



THE MCKELL INSTITUTE

Our Health Our Wealth

THE IMPACT OF ILL HEALTH ON
RETIREMENT SAVINGS IN AUSTRALIA

AUGUST 2018

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BACKGROUND

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CONTENTS

AUTHORS	6
FOREWORD	8
EXECUTIVE SUMMARY	9
PART ONE:	
THE CURRENT AND FUTURE ECONOMIC IMPACT OF FORCED RETIREMENT DUE TO ILL HEALTH ON GDP	10
The literature shows a clear link between early retirement due to ill health and poor retirement outcomes	10
306,500 Australians aged 50-64 suffered from a work-affecting disability in 2017	12
Health status is strongly correlated with employment prospects	15
Early retirement due to ill health cost almost 4.5 times government expenditure on the Pharmaceutical Benefits Scheme in 2016-2017	17
PART TWO:	
IMPACT OF FORCED EARLY RETIREMENT ON AN INDIVIDUAL'S FINANCIAL PROSPECTS	18
An individual's superannuation balance increases rapidly with age	18
On average, an individual's median superannuation balance is up to \$111,000 lower if they retire early	20
The early withdrawal of superannuation is made deliberately difficult to help retain balances	22
Individuals forego up to \$115,600 from early retirement due to ill health	24
By 2025, the impact from early retirement due to ill health may reach \$30 billion	26

PART THREE:	
REDUCING RATES OF ILLNESS CAN HELP REDUCE THE PREVALENCE OF FORCED EARLY RETIREMENT	28
RECOMMENDATION 1: Target programs at people aged over 45 with early symptoms of depression and anxiety to delay retirement	32
RECOMMENDATION 2: Develop more effective treatment programs and medication for those at risk of early retirement from musculoskeletal and connective tissue conditions	32
RECOMMENDATION 3: Continue to strive for improvements in medicines to reduce the incidence of early retirement	35
CONCLUSION	37
APPENDIX: EARLY ACCESS TO SUPERANNUATION BALANCES	38
Compassionate grounds	38
Financial hardship	38
Terminal medical condition	39
Temporary incapacity	39
Permanent incapacity	39
Preservation age	39
REFERENCES	40

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FOREWORD

Early retirement due to ill health imposes a significant economic cost. Work VISES undertook for the APEC Business Advisory Committee and the US Chamber of Commerce estimated the economic cost of early retirement due to ill health (that is, retired early from age 50-64 due to ill health) averaged 2.4 per cent of GDP for a cross section of eighteen countries in 2015.

THIS HIGH ECONOMIC COST IS DUE TO:

- Population ageing;
- A high prevalence of non-communicable diseases (NCDs), particularly for older age groups; and
- There are many highly prevalent risk factors for the future incidence of NCDs, and in some cases they are continuing to increase.

Taken together, these factors impose heavy costs on businesses, governments and individuals.

The cost of early retirement due to ill health has increased rapidly for Australia since 2000 as the baby boomer generation entered the 50-64 age group and is expected to remain high over the next decade and beyond. The future prevalence of NCDs is complex, but likely to remain high, with some disease conditions, such as mental health and obesity increasing, while others, such as cardiovascular disease, being brought under better control due to more timely treatment and successful public education programs.

This report develops models to provide estimates of the economic impact of retirement due to ill health and the implications for superannuation balances using a wide range of data sources from the Australian Bureau of Statistics (ABS),

Household, Income and Labour Dynamics in Australia (HILDA) Survey and elsewhere. The report also discusses the role of various health programs and medicines in reducing the economic cost of early retirement.

Based on this analysis, the report finds that the cost to an individual who is forced to retire early is as much as \$142,100, while the cost to GDP was estimated to be \$45.3 billion in 2017. Effective health programs including medicines can reduce the costs of early retirement due to ill health by up to 20 per cent.



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EXECUTIVE SUMMARY

Australians are living longer than ever before, and with a life expectancy among the world's highest, Australians are enjoying retirement for longer than at any point in history. For many, retirement comes at a time of one's own choosing. However, some Australian workers are forced into early retirement as a result of unforeseen illnesses. For these Australians, early retirement decreases their superannuation balances, their long-term wealth and the quality of their retirement over the long-term.

Early retirement also hurts Australia's economy more broadly. There is both a cost to Australia's GDP and to Australia's superannuation system. This report aims to quantify these challenges and offers actionable policy recommendations that work towards reducing the prevalence of illnesses causing early retirement, improving the financial security of Australia's retirees and the health of Australia's economy.

PART 1 of the report estimates the economic impact of early retirement due to ill health on GDP. Using data from the ABS Survey of Disability, Ageing and Carers 2015 and the Household, Income and Labour Dynamics in Australia (HILDA) survey, the report finds that the economic loss due to early retirement was \$45.3 billion in 2017; a figure, which is expected to increase to \$53.4 billion by 2025. The associated loss of productive opportunity for Australia justifies additional investment in health programs to improve lifetime health.

PART 2 analyses the effect of forced early retirement on superannuation balances using the ABS Household Income and Wealth survey and Australian Prudential Regulation Authority (APRA) data. Had an individual remained in the workforce and continued to build their balance through further contributions and investment returns, they would have a balance of \$155,600 by age 65. Instead, those retiring aged 50-54 lose up to \$142,100, comprising both foregone additional increases from working longer and early withdrawals.

IN PART 3, the report estimates the impact of minimising early retirement on GDP and superannuation balances by reducing rates of health conditions that force early retirement. The report focuses on the top five health conditions that are predictors of early retirement and discusses ways that these conditions can be better addressed.

PART ONE: THE CURRENT AND FUTURE ECONOMIC IMPACT OF FORCED RETIREMENT DUE TO ILL HEALTH ON GDP

The literature shows a clear link between early retirement due to ill health and poor retirement outcomes

The OECD¹ estimates that the old age dependency ratio (the number of individuals aged 65 years or older relative to those of prime working age, that is, 20-64 years) is projected to increase across the OECD from 24 per cent in 2005 to 52 per cent in 2050, suggesting that there will be fewer than two workers for every person aged 65 years or older. To reduce the fiscal impact of an ageing population, policy measures have sought to delay retirement.²

Retirement intentions are complex and there are many determinants of the timing of retirement. There is a large literature on retirement intentions which include financial reasons,^{3,4} job characteristics and psychosocial strain,^{5,6} employment conditions, job autonomy and organisation of work.^{7,8,9}

Our focus, however, is on retirement related to ill health, which has a major economic cost, suggesting that addressing the reasons for ill health is very worthwhile. Many studies have established links between ill health and early retirement. For instance, Cai and Kalb,¹⁰ Warren and Oguzoglo¹¹ and Cai et al¹² all confirmed that health has a significant effect on labour supply. Also, Lapagne et al¹³ found both better health

and education are associated with greater labour force participation and Zucchelli et al¹⁴ found that health shocks are key determinants for retiring early and that the effects on household types (marital status) and composition (having dependent children) were also significant determinants of transitions to non-employment.

A number of studies have estimated the personal and national costs of lost labour force participation in Australia due to specific diseases. For instance, Schofield et al¹⁵ found that the national aggregate impact of early retirement due to arthritis included \$9.4 billion in lost GDP. Additionally, Schofield et al¹⁶ established that the cost of spinal disorders is \$4.8 billion in lost individual earnings, \$622 million in additional welfare payments, \$497 million in lost taxation revenue for governments, and \$2.9 billion in lost GDP. In 2012, Schofield et al¹⁷ found that not only does early retirement due to cardiovascular disease limit the immediate income and wealth available to individuals, but it also reduces their long-term financial capacity by reducing their savings.

More recently, our work with the WHO, the UN Population Fund and others has sought to estimate the economic and social value of interventions to address chronic diseases that keep older workers out of the work force such as mental health¹⁸ and cardiovascular disease.¹⁹



306,500 Australians aged 50-64 suffered from a work-affecting disability in 2017

As there is no direct measure, in sufficient detail, of the number of people who retire as a result of ill health, we calculated estimates based on other data sources.

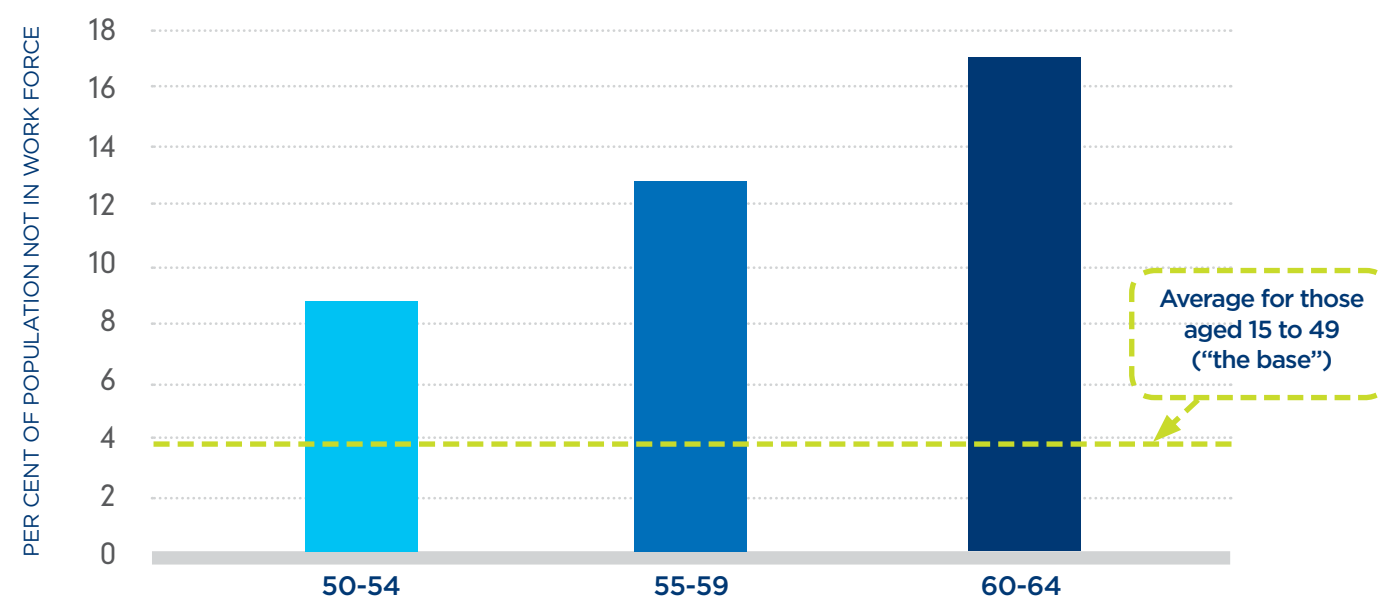
The first estimates are based on the Survey of Disability, Ageing and Carers²⁰ conducted by the ABS. This allowed us to estimate those whose disability interfered with their ability to work. The survey defines disability as any "limitation, restriction or impairment which restricts everyday activities and has lasted, or is likely to last, at least six months".²¹ We focused on all those identified as having a reported disability and specific limitations or restrictions.

