.

Reid, J., Crane, M., McCullough, K. and Bruce, E. “Risk Equalisation: Time to think differently?” Actuaries Institute 2017 Actuaries Summit, Melbourne, 21 – 23 May 2017.

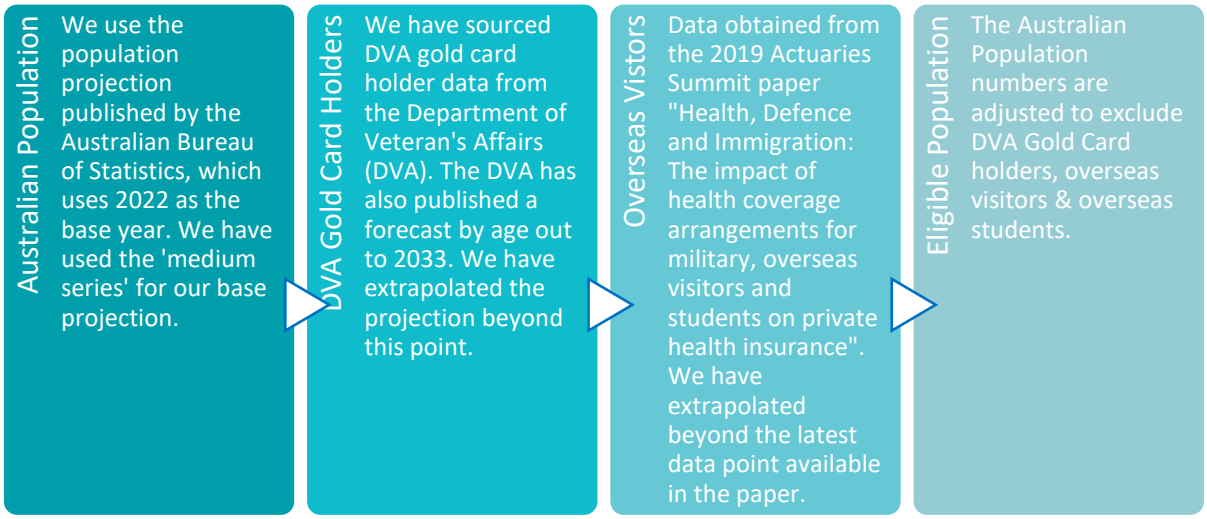
Summerhayes, G. “Financial Sustainability Challenges in Private Health Insurance”, Australian Prudential Regulation Authority, 3 June 2019.

Appendix: Projection assumptions in detail

Eligible population

Figure below outlines our approach for constructing the historic & projected eligible population.

Figure A.1 – Eligible population projection - approach

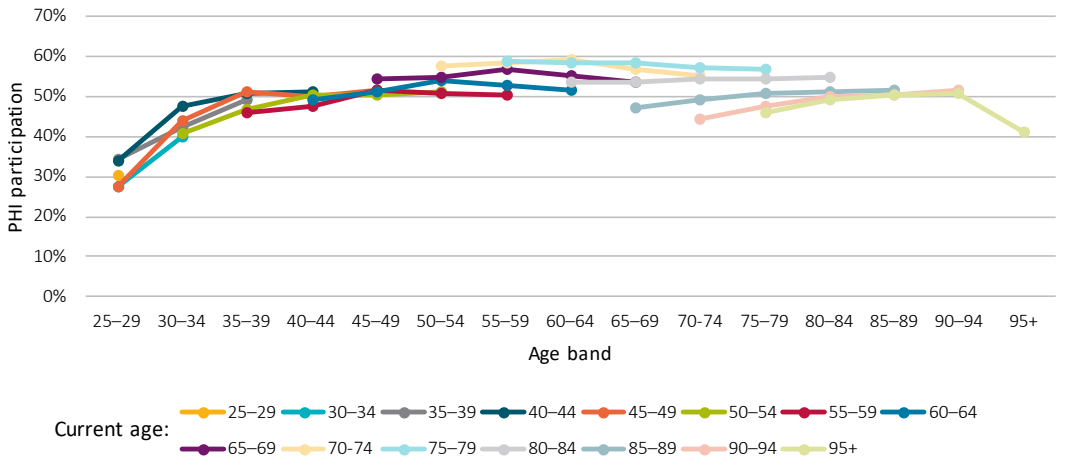


Participation

In projecting PHI participation rates, we have considered how participation rates move over time by *cohort*. That is, we have transformed participation data to track how participation changes for a population group as they age.

