Australian Government
Australian Government Actuary

Actuarial Investigation into the Costs of Military Compensation

30 June 2021

Contents

1 Executive Summary

1.1 Background

1.1.1 This report has been prepared by the Australian Government Actuary (AGA) for the Department of Veterans' Affairs (DVA). It examines the liabilities in respect of Australian Defence Force (ADF) personnel as at 30 June 2021 under the *Safety, Rehabilitation and Compensation (Defence-related Claims) Act 1988* (DRCA) and the *Military Rehabilitation and Compensation Act 2004* (MRCA). Together these two schemes are known as the Military Compensation Scheme (MCS).

1.1.2 The MCS provides support and compensation to ADF personnel who sustain physical or psychological impairment or incapacity that is related to their defence service. This support ranges across income replacement for those who are unable to maintain full-time employment, coverage for medical, rehabilitation and related costs, financial compensation for permanent impairment, and benefits payable to dependents upon death.

1.1.3 At the highest level, our analysis draws a distinction between incapacity and non-incapacity payments. The former are income replacement payments, while the latter, for the most part, provide reimbursement of costs and compensation for non-economic losses. The valuation methodologies used for different types of payments reflect the particular characteristics of those payments and the nature of the available data.

1.1.4 The reported cashflows and liabilities have been divided between the run-off of the obligations under the DRCA and liabilities arising under the MRCA for claims attributable to service occurring on or after 1 July 2004 where relevant.

1.1.5 The actuary responsible for the preparation of this report and the underlying analysis is Jane Miao, FIAA.

1.2 Scope of the Report

1.1.6 The analysis in this report looks at a number of financial measures of the scheme, including:

- the estimated liability as at 30 June 2021 for all outstanding claims under the DRCA, including those which have not yet been reported, and outstanding claims under the MRCA where the service giving rise to the

claim predates the valuation date, again including those that have not yet been reported;

- the projected outstanding claims liability under the DRCA and MRCA for the ten years following the valuation date, including the allowance for claims which are expected to occur over that period;
- the estimated cash flow for benefit payments over the same period; and
- the annual notional premium required to fully fund the estimated claims liability arising from service undertaken during 2021-22.

1.1.7 We have not considered the liability in relation to additional benefits payable on death and severe injury under the Defence Act 1903. The Department of Veterans' Affairs has no legal obligations in relation to these claims.

1.1.8 This report has been prepared for the purpose of advising Government of the nature and quantum of its liabilities in respect of compensation for military personnel injured in the course of duty. This report also forms the basis for our advice to DVA on reporting for financial statement purposes for the year following the valuation date. Adjustments are made to the results presented here to allow for the use of a discount rate which is considered to comply with the relevant Australian Accounting Standard (AASB 137).

1.1.9 Any proposed use of this report which goes beyond its stated purpose should be discussed first with AGA.

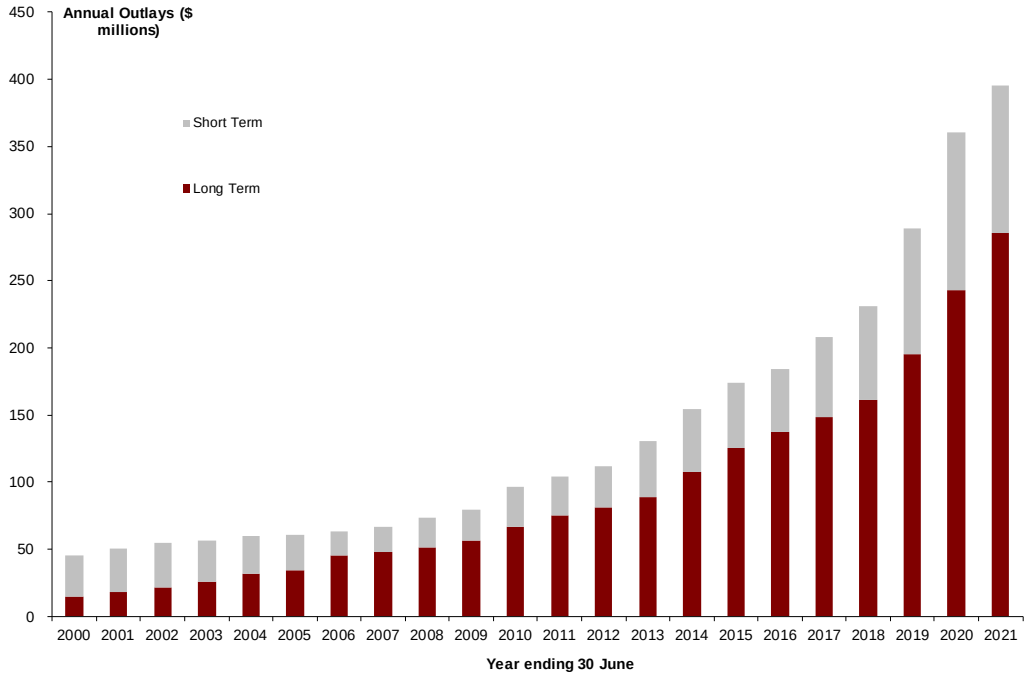
1.2 Recent Claim Experience

1.2.1 For this valuation, we were provided with unit record payment data which covered the period to 31 December 2021. As noted above, we have separately analysed the experience of incapacity and non-incapacity payments. Under the incapacity heading, we make a distinction between those who have been in receipt of benefits for more than twelve months and those who have not yet reached that threshold. This is to allow the valuation to account for the different experience between short term and long term claimants.

1.2.2 Incapacity payments have evidenced a strong upward trend since 2000, as shown in Figure 1.1. This has been particularly marked since 2018. Outlays for

incapacity during 2020-21 reached $395.5m[1] compared with $361.2m in 2019-20.

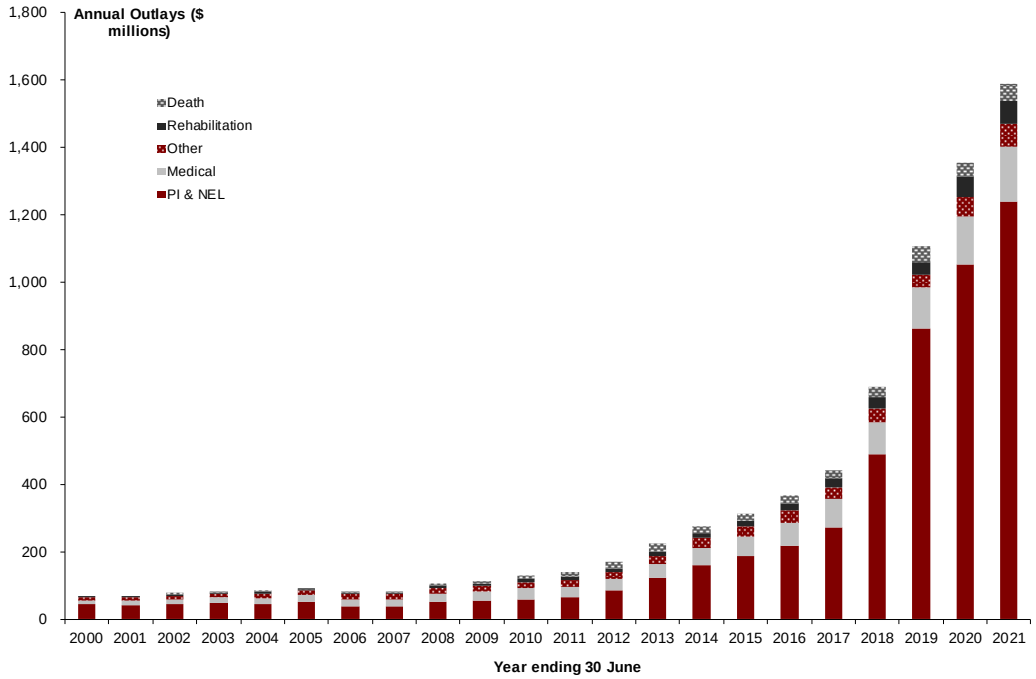
Figure 1.1: Recent payment experience – fortnightly incapacity payments (DRCA and MRCA combined)



1.2.3 The growth in expenditure for non-incapacity payments has been rapid in recent years, as can be seen from Figure 1.2 below. Permanent impairment payments, in particular, have increased substantially from year to year and, over the last decade, may have been affected by ADF operational activity, transitional issues associated with the introduction of MRCA, and more recently, the introduction of Veteran Centric Reform.

[1] Outlays figures have been taken from the unit record data used for analysis. They may differ from DVA aggregate figures.

Figure 1.2: Recent payment experience – non-incapacity payments (DRCA and MRCA combined)



1.2.4 The following tables compare actual payments over the last year with the amounts projected in the 2020 valuation. In total, actual payments were similar to those projected. The largest difference, in dollar terms, was for permanent impairment where outlays were $40m lower than projected.

Table 1.1: Comparison of actual and projected payments for 2020-21

Category	Projected $m	Actual $m	Difference $m
Incapacity	380.9	395.5	14.6
PI and NEL	1,280.8	1,240.6	(40.3)
Medical	159.1	162.7	3.6
Rehabilitation	67.7	67.9	0.2
Death	48.4	50.0	1.6
Other	46.7	67.7	21.1
Total	**1,983.6**	**1,984.5**	**0.9**

1.2.5 We have also included additional comparisons by claim numbers and average size. For most benefits, the actual claimants and average size were relatively consistent with expected. Detailed tables of actual and expected claimants are included in the Appendix.