Based on this group, we first estimated the number of those who were not in the work force by using the survey data to calculate labour force participation rates (the total number of people who are currently employed or looking for a job) for specific age categories. Given that data on

employment status was not available for all age cohorts, it was not possible to adjust for people who were working part-time due to their health status.

The data permitted us to examine the age distribution of those in the disability category who were not in the labour force. There was a marked increase in the proportion of the population who were both not in the work force and suffering from a disability limitation as individuals got older. A certain proportion of this group would have had a lifetime disability preventing them from being part of the labour force. We defined this group by the average proportion of the population both disabled and not in the work force aged 15-49 (4.3 per cent). This is the line in the figure below; we refer to it as the "base". We assumed that the difference between the total percentage of people aged 50-64 not working due to ill health and the "base" were those leaving the work force or retiring largely due to the onset of their disability or ill health.

FIGURE 1.1 THE PERCENTAGE OF THE POPULATION NOT IN THE WORK FORCE WHO REPORT SPECIFIC DISABILITY LIMITATIONS INCREASES RAPIDLY WITH AGE



Source: ABS Survey of Disability, Ageing and Carers 2015²² and VISES analysis

It is acknowledged that an increasing proportion would, as they grow older, make a decision to retire based on a range of factors, including financial capacity, retirement goals, social connectedness and family status, despite their disability. The ABS Retirement and Retirement Intentions Survey, 2016-2017²³ provides data on reasons for retirement. The survey indicates that financial reasons, such as availability of superannuation, become increasingly important with age. Although detailed data for those disabled is not available, it was estimated based on this data that a third of the difference between the total proportion of people not in the workforce who report specific disability limitations for the 55-64 age cohort and the baseline chose to retire for reasons other than their disability. For those aged 60-64, the proportion above the baseline is roughly 12 per cent and thus we assumed that 25 per cent of those aged 60-64 with disability chose to retire for other reasons. Following this analogy, we assumed that 75 per cent of those aged 55-59 and 90 per cent of those aged 60-64 retired

due to ill health. This adjustment is a best guess bounded by the data available. Overall, the adjustment reduces the estimate of those retiring due to ill health by about 50,000.

In calculating the estimates that appear in table 1.1, we first found the increase in the number of disabled people by multiplying the total population by the proportion of the population above the baseline – those with a lifetime disability preventing them from being part of the labour force – who we identified as being disabled and not in the workforce. These figures are from the Survey of Disability, Ageing and Carers. In calculating the estimates for the number of people who retire due to disability/ ill health, we used the proportions identified from the ABS Retirement and Retirement Intentions Survey, 2016-2017.

Based on this methodology, the increase in the number of those aged 50-64 who are estimated to have retired due to ill health or disability in 2015 was 296,400.

TABLE 1.1 ESTIMATES OF THOSE RETIRING EARLY DUE TO DISABILITY AGED 50-64, '000S

Age	Proportion of population above the base disabled and not in workforce (%)	Total population by age	Increase in number disabled	Number retiring due to disability/ ill health
50-54	4.4	1538.7	68.0	68.0
55-59	8.3	1436.7	119.0	107.1
60-64	12.6	1277.8	161.6	121.2
TOTAL			348.6	296.4

Source: ABS 2016²⁴ and VISES analysis



As a more recent estimate, we updated these figures using the latest resident population figures from the ABS and applying the same proportions as in table 1.1. We concluded that the number of 50-64-year-olds who retired due to ill health or disability in 2017 was 306,500; an increase of 10,100 from the 2015 estimate.

TABLE 1.2 ESTIMATES OF THOSE RETIRING EARLY DUE TO DISABILITY AGED 50-64 IN 2017, '000S

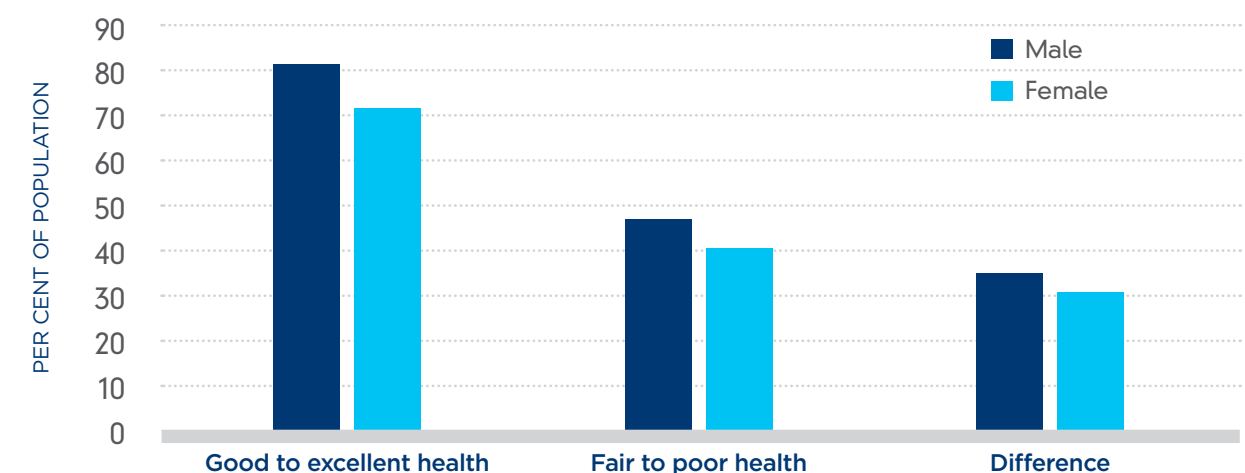
Age	Proportion of population above the base disabled and not in workforce (%)	Total population by age	Increase in number disabled	Number retiring due to disability/ ill health
50-54	4.4	1535.6	67.9	67.9
55-59	8.3	1506.2	124.8	112.3
60-64	12.6	1332	168.4	126.3
TOTAL				306.5

Source: ABS 2018²⁵ and VISES analysis

Health status is strongly correlated with employment prospects

The second source of useful information is the Household, Income and Labour Dynamics in Australia (HILDA) Survey.²⁶ Using HILDA, Cai and Kalb²⁷ showed a strong correlation between self-assessed health status and employment. We updated their results using the HILDA 2017. Those reporting excellent, very good or good health had participation rates well above those with fair to poor health status. As Cai and Kalb based their analysis on different age cohorts than the ones we have specified, we were unable to report the health statuses of 50-54-, 55-60- and 60-64-year-olds separately.

FIGURE 1.2 50-64-YEAR-OLDS WHO REPORT EXCELLENT, VERY GOOD OR GOOD HEALTH HAVE HIGHER PARTICIPATION RATES



Source: Cai and Kalb 2006²⁸ and VISES analysis

Those with fair to poor health are much less likely to be in employment than those with good to excellent health. Only 47 per cent of males and 40.5 per cent of females aged 50-64 of fair to poor health are employed, compared with 81.9 per cent (males) and 71.5 per cent (females) with good to excellent health.

If those aged 50-64 in fair to poor health had excellent to good health, many more would be working. The HILDA database indicates that 19.5 per cent of males and 21.5 per cent of females aged 50-64 are in fair to poor health. We estimated the number of people in fair to poor health who are currently working by first scaling up for the population of each cohort and then multiplying by the employment rates for fair to poor health status (47 per cent for males and 40.5 per cent for females). In total, only 384,231 were estimated to be working.

Hypothetically, if each of these people had excellent to good health, then we would expect them to be working to much the same degree as the existing healthy cohort. We multiply the number of people in fair to poor health by the employment rates for excellent to good health status to find that a total of 673,879 would be working.

An estimated 289,647 more people aged 50-64 (6.73 per cent of the total age cohort) would be working if we could move them from poor/fair health to good/excellent health status

This estimate is similar to the number estimated from the ABS disability survey and supports the previous estimate of 306,500. We can expect this number to increase in the future due to the ageing population. Further analysis of the HILDA data base indicates that 88 per cent of this number would be working full time and the remainder part time.

The earlier methodology based largely on the ABS Disability survey allows for the majority of uncertainties (such as number and age structure of those not in the labour force and the non-disability retirement decision factor). In our view, this methodology is likely to provide more reliable estimates.

TABLE 1.3 ESTIMATE OF THOSE NOT IN THE WORK FORCE DUE TO ILL HEALTH

	MALE	FEMALE	TOTAL
Pop. 2017 aged 50-64	2,125,000	2,176,000	4,301,000
% in fair-poor health	19.5%	21.5%	
No. in fair-poor health	414,375	467,840	882,215
Employment rates 50-64 by health status	Excellent-good	81.9	71.5
	Fair-poor	47.0	40.5
No. fair-poor health currently working	194,756	189,475	384,231
No. who could be working if health was excellent-good	339,373	334,506	673,879
Increase in no. aged 50-64 working	144,617	145,030	289,647

Source: HILDA and VISES analysis²⁹

Note: The remaining 80.5 per cent of males and 78.5 per cent of females are assumed to be in excellent, very good or good health.