Figure A.2 shows participation data from 2003 to 2023, by cohort, as each cohort has aged. For example, the orange line shows the participation rate of the population currently aged 45-49, and how this cohort's participation has changed from when they were 25-29 years old in 2003.

Figure A.2 – Participation rate over time by cohort

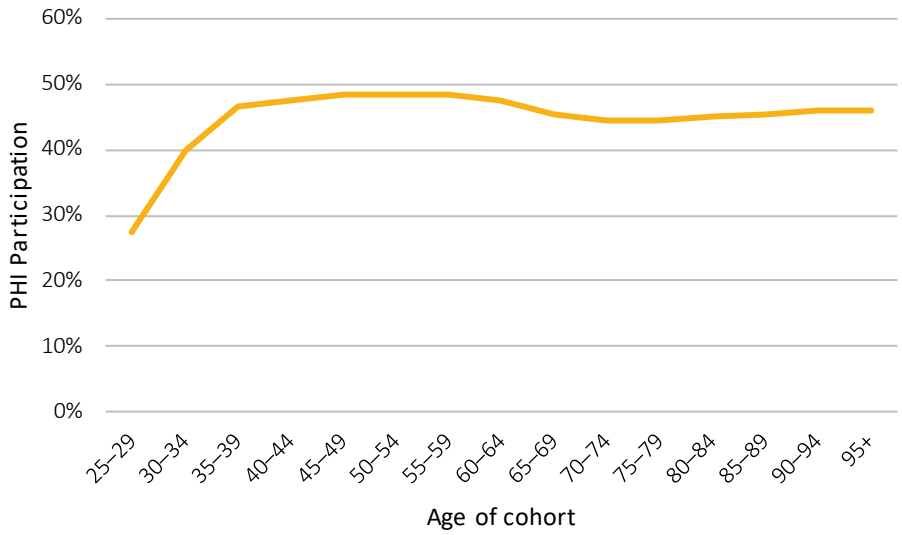


Source: Finity analysis of APRA Statistics: Private health insurance membership and coverage, September 2023; ABS Series 3101.0 Australian Demographic Statistics, Table 59: Estimated Resident Population by Single Year of Age; Department of Veteran Affairs Treatment Statistics;

Australian Education International, Time Series - International Student Enrolments in Australia 1994–2020; Gale, A. P. (2019).

Our base projection of PHI participation rates for a future *cohort* as it ages is shown in Figure A.3.

Figure A.3 – Assumed future participation rates – cohort view



Participation is assumed to:

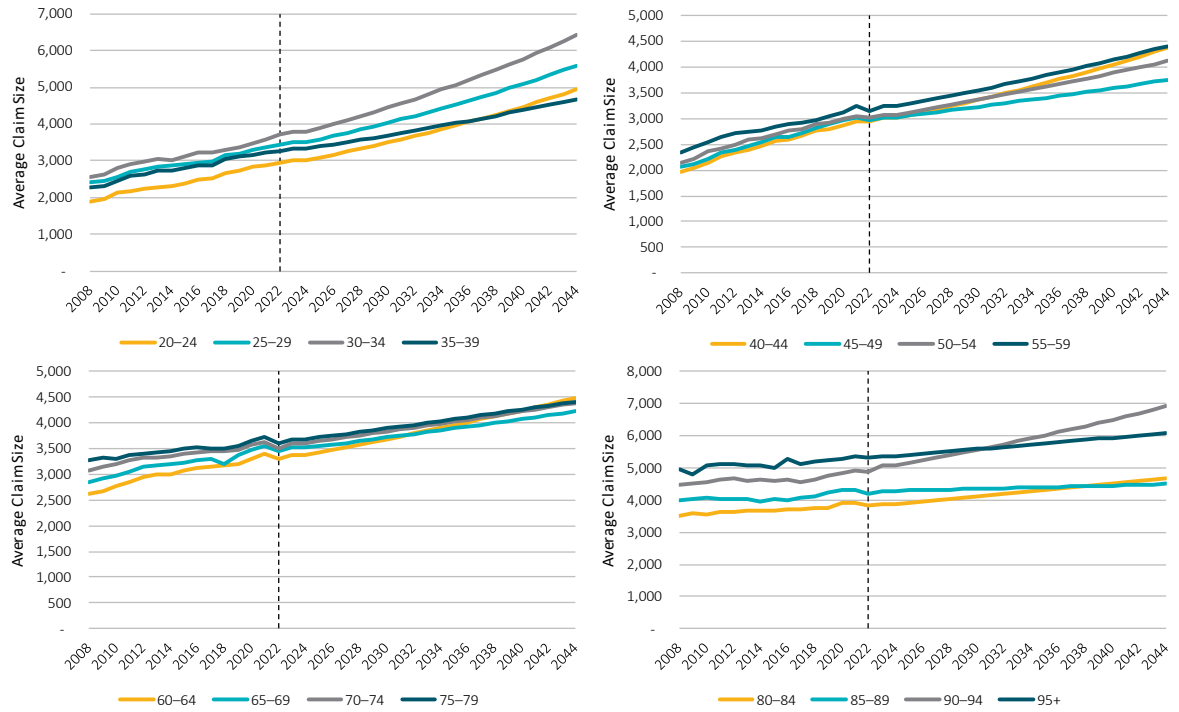
- Increase from 27.5% to 46.5% by the time a cohort is aged 35-39 as increases in income improve affordability and increase the portion of individuals subject to the MLS. Changes in family status and attitudes towards health may also drive participation at these age cohorts.
- Remain relatively flat before decreasing between ages 60 and 74 as incomes decline with retirement.
- Increase slightly at ages 80 and older.