1.2.6 Over the last few years, processing constraints within DVA have led to growing numbers of claims on hand across both initial liability and permanent impairment claims. At the previous valuation, we made an allowance for open claims in initial liability and permanent impairment to account for experience which did not eventuate as a result of limitations in processing capacity. Our assumptions were based on historic transition trends between initial liability and PI payments as well as additional advice from DVA policy areas on the expected uplift in administrative personnel over the short term. As a result, our projected expenditure was similar to the actual expenditure for the 2021 financial year.

1.2.7 The additional data received to December 2021 showed a growing number of open claims, particularly within initial liability and persistent across both DRCA and MRCA. Figures 1.3 and 1.4 below highlight the level of lodged and completed initial liability injuries by financial year.

Figure 1.3: Lodged and completed initial liability injuries – DRCA

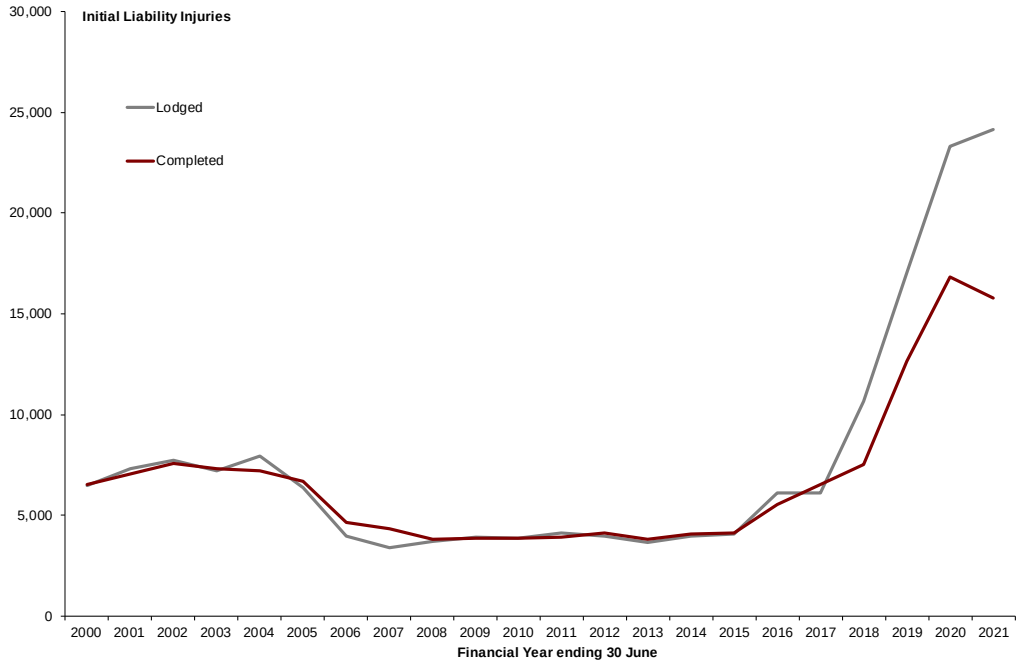
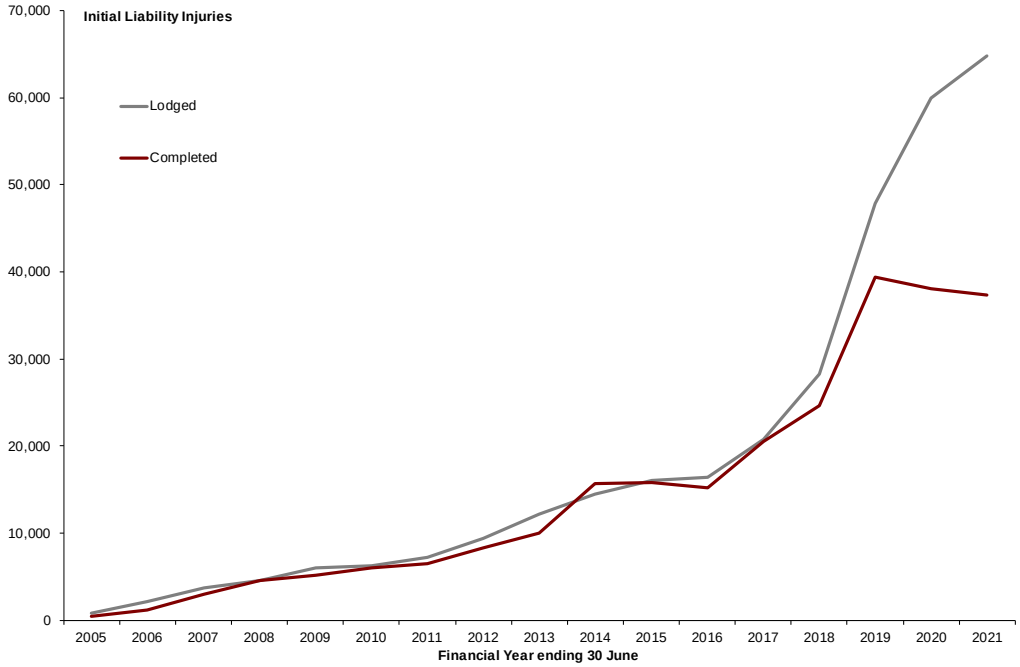


Figure 1.4: Lodged and completed initial liability injuries – MRCA

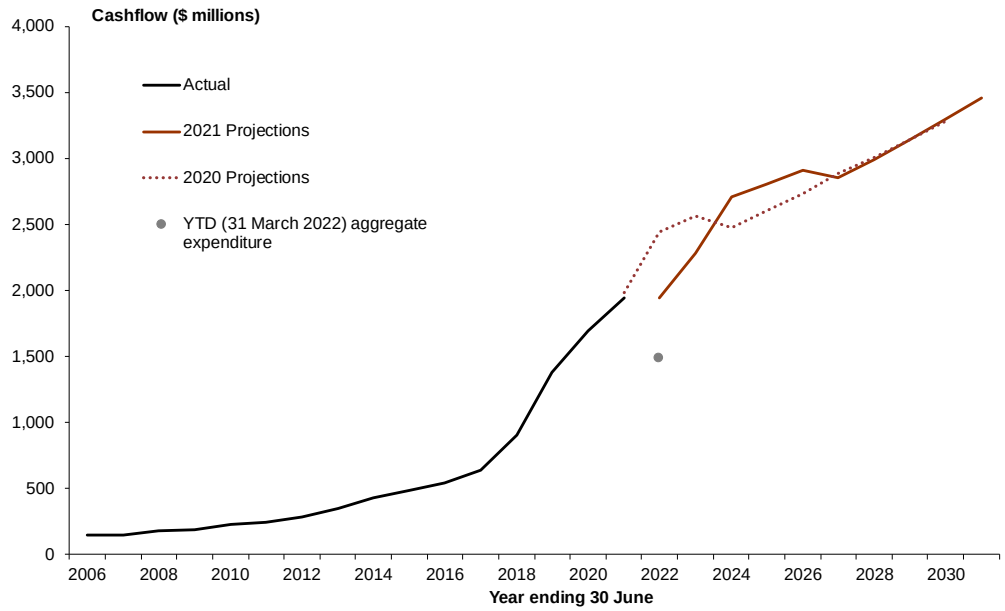


1.2.8 At this valuation, we have reassessed our claims backlog provision to account for the growing number of open initial liability claims. This results in a flow on impact to the three major benefit types of permanent impairment, incapacity, and medical benefits. We have also incorporated an impact to rehabilitation benefits due to its direct link to incapacity recipients. As with the previous year, we have projected future cashflows based on advice from DVA policy areas on expected administrative personnel increases. There remains great uncertainty around timing of when the current claims backlog will be cleared as timing will be subject to a number of factors including Departmental funding, training of ongoing staff, staff retention, and the level of incoming new claims. We have included scenarios in Section 20 of this report to highlight the impact of cashflow timing and uncertainties around the transition to benefit payments from initial liability claims.

1.3 Valuation Results

1.3.1 Figure 1.3 below shows the projected cashflows aggregated across all categories from the 2021 valuation compared to cashflows projected at the 2020 valuation. We have also included the year to date 2021-22 outlays to 31 March 2022 from the aggregate general ledger data.

Figure 1.3: Cashflow projection for DRCA and MRCA



1.3.2 Over the long term, the projected cashflows at this valuation are not dissimilar to those projected at the previous valuation. The largest source of difference is in the expected cashflows over the short to medium term. We have attempted to factor in the speed of claims processing based on the most recent information gathered from DVA policy areas. This has resulted in a stepped increase in outlays over the next two years before payments are heightened for a period to clear the current level of existing open claims. This eventually subsides as processing keeps pace with the level of lodged claims.