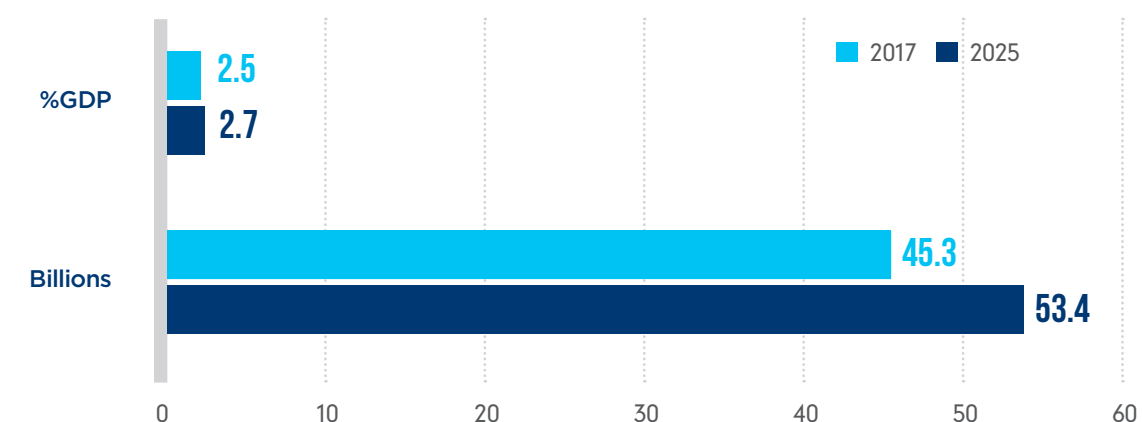
Early retirement due to ill health cost almost 4.5 times government expenditure on the Pharmaceutical Benefits Scheme in 2016-2017

To estimate the economic impact, we used average GDP per worker adjusted for age and productivity growth to represent the economic loss for each person who had retired. To calculate GDP per worker, we first divided the International Labour Organisation's total number of people in the labour force in 2015³⁰ by the ABS measure of GDP in 2015.³¹ We then updated the estimates to 2017 by using labour force growth rates provided by the ABS.³² We adjusted our estimates for GDP per worker in 2017 (\$140,258) by the long-term productivity factor (0.07 per cent per annum) and GDP growth (projected at 2 per cent per annum, aligning with the long-term average) to

find what GDP per worker would be in 2025. To adjust for age, we found that the GDP per capita of older workers (55 years plus) is 5.3 per cent³³ higher than average GDP per worker. This approach has been adopted in valuing the economic contribution of workers where their precise income is not known.^{34,35}

To calculate the economic impact on GDP, we calculated the increase in the number of older people working if those in poor health were instead healthy before multiplying this number by the average GDP per worker measure. The increase between 2017 and 2025 reflects the increasing proportion of the work force aged 50-64 over that period. The economic impact of early retirement due to ill health on GDP was almost 4.5 times government expenditure on the Pharmaceutical Benefits Scheme in 2016-2017.³⁶

FIGURE 1.3 THE ECONOMIC IMPACT ON GDP IS EXPECTED TO INCREASE BY MORE THAN \$8 BILLION BETWEEN 2017 AND 2025



Source: VISES estimates

The estimated impact on GDP depends on the not unreasonable assumption that the same proportion of older age people now suffering ill health are otherwise as employable as those already in excellent to good health, providing their health status can be elevated to a similar level. However, there is evidence to suggest that those in poor health tend to have somewhat lower skills due in part to the impact of poor health on education levels.^{37,38} This may cap the potential upside of treating those already in ill health. However, the connection between ill health and lower skills is highly variable and condition dependent. It also does little to diminish the overall argument that ill health for those aged 50-64 represents a considerable loss of productive opportunity for Australia, helping to justify additional investment in health programs and medicines to improve lifetime health.

PART TWO: IMPACT OF FORCED EARLY RETIREMENT ON AN INDIVIDUAL'S FINANCIAL PROSPECTS

An individual's superannuation balance increases rapidly with age

In this section, we examine the impact of early retirement on the superannuation balance a person can hope to have at age 65. The ABS Household Income and Wealth survey,³⁹ which gathered data from 2003-2004 to 2015-2016, provides valuable data about individual superannuation balances. Although we would have preferred to have access to more disaggregated data from the survey (which the ABS was not able to provide), we have used the results from the survey to model the different growth in balances depending on retirement age. This modelling has been used to estimate the loss incurred by individuals who have been forced into early retirement due to ill health.

Table 2.1 provides longitudinal data on the growth in superannuation balances for two age cohorts aged 45-54 and 55-64 over the period 2005-2006 to 2015-2016. Effectively, this tracks the 10-year growth in balances for those aged (on average) 50 and 60. We have used the median rather than the mean to measure the typical balance.

Table 2.1 needs to be read diagonally. For example, in 2005-2006 the median balance for a 50-year-old was \$46,200. By age 60, in

2015-2016, the median balance had grown to \$129,000. The overall average annual growth rate was 10.8 per cent (9.6 for males and 11.6 per cent for females) for the period 2005-2006 to 2015-2016.

TABLE 2.1 GROWTH IN MEDIAN SUPERANNUATION BALANCES BY AGE FOR THE PERIOD 2005-2006 TO 2015-2016, \$'000

	45-54	55-64
Total		
2005-2006	46.2	
2015-2016		129.0
% annual growth		10.8%
Males		
2005-2006	66.7	
2015-2016		166.3
% annual growth		9.6%
Females		
2005-2006	32.1	
2015-2016		96.0
% annual growth		11.6%

Source: ABS Household Income and Wealth Survey 2015-2016⁴⁰
Note: The mean is biased upwards by the relatively small number with large balances. The median, about half the value of the mean, is the middle value in a distribution, and is more likely to be representative of the balance of those taking early retirement.



On average, an individual's median superannuation balance is up to \$111,000 lower if they retire early

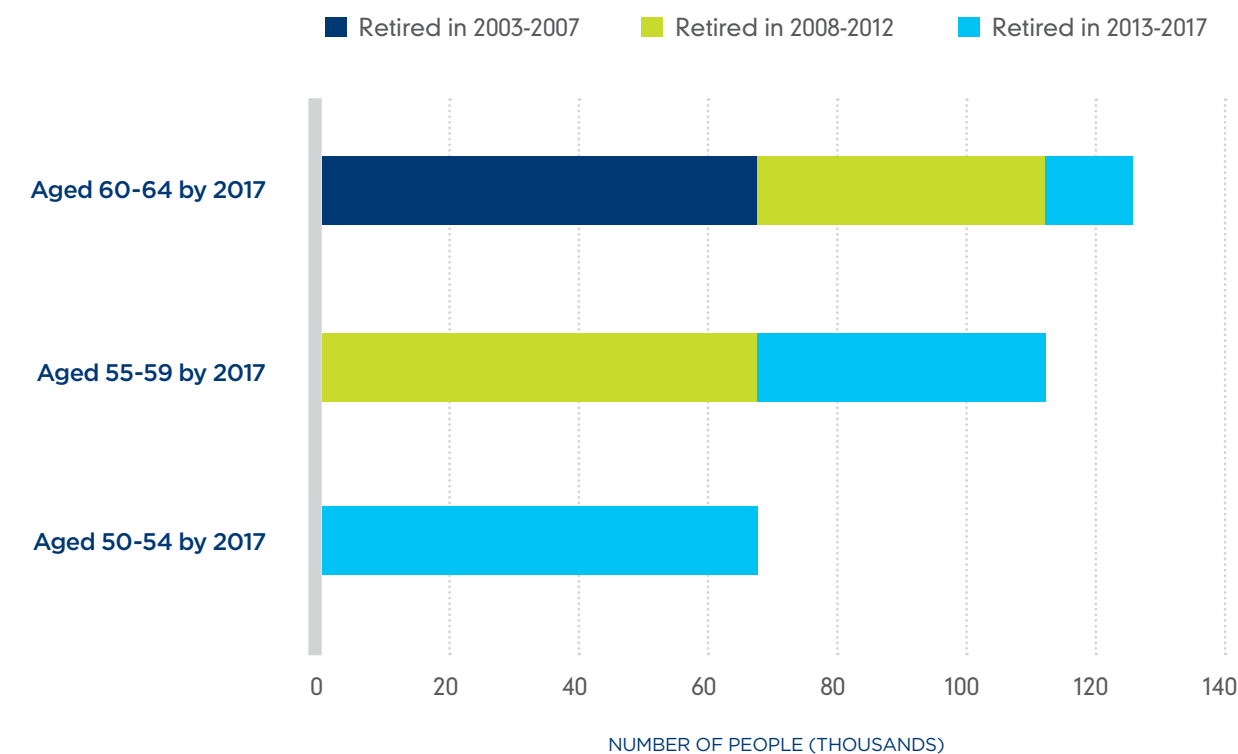
We divided the estimated number of early retirees into three age cohorts — 50-54, 55-59 and 60-64 — using age distribution data from the ABS Disability survey.

We assumed that the retirees had retired in three periods, 2003-2007, 2008-2012 and 2013-2017. However, we had no specific data on year of retirement for people affected by ill health. We calculated this by assuming that the estimated number of early retirees for each age group were fixed over time. We focus on three age cohorts — those aged 60-64 years by 2013-2017, who could retire early in either 2003-2007, 2008-2012 or

2013-2017; those aged 55-59 years by 2013-2017, who could retire early in either 2008-2012 or 2013-2017; and those aged 50-54 years by 2013-2017, who could only retire early in 2013-2017.

From figure 1.1, we calculated that the number of early retirees aged 50-54 in 2017 was 67,900. We use this estimate for the number of early retirees aged 50-54 for all age cohorts. The number of early retirees aged 55-59 was estimated to be 112,300, which is 44,400 more than the number aged 50-54 at retirement. We therefore assume that 44,400 of those aged 55-59 by 2017 and of those aged 60-64 by 2017 retired in 2013-2017 and 2008-2012, respectively. Finally, the predicted number of early retirees aged 60-64 was 126,300, which is 14,000 more than 112,300. As a result, we assume that 14,000 people aged 60-64 by 2017 retired in 2013-2017.

FIGURE 2.1 NUMBER OF EARLY RETIREES BY MEDIAN AGE OF RETIREMENT FOR EACH AGE COHORT



Source: VISES estimates

In calculating the superannuation balances for each group, we assumed the early retirees retired in 2004-2005, 2009-2010 and 2014-2015 as these are the midpoints for the retirement year ranges. For example, 14,000 people aged 60-64 are assumed to have retired in 2014-2015 rather than in 2013-2017. Based on an analysis of the HILDA dataset, this assumption does not appear to be unreasonable.