For those in the 0-24 age group, we assume a fixed relativity in participation against older age groups. For example, we assume that the participation rate for those in the 15-19 age group is 90% of the participation for the 45-49 age group.

Average claim size

The average claim size contains movement in contract rate increases and cost of services, changes in the behaviour of private health insurance patients and the mix of services they claim due to changes in personal needs and preferences as well as changes in the product and available service, and prosthesis savings.

Figure A.4 – Average claim size by age

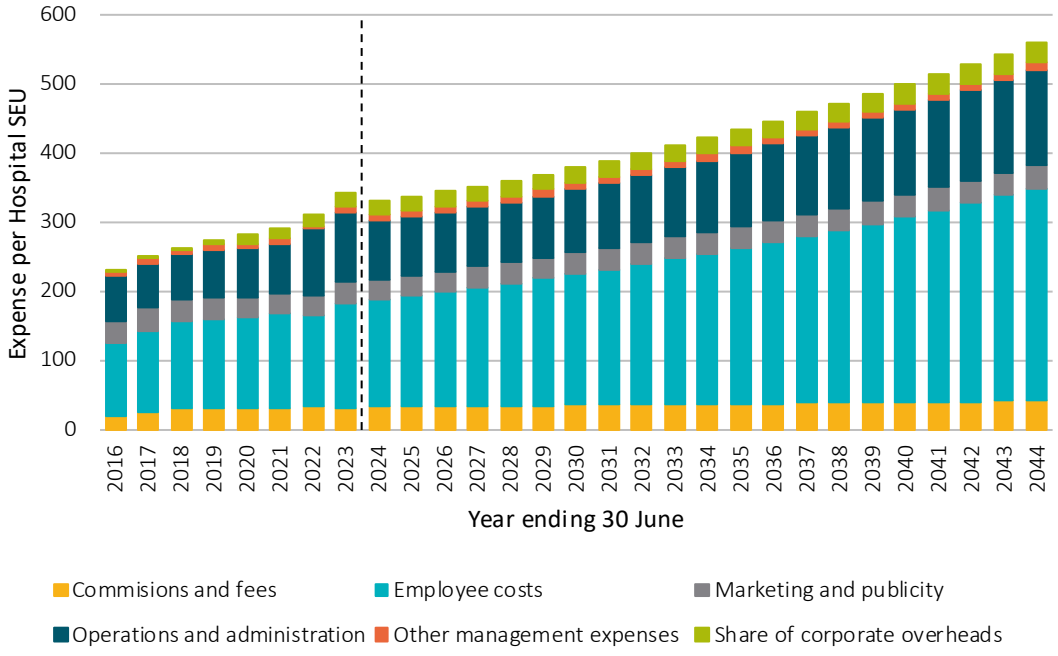


Source: Finity analysis of APRA Quarterly Private Health Insurance Statistics

Expenses

Our projection of management expenses is shown in Figure A.5.

Figure A.5 – Projected management expenses per covered adult



We have assumed:

- 2024 expenses will reduce from 2023 levels. In 2023, operations and administration expenses increased materially more than historical experience. This is driven by cyber remediation costs and digital transformation costs for which it is expected some will be a one-off expense.
- Otherwise, expenses will grow at a similar rate as history.