1.3.3 In our projection, we have assumed the current level of initial liability lodgements will continue and over the long term, claims processing levels will keep pace. Should processing speeds or lodgement levels change in future, the cashflows will differ from expected. It is important to note that there is substantial uncertainty as to the timing and magnitude of these impacts as they are also partially subject to funding decisions that can be outside of DVA's control. However, the current speed of processing appears unsustainable if experience continues at its current pace.

1.3.4 Table 1.2 shows the estimates of the key cost indicators broken down by Service Arm.

Table 1.2: Valuation results

Overall Cost Estimates Shown by Service				
Service	Outstanding Claims Liability $m	Notional Premium $m (% salaries[2])		Projected Cashflows $m
Current Report	at 30 June 2021	for 2021-22		for 2021-22
Army	20,990.0	1,893.3	(62.6%)	1,318.1
Navy	5,032.3	458.4	(25.8%)	346.3
RAAF	4,214.1	384.0	(22.8%)	279.4
Total	**30,236.4**	**2,735.7**	**(42.2%)**	**1,943.8**
Previous Report	**at 30 June 2020**	**for 2020-21**		**for 2020-21**
Expected (30/6/2021)	*28,548.5*	*2,686.7*		*1,945.4*
Total	26,563.1	2,625.0	(41.1%)	1,983.6

1.3.5 The outstanding claims liability as at 30 June 2021 represents the estimated present value of future claim payments to be made in respect of injuries sustained prior to 30 June 2021. The split of liabilities between the DRCA and MRCA is detailed in section 19.

1.3.6 The notional premium represents the estimated cost of compensation for claims arising from service rendered during 2021-22. It is the amount which, if paid over the course of the 2021-22 financial year and invested to earn the valuation discount rate of 5 per cent per annum, would be expected to meet the future cost of these claims. The cashflows represent the amount projected to be paid in the 2021-22 financial year for claims attributable to any service prior to and including 2021-22. The final rows show the comparable figures from the previous valuation, that is, the expected as at 30 June 2021 and the reported results as at 30 June 2020. The changes to assumptions have resulted in a 6% increase to the expected liability and 2% increase to the expected notional premium.

[2] Estimate of salaries and allowances for 2020-21 provided by the Department of Defence.

1.4 Comments on Results

1.4.1 At the last review, we projected that the liability would grow to $28,548m by 30 June 2021. The current liability is $30,236m. This is $1,688m higher than expected and has primarily been driven by an increase to the liability of MRCA medical benefits.

1.4.2 The largest source of uncertainty in the last two years has been in the level of initial liability claims lodged with DVA and the subsequent flow on impact into benefit payments. Past experience in the scheme shows a strong trend in claimants with accepted initial liability claims eventually moving on to a benefit claim. At this valuation, we have made an explicit adjustment to the projected experience for permanent impairment, incapacity, MRCA medical, and rehabilitation benefits to account for the potential impact of these claims as they are processed. Details on the adjustments adopted are included in each individual benefit section of the report.

1.4.3 Although growth in annual outlays appears to have slowed in recent years, this has primarily been a result of limitations in claim processing within DVA and not a genuine slowing of claims experience. The increase to the liability this year is reflective of continued high levels of initial liability claim lodgement experience and an increase in the assumed average expenditure of MRCA medical claimants. The increase in medical expenditure reflects the level of payments seen in more recent years and could be reflective of the increasing number of Gold Card holders under MRCA. This is discussed in further detail in section 12 of the report.

1.4.4 With the recent growth in experience and changes in claims behaviour, there remains a question as to what proportion of veterans will ultimately seek support from DVA and what the average cost of those benefits will be. The current data available to the AGA does not allow us to accurately form this view and additional information is required from Defence and DVA detailing the demographics of the veteran and serving population. However, within our current data constraints, we have attempted to estimate the population for MRCA. This has allowed us to gain a more wholistic view of MCS utilisation amongst veterans which we have used to perform scenario analysis should ultimate usage and average payment levels differ to that expected. This is detailed in section 20 of this report.

1.4.5 The current estimate is my best estimate having regard to recent experience; that is, I have not been intentionally conservative nor optimistic. The increase

in the liability has been primarily driven by an increase in the expected future average size of medical expenditure.

1.4.6 Interpreting experience in an environment with rapidly changing experience has significant challenges. It is important to note that the estimates given in this report are actuarial central estimates. This means, in broad terms, that the estimates are just as likely to be too high as too low. However, the true liability cannot be known with certainty and the range of factors which might impact on future claim numbers and sizes means that estimates presented here are subject to considerable uncertainty.

1.4.7 The very long term over which these liabilities will be paid out makes the results very sensitive to relatively small changes in assumptions. This is particularly the case for payments that are expected to persist over an extended period, such as long-term incapacity and medical expenses. As noted in previous reports, determining the extent to which we should set assumptions in response to the most recent experience requires considerable judgement. For the current valuation, I have, for the most part, set assumptions weighted towards more recent experience.

2 Background

2.1 The Military Compensation Scheme

2.1.1 Compensation for military personnel injured in the course of their duties is provided under four separate pieces of legislation:

- the *Military Rehabilitation and Compensation Act 2004* (MRCA);
- the *Safety, Rehabilitation and Compensation (Defence-related Claims) Act 1988* (DRCA);
- the *Veterans' Entitlements Act 1986* (VEA); and
- the *Defence Act 1903*.

2.1.2 MRCA provides rehabilitation and compensation coverage for service with the Australian Defence Force on or after 1 July 2004.

2.1.3 DRCA provides similar rehabilitation and compensation to that provided under the MRCA, but only covers:

- injuries and diseases that arose from peacetime and peacekeeping service up to and including 30 June 2004; and
- operational service between 7 April 1994 and 30 June 2004.

2.1.4 Operational service prior to 7 April 1994 (which includes World War II, the Korean War and the Vietnam War) is not covered by DRCA. Operational service on or after 7 April 1994 gives rise to 'dual eligibility', that is, the option of applying for benefits under either or both the VEA and DRCA. This could be expected to affect the comparability of DRCA and MRCA experience.

2.1.5 This report is concerned only with liabilities arising from payments under the MRCA and the DRCA.

2.1.6 The MRCA included some differences in benefits relative to the DRCA. The most significant differences in terms of their impact on costs were:

- the introduction of a loading on incapacity payments to compensate for the loss of non-salary elements of ADF remuneration packages; and
- removal of the offset against incapacity payments for the member's superannuation contributions.

2.1.7 There have also been changes to the assessment processes and payment options for permanent impairment claims. In particular, the default permanent impairment entitlement was a periodic payment, with an option to convert this entitlement to a lump sum using age-based factors.

2.1.8 Since the introduction of MRCA in financial year 2005, there has been a review of military compensation arrangements which resulted in a change to the method of calculating transitional permanent impairment claims under MRCA. The estimated impact of this change is very small.

2.1.9 It should be noted that, in actuarial terms, MRCA is far from fully mature with experience limited to a maximum of seventeen and a half years after the injury date. This compares with payment obligations that may continue for 60 or more years after the date of injury.

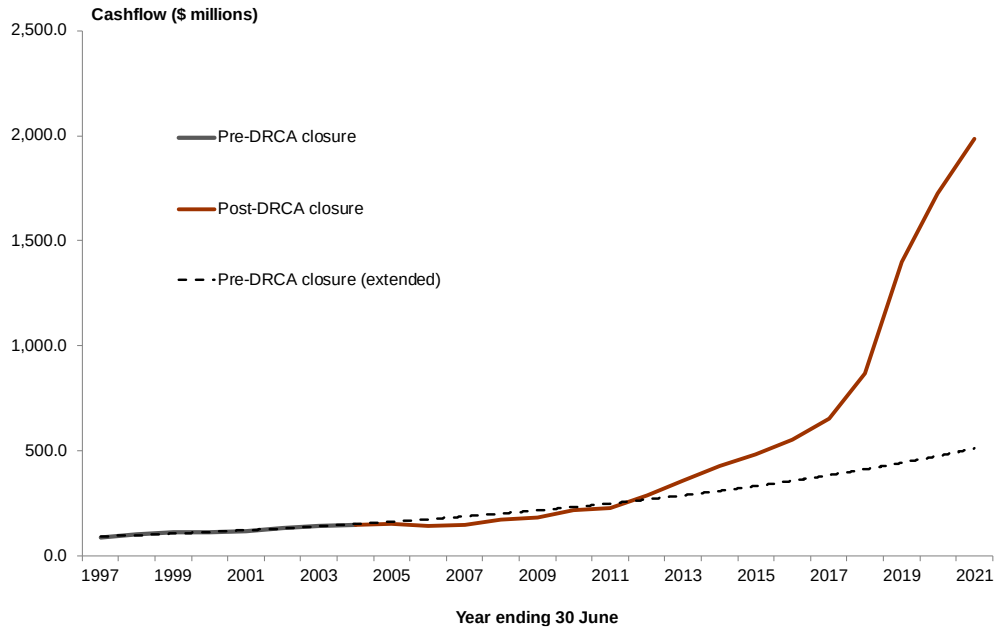
2.1.10 Furthermore, it has been apparent for some time that the early experience with MRCA has been affected both by data deficiencies and by the deferral of claims associated with the availability of deployment opportunities over most of the first decade following its introduction. In more recent years, the introduction of Veteran Centric Reform amongst other cultural and administration changes have seen experience shift dramatically from earlier periods. It may be some time before MRCA experience settles into a pattern that we can reasonably assume will provide a robust basis for projecting future claim behaviour. Nonetheless, given the differences between DRCA and MRCA experience that have become increasingly evident in the data, we are now, as far as possible, relying on the MRCA data in setting assumptions for the MRCA scheme.