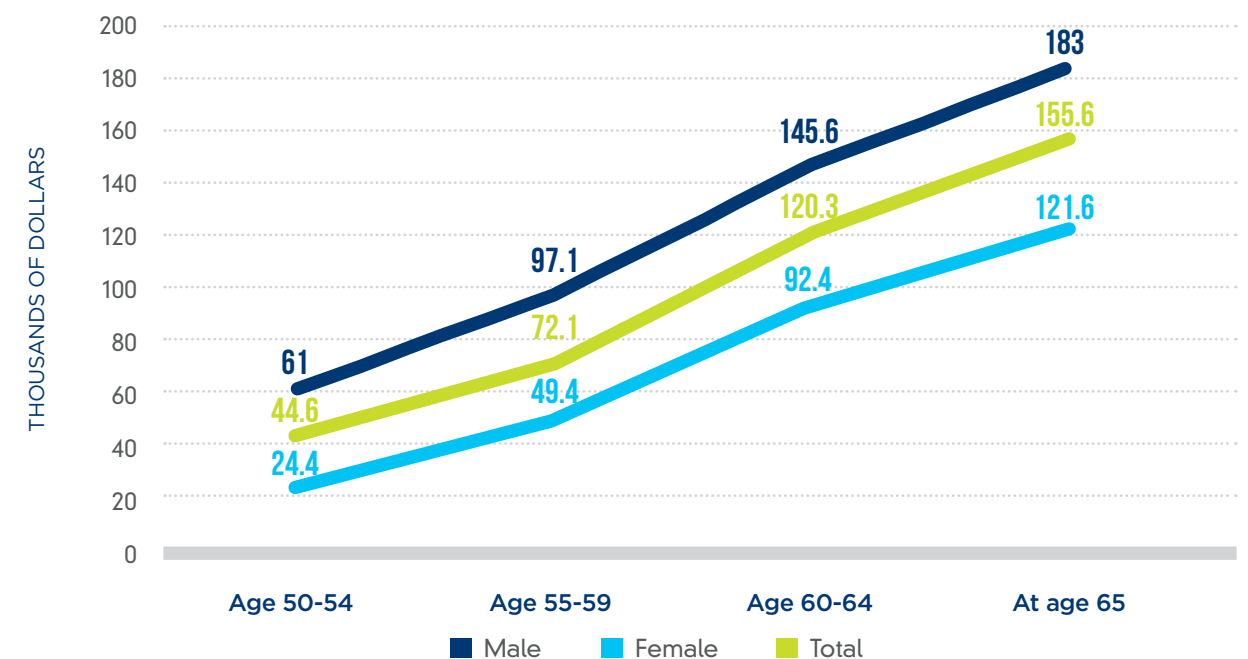
For the age cohort who reached age 64 in 2017, we estimated the median superannuation balances for those who retired in 2004-2005 (on average) aged 50-54 (assume 52.5), those who retired in 2009-2010 (on average) aged 55-59 (assume 57.5) and for those who retired in 2014-2015 (on average) aged 60-64 (assume 62.5). ABS data on superannuation balances for 2009-2010 was available but we had to interpolate the balances for 2004-2005 from actual data for 2003-2004 and 2005-2006 and for 2014-2015 from actual data for 2013-2014 and 2015-2016.

We chose the midpoint of the median balances in the years surrounding the years of interest.

Had they stayed in the workforce and continued to build their balance through further contributions and investment returns to 65, they would have a median balance of around \$155,600. By retiring early, the median total superannuation balance was as low as \$44,600.

Median balances for females aged 50-54 are less than half those of males, \$24,400 compared with \$61,000, respectively. The growth rate experienced by accounts owned by women over the period of available statistics was somewhat higher than for male accounts, 11.6 per cent compared with 9.6 per cent per annum, allowing median female balances to catch up to some extent, reaching an estimated \$121,600 compared with \$183,000 for males by 65.

FIGURE 2.2 THE MEDIAN SUPERANNUATION BALANCE OF SOMEONE WHO RETIRES AGED 50-54 IS \$110,000 LESS THAN FOR SOMEONE WHO RETIRES AGED 65



Source: VISES estimates

Next, we calculated the path of the early retirees' balances to 2016. For instance, we calculated the difference in the expected balance of those aged 50-54 who retired in 2003-2004 (on average) with what it would have been on average if they had retired in 2016 when they turned 65. We traced each of the other cohort balances to 2016 in a similar way. We considered the extent to which the balances are drawn down and what investment returns were likely to be received to 2016. By summing the balances across the various cohorts at 2016, we were able to estimate the implied losses for the total group of retirees as at 2016.

The early withdrawal of superannuation is made deliberately difficult to help retain balances

Along with foregone increases in superannuation balances, people who retire early due to ill health will also begin making withdrawals from their super accounts at a younger age than those who retire at age 65.

The early withdrawal of superannuation is made deliberately difficult and complex by the government to ensure that balances are retained, except in exceptional circumstances. The exact arrangements for withdrawal are outlined in the Appendix. In summary, the relevant criteria for early withdrawal are limited to incapacity (permanent and temporary), financial hardship and compassionate grounds. Financial hardship is administered by the individual super funds, while compassionate grounds is administered by the Department of Human Services. Applicants need to meet certain strict criteria (outlined in the Appendix) designed to discourage withdrawal.⁴¹

APRA provides data on early release of superannuation for the period 2013-2014 to 2016-2017, including amounts withdrawn, number of withdrawals and mean value of withdrawals by condition of release.⁴² It is, however, not available by sex. We have used this data to estimate the amounts of superannuation released by each condition of release relevant to early retirement due to ill health.

The four conditions we considered were:

- permanent incapacity;
- temporary incapacity;
- compassionate grounds; and
- severe financial hardship.

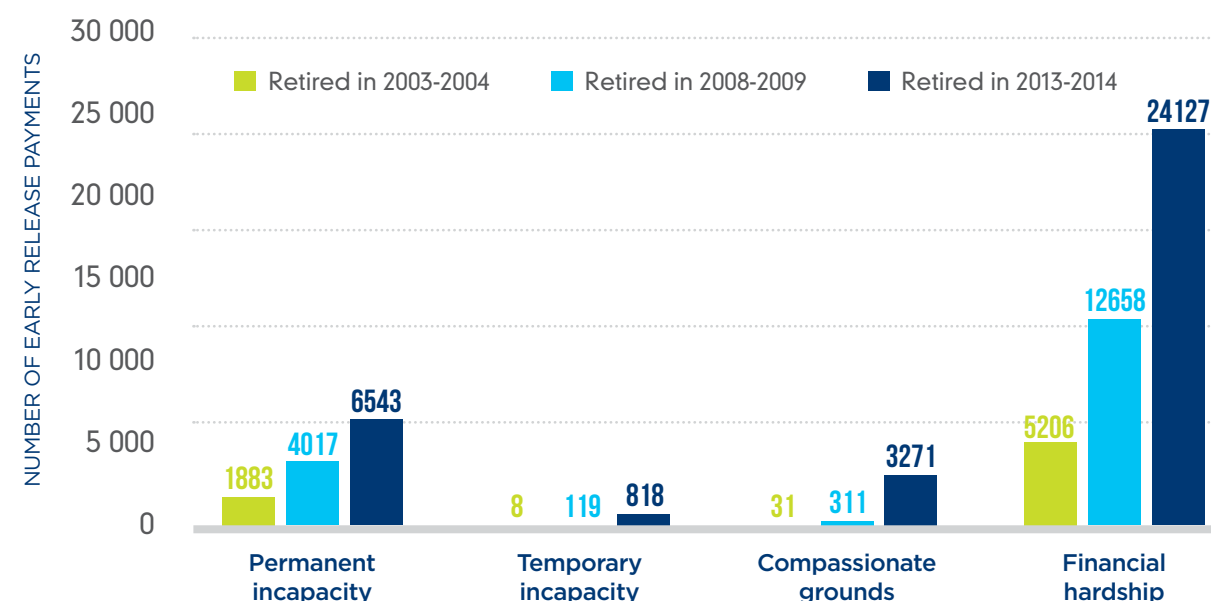
We assumed that anyone gaining early release under these conditions would be doing so because they had retired due to ill health or incapacity. This was clearly the case for permanent and temporary incapacity, and likely to generally be the case for compassionate and hardship grounds, both of which required the applicant to be unemployed and generally on benefits. While there was a possibility of successful application without ill health as a factor, the likelihood of ill health being a contributing factor was very high. In any case, withdrawals on compassionate and hardship grounds were only a small component of total withdrawals. The major component was permanent incapacity.

In estimating the annual number of early release payments by cohort, we grouped people into the three age cohorts 50-54, 55-59 and 60-64. The data were only available for the period 2013-2014 to 2016-2017. It showed a rapid rate of growth in both the value and number of early release payments. The Treasury paper on early release of superannuation on compassionate grounds also commented on this growth.⁴³

In estimating the extent to which early retirement balances were run down, we needed to estimate this for the entire period back to 2003-2004. Given the rapid growth in recent years, we used the average growth rates for the 2013-2014 to 2016-2017 period to estimate the number and amount of release payments back to 2003-2004.



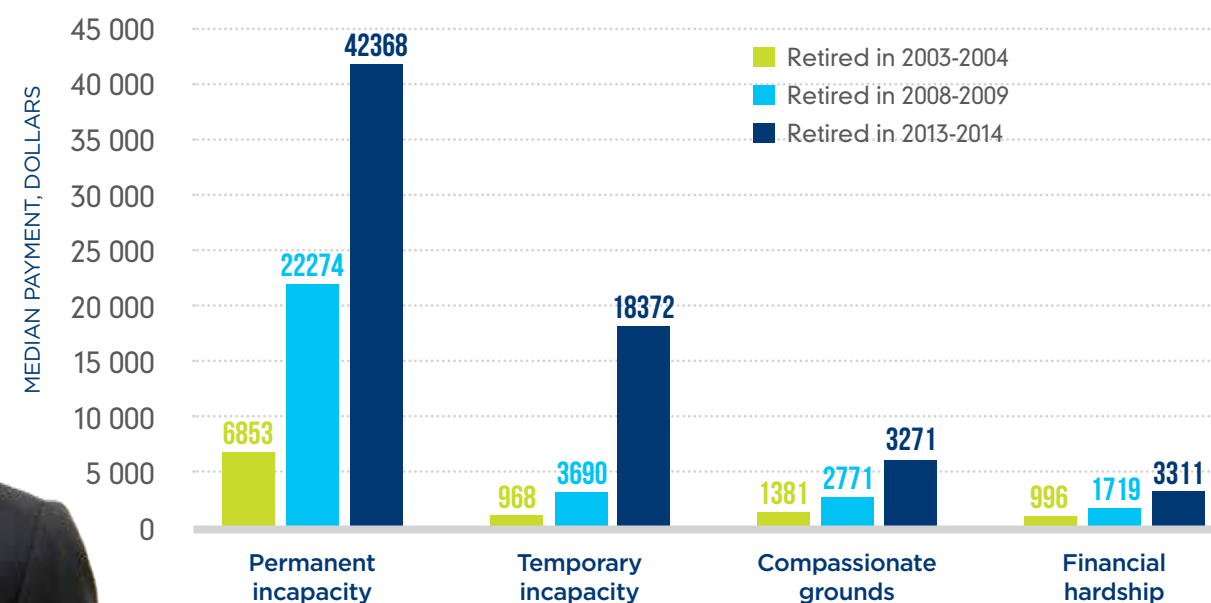
FIGURE 2.3 THE HIGHEST ESTIMATED ANNUAL NUMBER OF EARLY RELEASE PAYMENTS IS FOR FINANCIAL HARDSHIP



Source: APRA 2017⁴⁴ and VISES analysis

While the largest number of payments were made on financial hardship grounds, these were the smallest median payments (capped at \$10,000). The highest value payments were for permanent incapacity.