2.2 Trends in Expenditure

2.2.1 Figure 2.1 shows total outlays on the MCS since 1996-97. Prior to 2004, expenditure had grown at a steady but moderate pace, averaging around 5 per cent per annum. The introduction of MRCA from 1 July 2004 led to a significant disruption in experience with an initial drop in outlays followed by a return to growth. Experience from 2012 accelerated at a much higher rate than had been seen previously in the scheme. From 2012 to 2021, outlays increased at a rate of approximately 25% per annum with the largest single increase of 62% occurring between 2018 and 2019. Growth in the last two years has slowed, impacted by limitations in processing capacity which have led to significant backlogs of initial liability claims and claims for permanent impairment benefits.

Expenditure across DRCA and MRCA in the 2021 financial year reached almost $2.0 billion, an increase of 15% from the 2020 experience.

Figure 2.1: Total cash outlays



2.2.2 There are a number of possible interpretations of this data. An earlier view was that the growth from 2011 to 2015 was, in part, compensating for the very low growth in the years after the introduction of MRCA. However, the more rapid increase in recent years challenges this view. Whilst there are differences in the benefits provided under MRCA, there have also been changes in the environment in which the schemes operate, including changing attitudes and modifications to DVA administrative practices. It now seems more likely that the most recent experience is part of the scheme's transition to a "new normal" that could be expected to persist indefinitely. This latter interpretation would imply that the behaviour of MRCA claimants is fundamentally different from that observed for DRCA claimants prior to the scheme's closure. This 'new normal' that we have seen in recent experience is still changing year on year and currently far from a stable, mature state. As such, there is considerable uncertainty when interpreting this experience for long term future projections.

2.2.3 Continued increases in recent experience have led us to believe that we are not dealing with a temporary anomaly but rather a genuine shift in experience that needs to be taken into account in setting valuation assumptions. The change from a regime where claims could be made under either the DRCA or

the VEA to one where all claims must come through the MRCA is likely to be playing some part, but so is the introduction of the single claim process, the availability of online claim facilities and the increasing involvement of ex-service organisations and advocates in supporting veterans' claims under DRCA and MRCA.

2.3 History of Actuarial Reviews

2.3.1 The first actuarial review of the MCS was undertaken in 1996 with a valuation date of 30 June 1995. This was a joint project between AGA and Trowbridge Consulting (now Finity).

2.3.2 There was no valuation as at 30 June 1996, but from 1997 to 2005 AGA conducted annual reviews of the liability in relation to entitlements under the DRCA. In 2006, problems in obtaining reliable data on MRCA claims led to a decision to defer the valuation for a year in the expectation that data deficiencies would be able to be resolved. These issues were not fully resolved by 2007. In 2008 it was again decided to defer a full valuation to 2009.

2.3.3 The early reviews were hampered by a lack of historical data suitable for actuarial analysis, as well as difficulties in matching the data between different systems and incomplete records. This was not surprising since the information systems maintained by Defence (which was then administering the MCS) were designed around client service requirements rather than analysis needs. Since that time, there have been substantial improvements in the DRCA data to the point that we have no significant concerns around data volume or quality for DRCA claims.

2.3.4 The 2009 review was the first to draw on some of the MRCA non-incapacity data in setting MRCA assumptions. Data on medical and 'other' transactions became available for MRCA for the first time in 2010 and allowed MRCA data to be used in setting the assumptions for all heads of damage for the early development years.

2.3.5 Issues around the possible deferral of MRCA claims caused us to re-examine our reliance on MRCA data in setting assumptions on claim numbers and our 2014 report, and to a lesser extent the 2015 report, instead looked back at the DRCA experience immediately prior to 2004 in setting these assumptions. For the 2016 report, we reached the view that there was sufficient MRCA data to conclude that the pre-closure DRCA experience is not a reliable guide to MRCA outcomes. We therefore relied on MRCA experience for the development years where it was available in setting MRCA assumptions. This

was a significant change in approach and one which had a major impact on the estimate of the liability in 2016. We have continued with this approach for all subsequent reports.

2.3.6 Table 2.1 shows the liability reported in each of the reviews to date. Note that these figures are all in nominal dollars and part of the increase is attributable to inflation and a change to the long term discount rate in the 2017 valuation from 6% to 5%.

Table 2.1: Estimated liability 1995 to 2021

Valuation as at 30 June	Liability Estimate ($m)	Change since Previous Review (% per annum)
1995	575.7	-
1996	-	-
1997	727.5	12.4%
1998	922.8	26.8%
1999	985.1	6.8%
2000	1,106.8	12.4%
2001	1,196.3	8.1%
2002	1,342.4	12.2%
2003	1,463.6	9.0%
2004	1,751.6	19.7%
2005	1,776.7	1.4%
2006	-	-
2007	1,813.4	1.0%
2008	-	-
2009	2,316.3	13.0%
2010	2,908.9	25.6%
2011	3,117.6	7.2%
2012	3,798.1	21.8%
2013	4,491.3	18.3%
2014	5,356.2	19.3%
2015	5,840.7	9.0%
2016	7,362.6	26.1%
2017	9,864.1	34.0%
2018	14,426.8	46.3%
2019	19,689.1	36.5%
2020	26,563.1	34.9%
2021	30,236.4	13.8%

2.3.7 There was substantial uncertainty around the results of the early reviews because of the very limited experience data available and the problems with

data quality. For a number of benefits, there also appeared to be a change in the underlying behaviour over the same period. Over the period from 2004 to 2007, the increases in the liability were less than anticipated and, indeed, lower than the inflation rate. In retrospect, it seems likely that claims were artificially depressed over that period both by the introduction of the MRCA and by the higher operational tempo under which the ADF were operating.

2.3.8 Since 2009, the changes made to some of the modelling methodologies and assumptions in response to the experience illustrated in Figure 2.1 have led to significant increases in the liability in virtually every year.

2.3.9 Cashflows under the MCS extend over a very long period for most benefits. As such, there is unavoidable uncertainty associated with the assumptions made. In these circumstances, we could expect to see continuing volatility in the estimate of the liability as experience unfolds. This is particularly the case for MRCA, but the recent DRCA experience highlights the potential for quite sudden and significant change even with a mature scheme. Note that, while there have been changes in ADF numbers that impact on the size of the population that can potentially make a claim, these movements tend to be less important in driving liability estimates than changes in claim behaviour and benefit parameters.

2.3.10 Removing the impact of changing the discount rate in 2017, the average rate of increase in the estimated liability since the first valuation is around 16 per cent per annum. Over the period since the 2009 valuation, when outlays started to grow much more rapidly, the annual increase in the estimated liability has averaged around 23 per cent.

2.4 Scope of the Project

2.4.1 The objectives of the project were to:

- estimate the outstanding claims under the DRCA and MRCA (including claims incurred but not reported) as at 30 June 2021;
- project the outstanding claims liability under the DRCA and MRCA for the following ten years;
- estimate the cash flow for benefit payments over the same period; and
- calculate the annual notional premium required to fully fund the estimated claims liability arising from service rendered in 2021-22.

2.4.2 Liabilities are split between run-off liabilities under the DRCA and liabilities under the MRCA and we have projected the liabilities and cashflows under each Act. Note that some expenditure related claims made under the DRCA will be met under MRCA appropriations due to the arrangements applying to health care cards. Specifically, clients with an accepted claim under both schemes will be issued with a MRCA health care card and all expenditure arising from use of the card will be MRCA expenditure. Going forward, this could be expected to reduce DRCA liabilities, with a compensating increase in MRCA liabilities.

2.4.3 This report does not consider liabilities arising from common law actions against the Department of Defence. Any awards made as a result of these actions will be funded by the Department of Defence outside the MCS. While it is generally the case that a plaintiff cannot make both a statutory and common law claim in relation to an injury, I note that there appears to be no restriction on the surviving spouses of a common law plaintiff making a claim for a statutory death benefit and this is likely to be contributing to the DRCA death benefit experience discussed in section 14.1.1.

2.4.4 This report has been prepared for the purpose of advising Government of the nature and quantum of its liabilities in respect of compensation for military personnel injured in the course of duty. It is intended to partially comply with the requirements of the Actuaries Institute's Professional Standard 302 (PS302) which deals with actuarial reports and advice on general insurance technical liabilities. Compliance with the detailed reporting requirements of PS302 is obligatory where the actuarial report is to be provided to a regulator such as the Australian Prudential Regulation Authority. The current report is not considered to be captured under this requirement and, as such, we have used PS302 as a guide rather than a binding constraint in the preparation of this report. This is discussed further in section 20.3.1.

2.4.5 This report also forms the basis for our advice to DVA on reporting for financial statement purposes for the year following the valuation date. Adjustments are made to the results presented here to allow for the use of a discount rate which is considered to comply with the relevant Australian Accounting Standard (AASB 137).

2.4.6 Any proposed use of this report which goes beyond its stated purpose should be discussed first with AGA.

3 The Military Compensation Environment

3.1 Operational Environment

3.1.1 There are four characteristics of the MCS that distinguish it from other workers' compensation schemes:

- the risks faced by ADF personnel will depend upon external factors, most notably the Government's national and international security policies;
- the unique nature of military service which involves an unavoidable exposure to high levels of risk;
- the absence of any limit on the period in which a claim must be made; and
- the unlimited support provided under some benefits, most notably medical services.

3.1.2 Each of these features introduces significant uncertainty into any estimate of future costs.

3.1.3 One factor that is likely to have influenced recent experience is the relatively high level of deployments on warlike operations.

3.1.4 When ADF units were deployed in East Timor in 1999, it marked the start of a period of relatively intense activity for the ADF, which subsequently saw forces deployed in Iraq, Afghanistan and the Solomon Islands. Overall, more than 50,000 people have been deployed on warlike/non-warlike service over the period. This may have created a large pool of people who may have a higher probability of making a successful claim and, where they do make a claim, may be eligible for higher benefits.

3.1.5 The availability of deployment opportunities has almost certainly altered the pattern of discharges over the two decades. Both DVA and Defence have advised that discharge rates fall when there are opportunities for deployment. This is because there is both a very strong financial incentive (in the form of substantial tax free allowances) and because it is an opportunity for Defence personnel to make use of their training.

3.1.6 Many claims for injuries, which are not sufficiently severe to warrant an immediate discharge on medical grounds, are made at the time of exit from the forces. Considering potential claims for compensation is part of the process of

a normal discharge. As a result, when discharge rates increase, as has happened following the end of deployment opportunities, a backlog of claims would be expected to emerge, reflecting those who have deferred their exit. We think it is likely that deployments affected the claim rates in the early years of operation of MRCA and may be continuing to affect the experience.

3.1.7 We currently do not have access to any additional Defence data which might provide more detailed information regarding the magnitude of the exposure. For example, records related to incidents while in service, service length, deployments, and separation date which might provide further insight into the total number of veterans expected to emerge in future and what proportion of these veterans have already claimed for DVA benefits.

3.1.8 Exposure to hazards that may not have been recognised as dangerous at the time is a further factor in the operational environment. Asbestos is an obvious example that has impacted on DRCA expenditure. It is possible that currently unrecognised hazards will be identified in future and give rise to claims.

3.1.9 Changes in ADF recruitment can also play a part in the observed pattern of claims. Peaks in enlistments, for example, would be expected to lead to a corresponding jump in discharges, and associated claims. The planned expansion to the ADF announced in March 2022, is likely to have an impact on the quantum of liabilities going forward.

3.2 Administrative Environment

3.2.1 A second factor which is likely to have played an important role in changing claim behaviour is the administrative environment. The closure of DRCA (and the VEA) for injuries incurred after 1 July 2004 is the most obvious change. It seems clear from the data that the early experience for MRCA was affected by delays as both claimants and DVA adjusted to the introduction of a new scheme. The interaction between entitlements under the DRCA and the VEA which existed prior to the introduction of MRCA could also be expected to impact on the claim experience.

3.2.2 More recently, there have been significant changes in the approach taken by Defence and DVA to manage claims. For example, DVA now has advisers on base to assist personnel in making claims. Defence now liaises more closely with DVA to ensure that there is continuity of treatment on separation from the ADF. The introduction of health care cards for DRCA claimants with long-term treatment needs in 2013 may also have changed the incentives to make a claim under DRCA.

3.2.3 The introduction of an online claim facility in 2015 has almost certainly impacted on the volume of claims received, while the single claim process is likely to have affected the mix of VEA, DRCA and MRCA claims. The initiatives around non-liability healthcare, while not directly impacting on DRCA or MRCA expenditure, are likely to have increased the level of contact between veterans and DVA and might, in due course, result in increased liability claims.

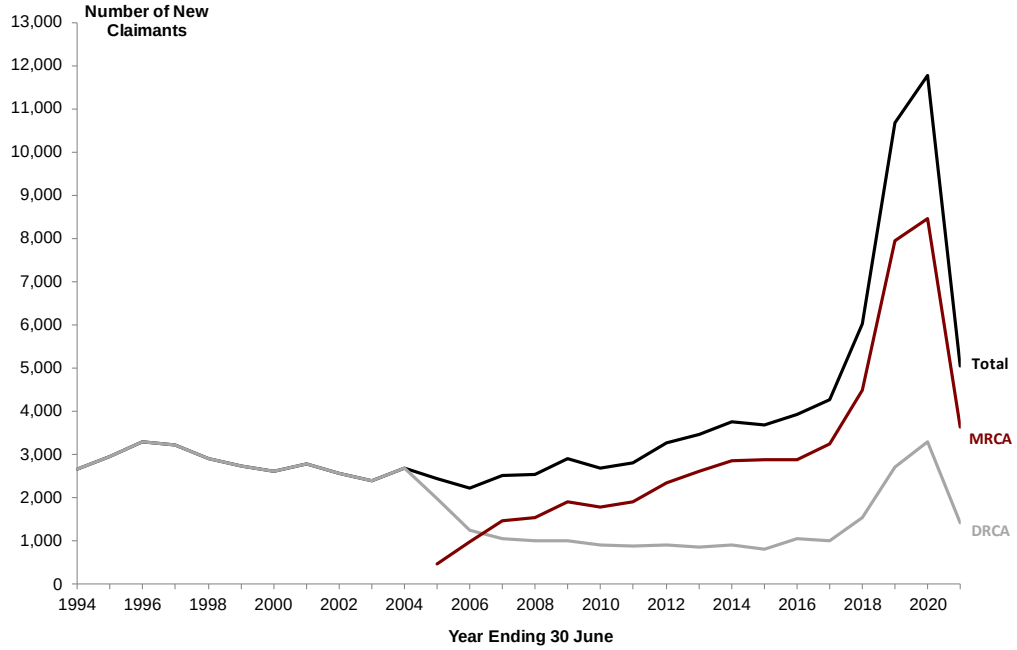
3.2.4 Legal decisions can also have an impact on claim numbers and amounts. There have been three decisions over the last fifteen years that appear to have generated a surge in DRCA permanent impairment payments:

- the 2006 High Court decision in Canute which found that in assessing the degree of permanent impairment when more than one injury is present, a separate assessment must be made for each injury that results in permanent impairment;
- the 2009 High Court decision in Fellowes which reinforced the Canute decision and established that separate injuries which result in separate impairments must be independently assessed; and
- the 2013 decision by the Full Federal Court in Robson which reiterated that separate injuries and their associated impairments must be assessed separately and in isolation, even if they relate to the same body part or if there is a causal relationship between the two injuries.

3.3 Impact on Claims

3.3.1 Figure 3.1 provides some insight into the impact of the various factors discussed above. The total number of claimants has been increasing at a rapid rate over recent years. Of particular note is the increase in new DRCA claimants over the last few years, more than 15 years after Scheme closure. The level of claimants in the latest year is likely a reflection of limitations in processing capacity than a genuine slowing in underlying experience.

Figure 3.1: Numbers of New Claimants by Scheme



4 Data Used for the Valuation

4.1 Data Sources

4.1.1 An actuarial investigation of the experience of a compensation scheme relies on the capacity to analyse the available information about the scheme. The more reliable and comprehensive the data, the greater the confidence that can be placed in the models developed from that data.

4.1.2 For the MCS, incapacity payments and fortnightly payments to dependent children prior to 1 July 2017 came from the PMKEYS system and all other DRCA payments, apart from healthcare card data which are handled under the TAS system, are processed through the DOLARS system. Individual claims data prior to 1 July 2017 which provides details on the demographic characteristics of DRCA claimants and the nature and timing of the injury giving rise to the claim was held on the DEFCARE system.

4.1.3 There were changes in the administrative systems as a result of the introduction of MRCA which have impacted on the data provided to AGA. As has been noted in previous reports, a new claims database (CADET) was developed but took some time to be fully implemented. As a result, there is a permanent gap in the MRCA claims information covering the first two years after the introduction of the scheme.

4.1.4 MRCA data is stored and processed through various systems including PMKEYS for incapacity payments prior to 1 July 2017, DOLARS for some general and medical payments, and IPS for other payments including permanent impairment entitlements. Many of the MRCA payments for medical and other services which are provided to those holding a repatriation health care card are processed through Medicare Australia.

4.1.5 From 1 July 2017, the ISH system was implemented by DVA for both DRCA and MRCA claims and payments. Data received from 1 July 2017 to 31 December 2021 is a combination of extracts from legacy systems and ISH.

4.2 Data Provided

4.2.1 We were provided with unit record payment data which covered the period to 31 December 2021. The data for the 2020-21 financial year was checked and reconciled as far as possible against aggregate data sources. We have incorporated unit record payments data up to 31 December 2021 into the analysis for all heads of damage.

4.2.2 The unit record data received by AGA this year included a change to the unique ID variable from previous years. As such, any investigation into changes in the experience between data extracts has been limited. We do not believe this has posed a material issue at this valuation but note the following limitations in our analysis.