FIGURE 2.4 THE HIGHEST MEDIAN PAYMENT BY PERSON IS FOR PERMANENT INCAPACITY



Source: APRA 2017⁴⁵ and VISES analysis



Individuals forego up to \$115,600 from early retirement due to ill health

Using our calculations of the median early release payments and the differences in the median superannuation account balances, we are able to estimate the reduction in individual balances depending on the time of retirement.

Clearly, those who retire earliest have most to lose. Based on our methodology, all those retiring in 2003-2004 (on average) are aged 50-54. They are estimated to forego \$118,600, compared with the balance they would have accrued by age 65 had they stayed working (\$163,200), plus the reduction in the balance they received at retirement due to early withdrawals of \$23,500 making a total of \$142,100.

The reduction of the individual balances is

the result of two offsetting effects. While the withdrawals reduce the balances, this is offset by the compounding investment return on the remaining amount.

For those retiring later, the losses are lower. Those retiring in 2008-2009 are in two age cohorts – 50-54 and 55-59. Only the cohort aged 55-59 will be aged 65 (on average) by 2016 and suffer an estimated loss of \$113,900. Those retiring in 2008-2009 (on average) aged 50-54 will not have reached 65 by 2016 and therefore not suffered maximum loss. Their total loss is \$95,500.

For those retiring in 2013-2014 (on average), there are three age cohorts, 50-54, 55-59 and 60-64. Their overall loss, \$38,700 is smaller, because of the shorter period assumed between date of early retirement and age 65.

TABLE 2.2 LOSS IN INDIVIDUAL SUPERANNUATION BALANCES DUE TO EARLY RETIREMENT, \$'000

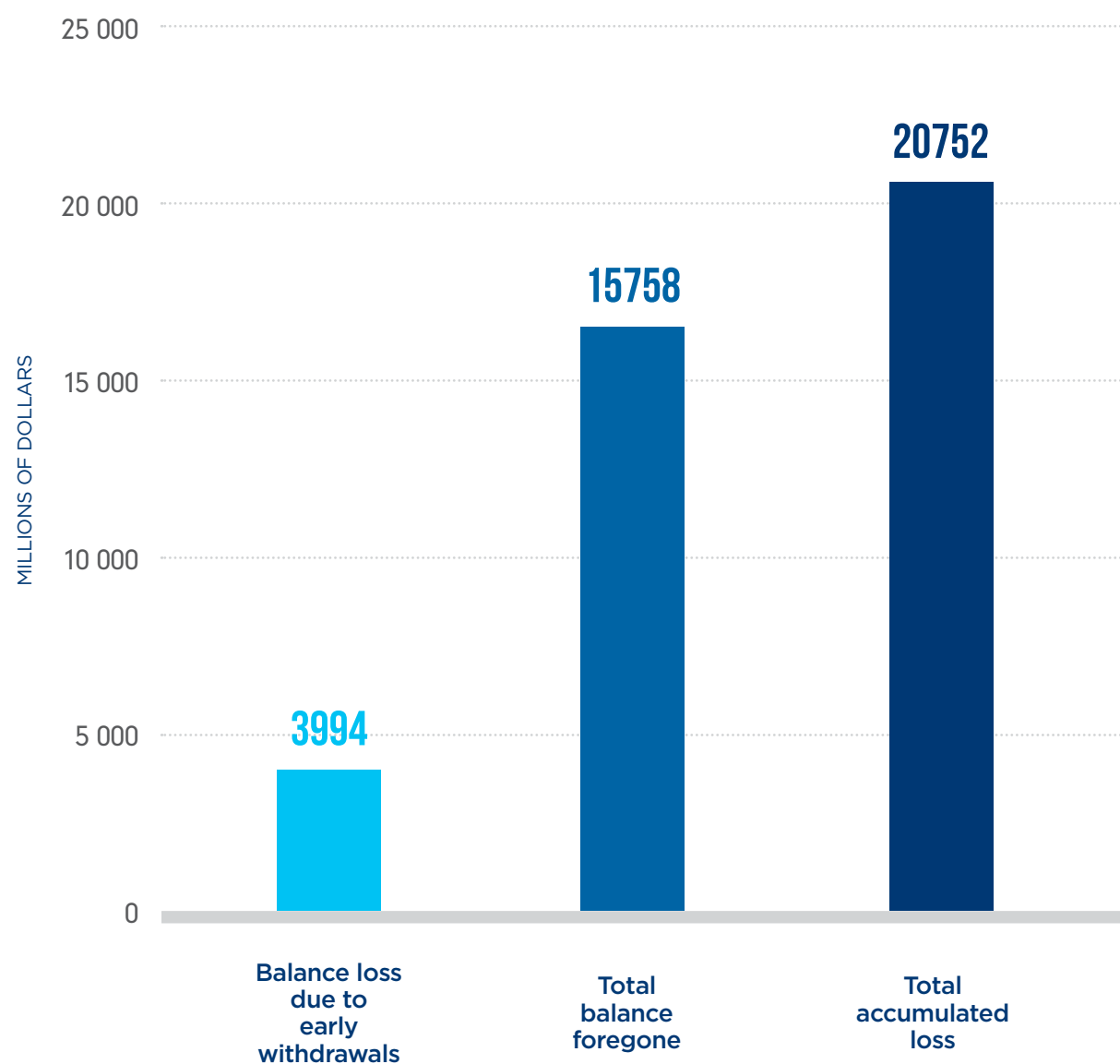
Assumed Retirement year	Cohort		Balance at early retirement	Balance at 65	Loss as at 2016
2003-04					
	50-54	Foregone	44.6	163.2	118.6
		Reduction	44.6	21.1	23.5
Total loss					142.1
2008-09					
	50-54	Foregone	60.4	136.8	76.4
		Reduction	60.4	41.4	19.0
Total loss					95.5
	55-59	Foregone	72.1	163.2	91.2
		Reduction	72.1	49.3	22.7
Total loss					113.9
	Weighted Average	Foregone	71.7	146.5	81.8
		Reduction	64.6	44.3	20.4
Total loss					102.2
2013-14					
	50-54	Foregone	79.4	107.1	27.7
		Reduction	79.4	71.0	8.4
Total loss					36.1
	55-59	Foregone	82.1	110.8	28.7
		Reduction	82.1	73.4	8.7
Total loss					37.3
	60-64	Foregone	120.3	162.4	42.0
		Reduction	120.3	107.6	12.7
Total loss					54.7
	Weighted Average	Foregone	85.0	114.7	29.7
		Reduction	85.0	76.0	9.0
Total loss					38.7

Source: VISES analysis

By 2025, the impact from early retirement due to ill health may reach \$30 billion

Overall, early retirement has reduced total superannuation balances to \$20.8 billion for those currently retired due to ill health. This figure comprises \$16.8 billion in balances forgone and \$4.0 billion in balances lost due to early withdrawals.

FIGURE 2.5 THE TOTAL ESTIMATED ACCUMULATED SUPERANNUATION LOSS BY 2017 FOR THOSE TAKING EARLY RETIREMENT DUE TO ILL HEALTH IS \$20.8 BILLION

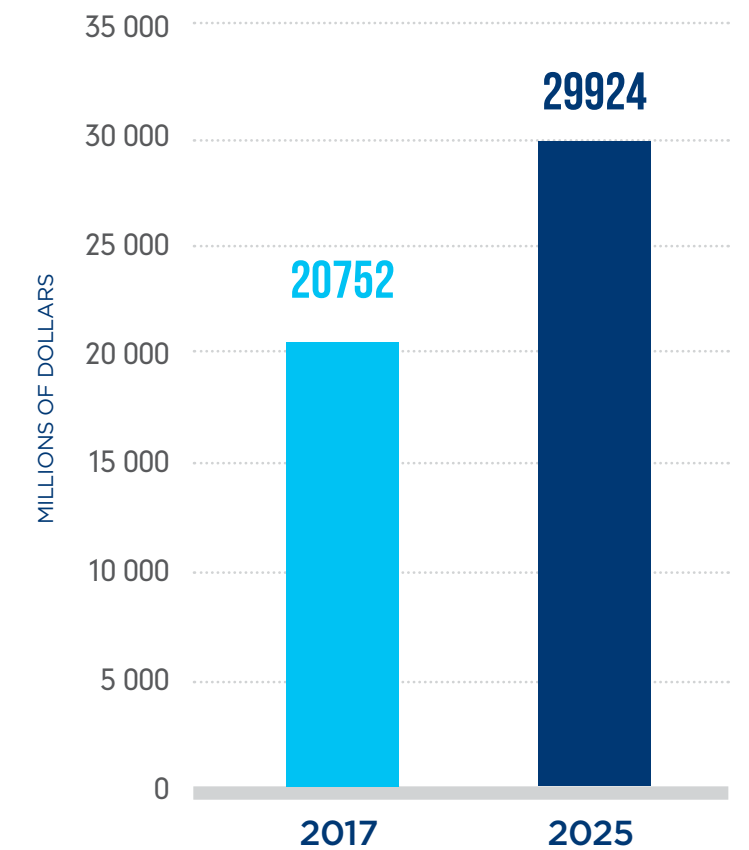


Source: VISES analysis

These estimates are based on the reductions in balances for individuals shown in Table 2.2 multiplied by the estimated number of retirees with superannuation accounts in each age cohort. Not all those retiring early due to ill health would have superannuation balances, however. The ABS 2017 Household Income and Wealth survey indicates that the coverage ratio is 79.3 per cent for those aged 55-64, and the number of early retirees estimated to have superannuation balances has been reduced accordingly.

The number of people who retire early is expected to grow at about 1.4 per cent per annum over the period to 2025. This growth rate equals the projected rate of growth in labour force by the International Labour Office.⁴⁶ If the age specific superannuation balances continue to grow at about 4.5 per cent per annum (historical average 2005-2006 to 2015-2016), then the loss would increase to \$26.1 billion by 2025. If the number of people covered by superannuation between 2015 and 2025 increases, the loss in terms of superannuation would be even higher.

FIGURE 2.6 BETWEEN 2017 AND 2025, THE ACCUMULATED SUPERANNUATION LOSS IS EXPECTED TO INCREASE BY OVER \$9 BILLION



Source: VISES analysis



PART THREE: REDUCING RATES OF ILLNESS CAN HELP REDUCE THE PREVALENCE OF FORCED EARLY RETIREMENT

There are no recent sources of direct detailed information about the different health conditions that cause early retirement due to ill health.

The ABS Survey of Survey of Disability, Ageing and Carers in 2003 included information on labour force status, including retirement as well as health status. This survey has been the basis for the Health & Wealth MOD model, a microsimulation model of income, wealth, health and disability, that has been used to analyse the impacts of various health conditions on labour force participation, personal income and wealth, and government revenue and expenditure amongst Australians aged 45 to 64 years.⁴⁷ However, while the ABS survey was also carried out in 2015, there is no detailed information on health conditions related to early retirement.

Another potentially relevant study is the 45 and Up Study of people aged 45 years and older in New South Wales. However, it is not possible to identify a particular health problem as the reason for retirement due to ill health from this study. While participants were asked if they had retired due to ill health, they were only separately asked about medical conditions, including in the “ever been told you have...”, “treated in last month for...” “ever had [operations]...” and “family history: diseases” sections.⁴⁸ While the information was used by Pit et al.⁴⁹ to report the distribution of around twenty health problems for people who retired due to ill health, it is unlikely that some of the illnesses discussed, such as hay fever and urinary incontinence, were the causes of retirement. The study also only considers NSW early retirees rather than all Australian early retirees.

Perhaps the best Australian dataset on the causes of early retirement is the Department of Social Services’ quarterly data on characteristics of Disability Support Pension (DSP) recipients. The most recent report for December 2017⁵⁰ shows the number of DSP recipients by the top five medical conditions. While these reasons may not be accurate for the population more generally, the conditions determined for DSP are likely to be seriously work inhibiting as people must satisfy a medical test to be eligible for DSP.

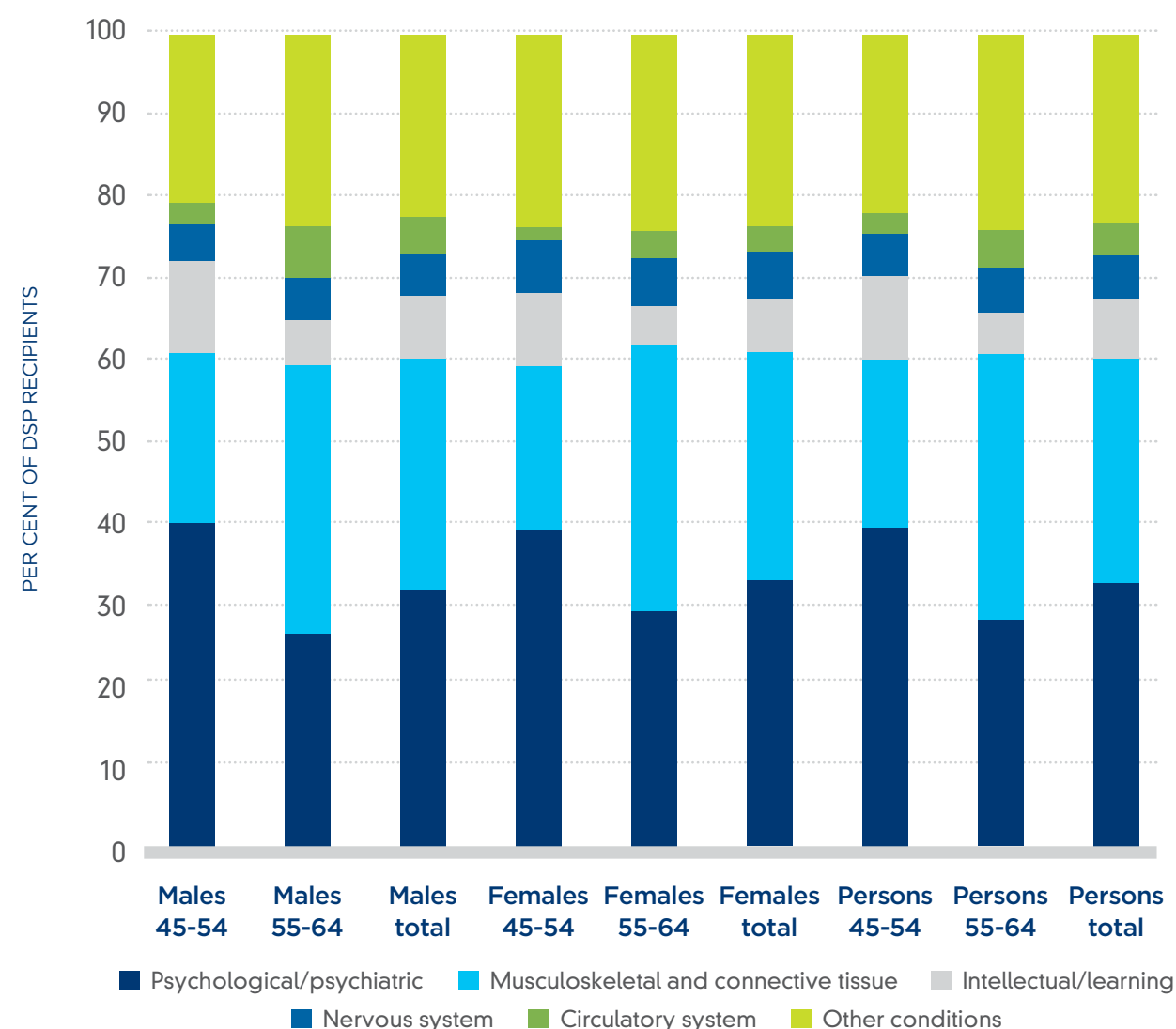


The most common problem for DSP recipients was psychological or psychiatric conditions (32.6 per cent of all persons aged 45 to 64), followed by musculoskeletal and connective tissue conditions (27.8 per cent), with smaller shares for those with nervous or circulatory systems problems. Within the two age groups, psychological or psychiatric conditions are more important for those aged 45-54 than musculoskeletal conditions and the reverse is true for the older age group aged 55-64. Several of the conditions highlighted by the DSP database

as reasons for early retirement, including psychological/ psychiatric and musculoskeletal and connective tissue, correspond with the leading causes of total burden for this age group identified by the Australian Burden of Disease Study 2011.⁵¹

About 71 per cent of DSP recipients suffer from intellectual or learning conditions. They are likely to have been receiving the DSP for some time and are less likely to have retired early due to these conditions.

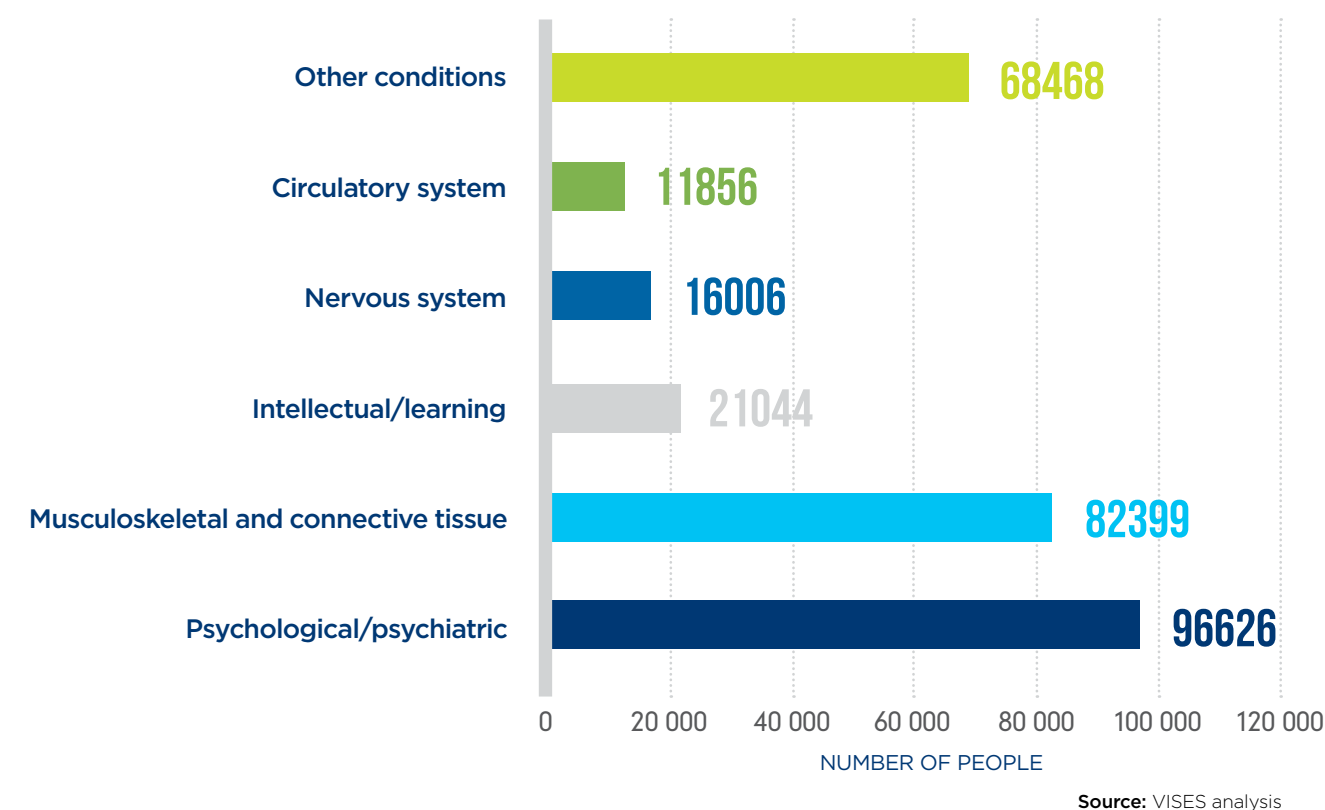
FIGURE 3.1 MOST DSP RECIPIENTS AGED 45-64 HAVE A PSYCHOLOGICAL/ PSYCHIATRIC ILLNESS



Source: Department of Social Services 2018⁵² and VISES analysis

Applying these proportions to the estimates of the number of people retiring earlier from ill health given in Figure 1.1, we can estimate the number of those retiring due to psychological or psychiatric conditions, musculoskeletal and connective tissue conditions and the other medical condition classifications used for DSP.