- DRCA incapacity lifetime recipients could not be matched
- Large medical recipients could not be checked against previous years
- Changes in the claim triangle for MRCA medical claimants could not be investigated

4.2.3 We also received aggregate payment data up to the third quarter of 2021-22. Aggregate data can be distorted by timing issues and advances which are paid to other agencies. As a result it cannot be treated as totally reliable. Nonetheless, it has informed our views on the credibility to be given to the data for the first six months of the year.

DRCA

4.2.4 The unit record data provided payments which covered the period from 2005 to December 2021 for incapacity payments and from 2001 to December 2021 for non-incapacity benefits. We have relied primarily on unit record data over the most recent calendar years to 31 December 2021 to set assumptions in the DRCA valuation.

4.2.5 For this review, as with previous reviews, it has been necessary to match payment data to claims records. A portion of the unit record data from 1 July 2017 to 31 December 2021 came from a new payment system, ISH, which was implemented by DVA during the 2017-18 year. This changed the recording of DRCA payments to be in line with MRCA payments i.e. payments are recorded against a claimant rather than an injury. We have retained our valuation methodology in line with the current methodology used for MRCA to account for this change.

4.2.6 Our two main points of validating or assessing the suitability of the data for valuation purposes are that we are able to match a very large proportion of payment and claim records and that the aggregates calculated from the unit record files are consistent with the aggregate expenditure data provided by DVA. For the most part, the DRCA data satisfied both of these conditions.

4.2.7 For DRCA incapacity, the total aggregate figure appears to be a net outlay amount and not the gross payment DVA made during the year. We have discussed this issue with DVA and believe the discrepancy is due to debt repayments made by clients which are not recorded at the unit record level. As such, we have continued to use the unit record data to set assumptions for the projection but have made an adjustment to account for the debt repayments. This is discussed in further detail in sections 6 and 7.

MRCA

4.2.8 The unit record data provided payments for the period from 1 July 2004 when the MRCA scheme began to 31 December 2021. MRCA data was problematic in the early years; reliable data is not available and is unlikely to ever become available in relation to the first eighteen months of operation of the scheme.

4.2.9 For all MRCA payments, including the health care card data, the transaction data was keyed by claimant rather than claim. This made it impossible to match payments to a particular injury if a claimant had more than one claim. The approach we have taken to dealing with this constraint for modelling medical liabilities is discussed in section 11.2.1.

4.2.10 In general, the quality of MRCA data has improved over recent years; in 2020-21 we were able to match almost all records.

4.3 Data Quality

4.3.1 Most DRCA payment transaction records include the relevant DEFCARE claim identifier which, in most cases, allows payments to be linked back to the original injury. This is important since, for the MCS, compensation claim payments are often made many years after the occurrence of the injury and estimation of the outstanding liability requires an assessment of the amount and timing of future payments in relation to past injuries. However, this changed from 1 July 2017 with the introduction of the ISH system where payments are now recorded against unique claimants.

Table 4.1: DRCA data

2018-19 Financial Year				
Usage	**DVA Aggregate ($m)**	**Sum of Transactions ($m)**	**Amount Matched ($m)**	**Proportion Matched (%)**
Incapacity	71.6	92.8	92.8	100
Permanent Impairment	137.5	136.3	136.3	100
Medical	19.5	16.2	16.2	100
Rehabilitation	7.9	7.8	7.8	100
Death	26.8	27.5	27.5	100
Other	12.3	11.6	11.2	97
Total Non-incapacity	204.1	199.5	199.1	100
Total	**275.7**	**292.3**	**291.9**	**100**

2019-20 Financial Year				
Usage	**DVA Aggregate ($m)**	**Sum of Transactions ($m)**	**Amount Matched ($m)**	**Proportion Matched (%)**
Incapacity	89.5	110.9	110.9	100
Permanent Impairment	170.0	169.6	169.6	100
Medical	14.0	13.8	13.8	100
Rehabilitation	12.1	12.1	12.0	100
Death	25.7	25.7	25.2	98
Other	18.7	20.0	17.2	86
Total Non-incapacity	240.5	241.2	237.8	99
Total	**330.1**	**352.2**	**348.7**	**99**

Usage	2020-21 Financial Year DVA Aggregate ($m)	Sum of Transactions ($m)	Amount Matched ($m)	Proportion Matched (%)
Incapacity	86.7	123.1	119.4	97
Permanent Impairment	260.4	259.6	259.0	100
Medical	8.4	8.7	8.2	95
Rehabilitation	12.0	12.0	11.9	99
Death	30.3	30.3	30.3	100
Other	24.0	24.0	20.3	85
Total Non-incapacity	335.0	334.6	329.6	99
Total	**421.7**	**457.7**	**449.0**	**99**

4.3.2 We consider that the DRCA data is suitable for the purposes of setting the assumptions for this review.

4.3.3 Table 4.2 shows the equivalent information for the MRCA data over the three years.

Table 4.2: MRCA data

Usage	2018-19 Financial Year DVA Aggregate ($m)	Sum of Transactions ($m)	Amount Matched ($m)	Proportion Matched (%)
Incapacity	200.1	201.6	201.6	100
Permanent Impairment	741.7	728.1	728.1	100
Medical	95.2	95.1	94.2	99
Rehabilitation	34.1	29.7	29.7	100
Death	19.4	19.5	19.5	100
Other	15.6	26.1	26.1	100
Total Non-incapacity	906.0	899.0	897.7	100
Total	**1,106.1**	**1,100.2**	**1,099.3**	**100**

2019-20 Financial Year				
Usage	**DVA Aggregate ($m)**	**Sum of Transactions ($m)**	**Amount Matched ($m)**	**Proportion Matched (%)**
Incapacity	251.4	250.2	250.2	100
Permanent Impairment	919.1	884.7	884.6	100
Medical	134.6	127.6	127.6	100
Rehabilitation	51.2	51.5	43.4	84
Death	14.7	15.3	15.2	100
Other	24.5	35.9	34.6	96
Total Non-incapacity	1,144.0	1,115.0	1,105.6	99
Total	**1,395.4**	**1,365.2**	**1,356.2**	**99**

2020-21 Financial Year				
Usage	**DVA Aggregate ($m)**	**Sum of Transactions ($m)**	**Amount Matched ($m)**	**Proportion Matched (%)**
Incapacity	272.4	272.4	272.7	100
Permanent Impairment	963.3	981.0	981.0	100
Medical	155.7	154.1	151.8	99
Rehabilitation	55.8	55.9	49.8	89
Death	20.1	19.7	19.5	99
Other	43.9	43.7	43.7	100
Total Non-incapacity	1,238.7	1,254.4	1,245.9	99
Total	**1,511.1**	**1,526.8**	**1,518.6**	**99**

4.3.4 As we have noted previously, the MRCA payment records do not include a claim identifier. This meant that it was not possible to match expenditure to a particular injury but only to an individual. Bearing this limitation in mind, the quality of the MRCA data has generally improved over recent years. As shown in Table 4.2, we were able to match the majority of records to a claimant.

4.3.5 Overall, I am satisfied that the MRCA data is suitable for analysis.

5 Valuation Approach

5.1 Projection Models

5.1.1 The actuarial valuation process relies on projecting future payments and then discounting them back to a present value. The method adopted to generate these projections varies between the different types of payments.

5.1.2 The models used for the current valuation can be classified into four groups:

- composite run-off models combining projections of usage and average cost;
- cohort projection models;
- simulation models; and
- annuity models.

5.1.3 The composite run-off models adopt an assumption of the numbers of claimants by accident year exposure to project future claim or claimant populations and then apply a cost per claim or claimant to estimate expenditure. The concept of unit of exposure is integral to this approach. In this context, a unit of exposure represents 10,000 equivalent full-time ADF personnel (calculated as sum of the number of permanent ADF personnel and 15 per cent of the number of reservists). This takes account of changing ADF numbers in terms of the potential population that might give rise to a claim. For example, in the 1960s, there were close to 90,000 equivalent full-time personnel, while, since 2000, numbers have typically ranged between 55,000 and 60,000.

5.1.4 In March 2022, the Government announced an increase to the Defence workforce, increasing the permanent ADF to approximately 80,000 by 2040. In light of this, we have increased our expected ADF personnel from 2022 onwards to linearly increase to an exposure of around 80,000 by 2040. We have increased the expected number of reservists proportionately. Although this increase does not impact on the liability, it does impact on the 10 years of future projected cashflows presented in this report.

5.1.5 The process of estimating the cost can be more or less sophisticated. For example, for permanent impairment, we look at the age distribution of claimants, the proportion of warlike and peacetime claims, and the distribution

of impairment points, while for rehabilitation we use a simple average cost per claim.

5.1.6 A cohort projection model is used for the DRCA medical head of damage, and attendant care for both schemes. These models project the number of future active claimants based on the existing recipient population by applying a decay rate to the population currently using services. Note that this is not assuming that the same individuals are incurring costs in each year, rather that there is a relationship between the overall number of people receiving services from one year to the next.

5.1.7 Deterministic simulation models are used for the short-term and future long-term incapacity expenditure projections. These models apply probabilities of future payment receipt to a population at the level of the individual. A stochastic simulation model has been used to model the active MRCA medical population.