FIGURE 3.2 AROUND 97,000 PEOPLE WHO ENTER EARLY RETIREMENT DUE TO ILL HEALTH HAVE A PSYCHOLOGICAL/ PSYCHIATRIC CONDITION



Source: VISES analysis

The extent to which those people who retire early due to ill health might be able to stay in or re-enter the workforce depends on the nature and severity of their ill health and the efficacy and availability of treatment and prevention programs that address this ill health.

The ability of health interventions to improve labour force participation, however, varies considerably with the nature of the health condition causing early retirement.

The availability in Australia of free public hospital treatment and subsidised primary care, diagnostics and medicines means most people

suffering from ill health will be able to access appropriate treatment, although in some cases this will be after a significant lag and people living in remote areas can be at a significant disadvantage. The ability of current medical technology to enable people who have retired due to ill health to re-enter the workforce is therefore likely to be limited. However, the continual development of better technologies promises to change this situation in the future, particularly through new medicines to improve the treatment of pain and conditions more difficult to treat such as cancer, dementia and some other neurological conditions.

RECOMMENDATION 1:**Target programs at people aged over 45 with early symptoms of depression and anxiety to delay retirement**

The annual cost of people with mental conditions can vary widely according to the nature and seriousness of their condition as shown above. If the annual total healthcare cost is assumed to be \$907 — the average cost for those with a high prevalence mental disorder⁵³ — the cost of treating those retiring early due to psychological or psychiatric conditions (from figure 3.2) would be around \$87,639,782.

In a recent meta-analysis of interventions to prevent major depressive disorder, van Zoonen et al⁵⁴ found that interventions such as interpersonal therapy and cognitive behavioural therapy could reduce the incidence of depression by up to 21 per cent. Other studies have shown that antidepressant medication and behavioural interventions such as cognitive therapy are similarly effective.⁵⁵ The figure suggests that if potentially early retirees with psychological or psychiatric conditions were targeted early, the number of people retiring early could be reduced by 19,325 and the cost could be reduced by around 20 per cent (that is, by around \$16,329,794). The annual economic benefit (increased GDP) of such a reduction is about \$2.7 billion together with a reduction in superannuation balance lost of \$1.3 billion. On average, the 19,325 people who no longer retire early could earn a higher income of around \$139,715.4 and roughly \$67,270.4 more in superannuation. The benefits of interventions such as cognitive behavioural therapy and antidepressant medication is highlighted by their ability to generate cost benefit ratios of four and higher.⁵⁶

The more common mental health conditions such as depression and anxiety have, however, gained much greater recognition from healthcare professionals and people with these conditions

are more likely to be diagnosed and treated. People who retire early due to depression and anxiety are therefore likely to have more serious forms of these conditions, which are less easy to treat and control. The scope for effective treatment to delay retirement for people with depression and anxiety may thus be limited. As more effective treatments are developed, however, the ability of people with serious mental illnesses to participate in work will increase.

RECOMMENDATION 2:**Develop more effective treatment programs and medication for those at risk of early retirement from musculoskeletal and connective tissue conditions**

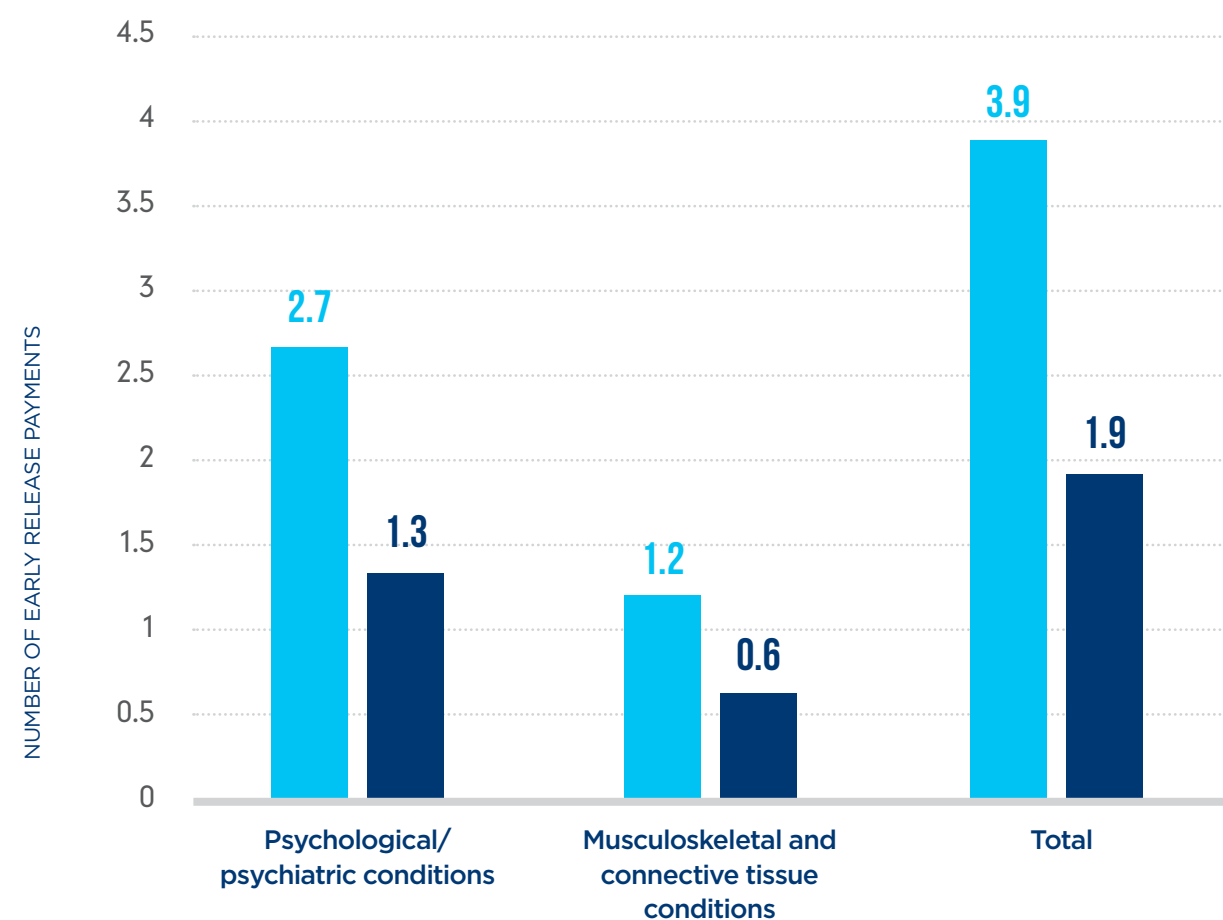
The musculoskeletal and connective tissue conditions category encompasses several conditions. The most prevalent are chronic arthritis such as osteoarthritis, osteoporosis and other musculoskeletal conditions and neck and back problems.

Osteoarthritis is a condition that results from breakdown of joint cartilage and underlying bone. The major risk factor for the condition is age, although there are also significant contributions from obesity and biomechanical injury. If effective programs and improved medicines could be introduced to those at risk of osteoarthritis before it causes early retirement and was effective for 20 per cent of that cohort, then the cost savings would be around \$9.4 million and the number of people retiring early could be reduced by 8,734. The annual economic benefit (additional GDP) of such a reduction is about \$1.2 billion together with a reduction in superannuation balance lost of \$0.6 billion. Even if the treatments were effective for 10 per cent of the population, there would be around \$0.6 billion more in GDP and \$0.3 billion more in superannuation.

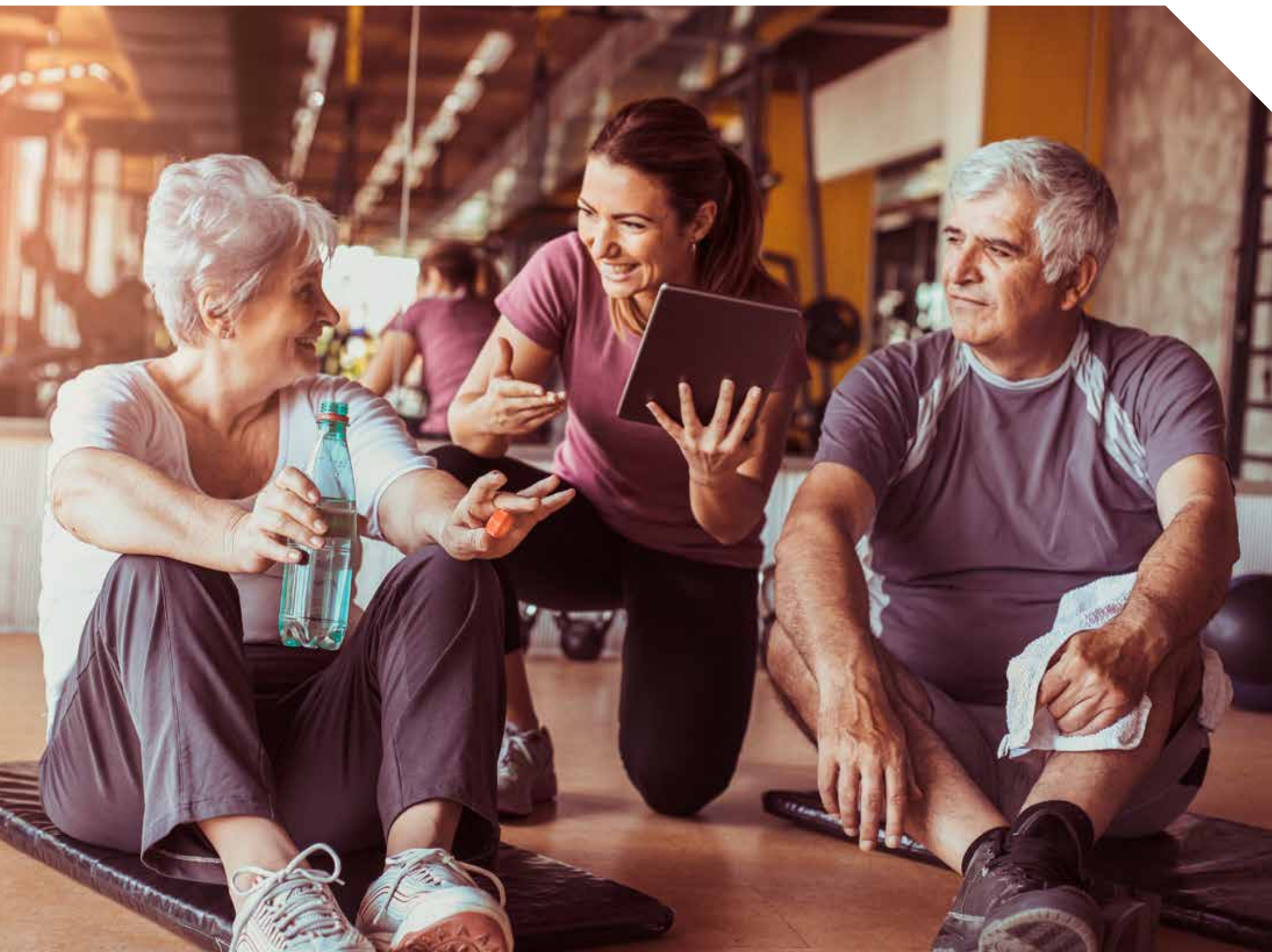
If the condition is serious enough to make working difficult or impossible, it is likely that most people with serious osteoarthritis would be receiving the currently recommended medical treatment. At present, savings to the health cost associated with osteoarthritis are therefore more likely to be obtained through “weight loss, exercise, disease-relevant education and

self-management support”⁵⁷ programs. The medication currently available does not cure arthritis and typically does not have a long-term effect after someone stops taking them. There is room for new medications to be developed that are more effective, helping to reduce the cost of treatment.

FIGURE 3.3 COMBINED BENEFIT FROM REDUCING RATES OF ILLNESS, ASSUMING 20 PER CENT REDUCTION IN THE NUMBER OF PEOPLE RETIRING EARLY DUE TO ILL HEALTH



Source: VISES analysis



RECOMMENDATION 3:

Continue to strive for improvements in medicines to reduce the incidence of early retirement

Recent years have seen the introduction of new classes of medicines to treat and control a wide range of illnesses, enabling people with these conditions to experience greater workforce participation. While effective treatments for heart attacks and strokes have been available for some time and medicines to address risk factors such as high blood pressure and high cholesterol are readily available, continuous improvements in these medicines will further reduce the impact of these conditions in the future. In addition, public health programs that promote healthy eating and physical activity to reduce obesity will reduce the incidence of cardiovascular disease, respiratory illnesses and diabetes.

There are also effective treatments for many types of cancer. These treatments have enabled people who contract cancer to be treated and remain in and re-enter the workforce if they wish. There are some cancers, such as pancreatic, esophageal, gallbladder and lung cancers, however, that cause people to retire early and for which treatments are limited and prognosis is poor. The recent introduction of new types of cancer treatments, such as checkpoint inhibitors and other immunotherapies, are likely to significantly change the ability of these cancers to be eliminated or controlled and hence the likelihood of people to participate in work.

CONCLUSION

Early retirement due to ill health imposes significant economic and personal costs. While the available data imposes limitations on calculating estimates, this study estimates an overall impact on GDP of 2.5 percent (\$45.3 billion) and losses to the superannuation system of \$20.8 billion.

For the individual, the costs on average for those retiring aged 50-54 due to ill health, are estimated to be \$142,100 comprising \$118,600 in balances foregone and \$23,500 in funds withdrawn. The losses are greatest for those retiring at an early age, but even for those retiring in their early 60's, the losses are estimated to be quite significant.

While there is no direct information about the different health conditions that cause early retirement, evidence from the Department of Social Services for those on the disability support pension (DSP) provides an indication. The most common problem for DSP recipients is psychological or psychiatric conditions (32.6 per cent of all persons aged 45 to 64), followed by musculoskeletal and connective tissue conditions (27.8 per cent), with smaller shares for those with nervous or circulatory systems problems.

Treating mental health remains a priority for the community and is particularly important for this older age group to remain in the workforce. The widespread adoption of antidepressant medication coupled with cognitive behavioural therapy has been shown to generate cost benefit ratios of four and more.⁵⁸

Some other conditions, which were once large contributors to late working age morbidity, have been brought under increasing control through widely available pharmaceuticals and public education programs. The work we conducted, with the World Health Organisation, demonstrated the high value of investing in these interventions for high income countries, such as Australia, with benefit cost ratios of 10.1 and 20.2 for economic and both economic and social returns respectively.⁵⁹

While this study indicates that some public programs have been effective in reducing the impact of certain health conditions on the propensity to retire early, others such as psychiatric and musculoskeletal conditions remain difficult to treat and in need of further investment, such as in medicines, to increase the valuable participation in the labour force of those over 50.

APPENDIX EARLY ACCESS TO SUPERANNUATION BALANCES

Superannuation can typically only be accessed when a person has reached age 65 (or the preservation age – based on the date of birth and as explained below) and retires or has reached the transition age and opts for the transition to retirement income stream while still working.

However, it can be accessed in some special circumstances. Accessing superannuation before the retirement age or preservation age is a complex procedure. The process is administered by the Australian Taxation Office (ATO)⁶⁰ and the Department of Human Services (DHS).^{61,62} Each superannuation fund has its own rules, and these vary substantially between funds. While there are specific circumstances for allowing early release of funds, the regulations surrounding them are complex, and vary according to the age of the applicant and the reasons under which they are awarded.

THE ATO SUGGESTS THAT FUNDS FROM SUPERANNUATION MAY BE ACCESSED EARLY IN SPECIAL CIRCUMSTANCES INCLUDING:

- compassionate grounds;
- severe financial hardship;
- due to terminal medical condition;
- temporary incapacity;
- permanent incapacity;
- super death benefits (inheriting super);
- super less than \$200; and
- temporary residents departing Australia.

There are specific regulations pertaining to each of these reasons.

Compassionate grounds

Some of the reasons for early release on compassionate grounds, according to the Australian Taxation Office include:

- paying for medical treatment for the applicant or a dependant;
- making a payment on a loan to prevent the applicant from losing his or her house;
- modifying the applicant's home or vehicle for the special needs of the applicant or a dependant because of a severe disability; and
- paying for expenses associated with a death, funeral or burial.

The money is paid in a lump sum and only what is reasonably needed, and there are no special tax rates for this payment.

The DHS clarifies that early release of super is only for unpaid costs. It is not possible to access early release of super if bills have already been paid — even if a loan, a credit card or money from family or friends were used. If there is not enough money in the super to cover the costs, there needs to be a demonstration to DHS as to how the rest is to be paid.

Financial hardship

To qualify under the financial hardship grounds, a person who is under preservation age will need to demonstrate that he or she has received income support continuously for 26 weeks and is unable to pay for reasonable and immediate family living expenses. The fund pays for this in a lump sum, with the minimum of \$1000 (unless super is less than that) and a maximum of \$10,000. Only one withdrawal is allowed in any 12-month period.

If the person has reached preservation age, he or she will need to show that income support for a cumulative period of 39 weeks (since preservation age) has been received and that the person is not working or working less than 10 hours a week. In these cases, the full amount can be released with no maximum limit.

However, payment under these grounds might reduce other Centrelink payments such as the Family Tax Benefit, Child Care Benefit and income support.

Terminal medical condition

This condition applies if death of the applicant is likely in the next 24 months. This needs to be certified by two medical practitioners — including one who is a specialist in the area related to the injury/illness suffered by the applicant. Only some funds make these types of payments. If they do, the payment has to be in a lump sum and is tax free if withdrawn within 24 months of certification. If a fund does not allow this type of payment, the person can roll over the super into another fund. The ATO suggests that it is preferable to roll over the super funds before providing a medical certificate. If funds are rolled over after certification, any super moved between funds is treated as a personal contribution and counts towards a personal cap. If the money is over the cap, then tax needs to be paid. The ATO also suggests that super can be rolled over into multiple funds to help reduce fees and charges. If the benefit is paid to the person directly before being paid to another fund, it is taxed. The preservation rules still apply to benefits that are rolled over to another complying fund, and hence can only be accessed when conditions of release are met.

Temporary incapacity

Early access to super funds is also possible if a person is unable to work or needs to work less hours because of a physical or mental condition. These are paid as regular payments, that is, an income stream. An income stream is paid at least annually. It need not be the same amount or the same interval. However, a single payment does

not count as an income stream. There are no special tax rates for funds made available on the grounds of temporary incapacity.

Permanent incapacity

A person can also access super if he or she is permanently incapacitated. This is also called a 'disability super benefit'. A person is deemed eligible if the trustee is satisfied that the person is unable to ever work again in the job he or she was qualified to do by education, training or experience. Two medical practitioners must certify that the person is permanently incapacitated for the person to receive concessional tax treatment. It can be paid as lump sum or as an income stream. If paid as a lump sum and invested, then it is not taxed as super and needs to be declared in a tax return. The income stream can be either an account-based super income stream or non-account-based super income stream. There is a range of tax options for each of these.

Preservation age

Preservation is a restriction on super which prevents a member from accessing superannuation benefits until he or she reaches a certain age and retires, or until he or she satisfies another condition of release (SuperGuide⁶³).

The preservation age is based on a person's date of birth, and ranges from 55 to 60 years, with anyone born after June 1964 having a preservation age of 60 years.

FIGURE A.1
PRESERVATION AGE BASED ON DATE OF BIRTH

DATE OF BIRTH	PRESERVATION AGE
Before 1 July 1960	55
1 July 1960 – 30 June 1961	56
1 July 1961 – 30 June 1962	57
1 July 1962 – 30 June 1963	58
1 July 1963 – 30 June 1964	59
From 1 July 1964	60

Source: ATO 2018⁶⁴

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