5.1.8 Annuity models are used for modelling expenditure at an individual level where we expect some stability in annual payments. This is most notably the case for existing long-term incapacity recipients and the group we describe as “big medical”. The latter are individuals who have recorded substantial medical expenditure over a number of years, so that we have good reason to believe that they will continue to incur expenses at a similar level in the future. MRCA permanent impairment entitlements that are being paid as a periodic payment are also modelled using an annuity approach.

5.1.9 Death benefits typically represent a relatively small component of the non-incapacity liability; however the number of deaths in any given year can vary quite dramatically. This randomness tends to overwhelm the results and there is little to be gained from any detailed analysis of the data. The source of claims is, however, quite different for the two schemes, with DRCA claims arising from long latency conditions and MRCA claims tending to be linked to accidents. We have, therefore, looked at the DRCA and MRCA experience separately.

5.2 Payment Rates

5.2.1 The assumed payment structure depends upon the benefit being modelled. For annuity models, the current level of payment forms the basis of the model and rises in line with the assumed inflation structure. Payments are assumed to continue subject to mortality in the case of big medical. Duration based exit rates are used for current long-term incapacity recipients.

5.2.2 For incapacity recipients, the probability of achieving long-term status, exit rates from long term payment and assumed payment rates all depend upon age with the assumed age distribution of new claimants in turn depending upon the lag between the accident year and the commencement of the incapacity episode.

5.2.3 In the past we have modelled permanent impairment and non-economic loss payments separately for DRCA. However, the payments have consistently moved in parallel and we decided in the 2014 valuation to value them as a single payment. We have retained this approach of using a single average payment per claim for the current valuation. For MRCA permanent impairment, the payment size is based on assumptions regarding the nature of service, gender, age at the time of the claim and a distribution of severity ratings in terms of assessed impairment points.

5.2.4 We have also retained our approach to modelling medical payments, which allows for usage rates and payments per transaction to vary with age.

5.2.5 The number of paydays is incorporated into the cashflow projections where payments are made on a fortnightly basis.

5.3 Economic Assumptions

5.3.1 In order to project future cashflows, it is necessary to adopt assumptions regarding the rate of growth in nominal payments. A discount rate assumption is also required to arrive at a meaningful estimate of the present value of the outstanding liability.

5.3.2 Claim payments will tend to increase for many reasons. For example, incapacity payments are linked to earnings, the limits for PI and NEL lump sums are indexed to CPI and other benefits are subject to indexation as set out in the rules of the scheme.

5.3.3 However, policy initiatives, changes in the external environment or other less obvious influences could all be expected to impact the claims costs. Examples of such factors include:

- an altered approach to assessment (such as the move from using independent specialists to using the veteran's GP to make medical assessments) or changing community norms around mental illness leading to a higher impairment rating;

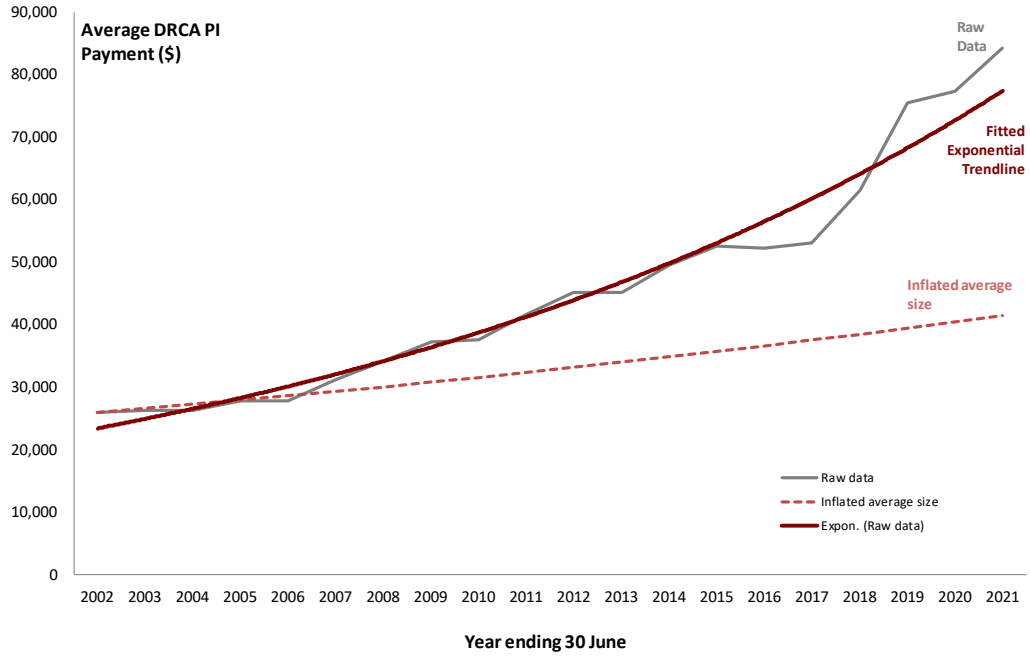
- a policy decision to increasingly rely on health care cards rather than reimbursement arrangements for medical examinations; and
- impacts of the recent coronavirus pandemic on access to services and type of services offered.

5.3.4 These phenomena contribute to what is known as superimposed inflation in the cost of the scheme — that is, the extent to which the rate of growth in the overall cost of the scheme exceeds the rate of general inflation in the community.

5.3.5 In setting inflation assumptions, we have had regard to any statutory guidelines on indexation, tempered by the observed experience. The main area where this tempering occurs is in relation to DRCA permanent impairment.

5.3.6 The maximum DRCA PI payment for a single claim is indexed in line with CPI. All else being equal, therefore, we might expect the average payment to also increase in line with the CPI. In practice, as shown in Figure 5.1, the average payment has increased considerably faster than prices. The fitted exponential trendline implies an average annual rate of increase of 6 per cent. There are a range of factors, including legal decisions and administrative changes that have or are likely to have contributed to this result. Whether such decisions will continue into the future is a moot point.

Figure 5.1: Average DRCA Permanent Impairment Payment



5.3.7 MRCA PI and death payments are expected to increase in line with expected future CPI growth of 2.5%. This is consistent with the legislated benefits. For service related benefits such as medical treatment, rehabilitation, and household and attendant care services, we have used 4% expected long term wage growth to index future payments.

5.3.8 The following table summarises the combined nominal rate of inflation (that is, normal inflation plus superimposed inflation) used for the current valuation and the previous valuation. The rates shown for wage linked benefits are the long-term assumptions.

Table 5.1: Rates of inflation

Category	2021 Valuation	2020 Valuation
Incapacity payments	4.0%	4.0%
PI and NEL (DRCA)	5.0%	5.0%
PI (MRCA)	2.5%	2.5%
Medical	4.0%	4.0%
Rehabilitation (DRCA)	4.0%	3.0%
Rehabilitation (MRCA)	4.0%	3.0%
Death (DRCA)	4.0%	4.0%
Death (MRCA)	2.5%	2.5%
Other 1- Medical service (DRCA)	4.0%	3.0%
Other 1- Legal service (DRCA)	4.0%	3.0%
Other 1 (MRCA)	4.0%	3.0%
Other 2	4.0%	4.0%

5.3.9 MRCA incapacity benefits are indexed in line with movements in actual military salary rates, while DRCA incapacity and death benefits are linked to general wage growth. Since the outlook for wage growth is subdued in the short term, we have adopted short-term inflation assumptions that apply for the next three years at 2.0% p.a. before reverting to the long-term assumption. The estimation process involves projecting the future claim payments allowing for normal inflation and superimposed inflation as described above. To calculate the liability, the payments are then discounted to a present value. This discounting recognises the time-value of money and enables the realistic assessment of long-term financial arrangements such as the MCS.

5.3.10 The Australian Accounting Standard (AASB 137) which would apply for financial reporting purposes specifies that the discount rate used in preparing estimates of claim liabilities should be a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability.

In an arrangement such as the MCS, this might be interpreted as the return on Commonwealth securities of appropriate durations and, for financial statement purposes, we use a yield curve derived from the yields on Commonwealth securities as at the relevant 30 June for discounting purposes.

5.3.11 Such an approach can lead to major changes in the estimate of the liability due solely to changes in interest rates. For the full actuarial review that we are reporting on here, we regard a stable interest rate assumption to be preferable as it allows other changes in experience, which are more important from a policy perspective, to be observed. We have retained the 5% long term interest rate for discounting cashflows used at the previous valuation. The 5% long term interest rate is consistent with the rate used to discount other long term Commonwealth liabilities, in particular, the cost of military superannuation benefits. This is based on long term expectations of 2.5% CPI growth, 1.5% productivity growth, and 1.25% population growth.

5.4 Administrative Expenses

5.4.1 DVA reports administrative expenditure, including claims handling expenses for all claims under all three compensation Acts through separate systems. We currently have no data relating explicitly to claims handling expense for MRCA and DRCA claims available and have made no explicit allowance for claims handling expenses in our valuation of MCS liabilities. Our understanding is that a separate provision for administrative expenses in relation to all Acts is made in DVA's internal budget projections.

5.5 Risk Margins and Risk Assessment

5.5.1 The estimates provided in this report represent our best estimates of the liability and projected cashflows. That is, it is intended to be equally likely that they are too low as that they are too high. We have not calculated a risk margin (prudential margin).

5.5.2 The relevant Accounting Standard for reporting the liability is AASB 137. This Standard does not explicitly require a risk margin to be included. It is also arguable that the inclusion of a risk margin would be inconsistent with the requirement set out in paragraphs 36 and 37 of AASB 137 that the estimate be based on the amount that the entity would rationally pay to settle the obligation. In the context of the Commonwealth's balance sheet, it can be argued that the Commonwealth would be irrational to pay more than the central estimate to settle the liability. The fact that the Commonwealth chooses to self-

insure many of its risks rather than pay a premium to transfer them off the balance sheet adds support for this view.

5.5.3 However, the considerable uncertainty associated with the estimates should not be disregarded in considering the results. The true liability is unknown and the cashflow projections become increasingly uncertain the longer the projection period.

5.5.4 To help illustrate the uncertainty, we have included some sensitivity and scenario analysis around key assumptions in section 20. The analysis focuses on the largest benefit types of MRCA medical, incapacity, and permanent impairment and the key assumptions which contribute to the liability result.

6 Valuing Short-Term Incapacity Payments

6.1 Modelling Approach

6.1.1 Incapacity payments are income replacement payments made fortnightly and at a level related to the recipient's salary prior to injury. Exit rates from incapacity payments decline rapidly with duration on benefits. We have therefore made a distinction between episodes that persist for more than twelve months, which are highly likely to continue for an extended period, and those that are completed within a twelve-month period. Benefits paid after a recipient has been on benefits for more than twelve months are referred to as long-term payments, while short-term payments refer to benefits paid in the first twelve months of receipt.

6.1.2 As with the previous valuation, we have modelled the relationship between short-term and long-term recipients explicitly. That is, we have started with a projection of the number of short-term incapacity recipients and modelled the probability of an episode transitioning to long-term status to determine the expected number of future long-term recipients.

6.1.3 For modelling purposes, we have defined a long-term episode to be a period of more than twenty-six fortnights of continuous receipt of incapacity payments, noting that a period of up to three pay periods without a payment is deemed not to interrupt an episode. A break of four pay periods or more terminates an episode, unless there is a lump sum payment that, when spread using the average payment received prior to the break, spans the gap. Following a termination, a further period of 26 fortnights in continuous receipt of payments is required to establish a new long-term episode. Short-term payments then refer to those payments that do not satisfy these rules.

6.1.4 Short-term payments are modelled by projecting numbers of recipients, average payment rates and probabilities for survival. Recipients who are modelled to stay on benefits for 12 months then become part of the projected long-term recipient population and are treated in the same way as existing long-term recipients (discussed further in section 7).

6.1.5 There are also lump sum incapacity payments that are made in addition to the normal fortnightly payments. Some of these payments are back-payments that fill in a gap in the fortnightly payments and, as noted above, we spread these and treat the episode as continuous. Other lump sum payments can be

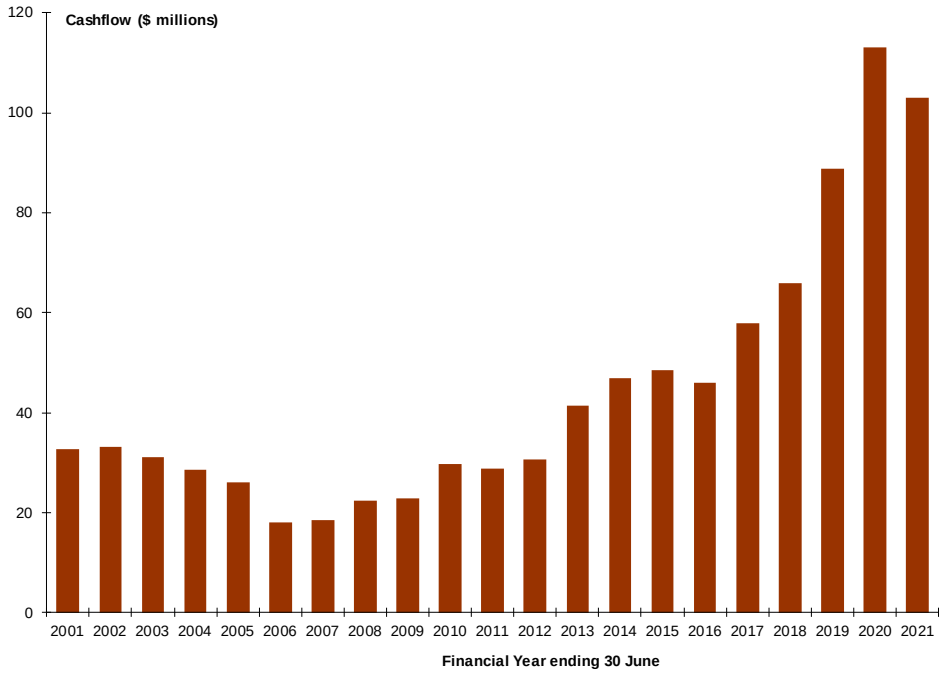
considered as additions to the normal fortnightly payments, and we make an adjustment to the projected cashflows for the periodic payments for both short-term and long-term recipients to allow for these amounts.

6.1.6 This section deals with the valuation of short-term payments while the following section considers assumptions and results for long-term payments.

6.2 Recent Experience and Valuation Assumptions

6.2.1 Figure 6.1 shows the expenditure on short-term incapacity payments since the turn of the century. It shows that outlays were virtually unchanged in nominal dollars until 2006-07. Since 2011, however, there has been a strong upward trend in expenditure, with significant increases in the 3 financial years to 2020. Expenditure in the latest year has declined, possibly as a result of processing capacity issues within DVA. Please note that these figures have been adjusted for accounts receivable which has been a growing component over recent years as a result of offsetting benefits received including Defence invalidity pension payments.

Figure 6.1: Total expenditure on payments in the first twelve months of receipt

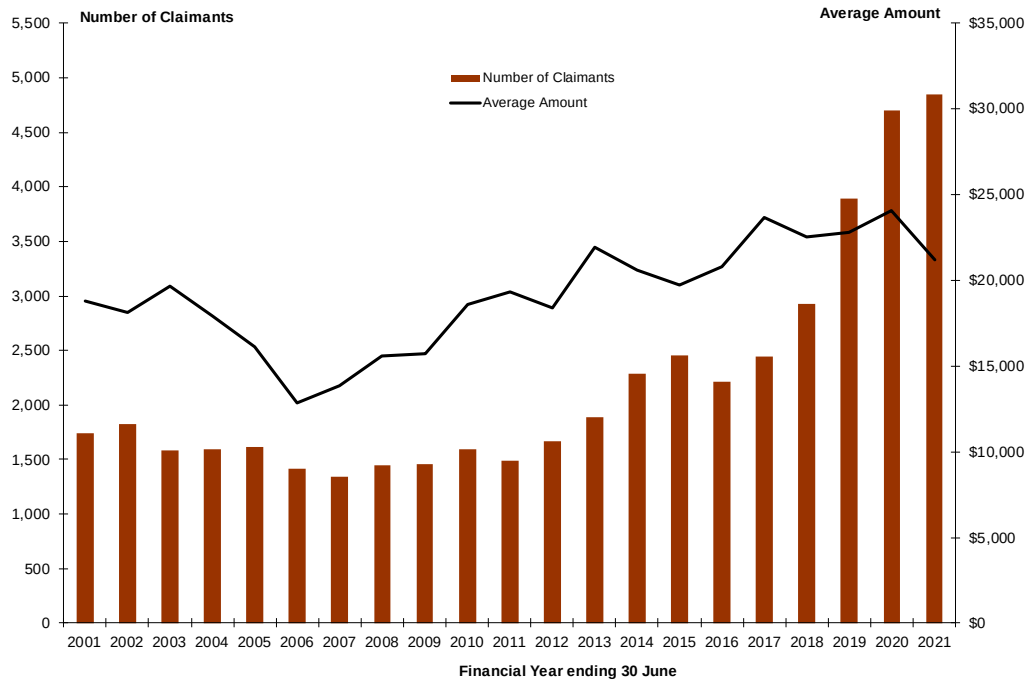


6.2.2 At this valuation, we have updated the methodology used to classify short and long term recipients. Over time, there has been an increasing number of large payments classed as “ongoing” in the incapacity experience. Where we have

previously considered these to be a part of the normal pay cycle, we have updated our methodology this year to classify these as a lump payment covering multiple periods. The result of this update is that the start date of episodes for these claimants is earlier than the first recorded payment, thus increasing the length of an episode. This has resulted in a higher number of long term recipients and a corresponding decline in the number of short term recipients. We have spot checked this change against the limited information available in the payments data we receive, and this appears to be a closer classification to actual experience. However, without additional information on pay periods covered by each payment, we cannot definitively categorise short and long term episodes. This is becoming increasingly challenging as veterans elect to receive incapacity benefits away from the traditional fortnightly DVA pay cycles and is an area where if further information is made available to us, there could be improved accuracy in the classification process.

6.2.3 Figure 6.2 shows that the early experience was a function of declining numbers of claims offsetting increasing average payments, but that since 2006-07, we have, for the most part, seen both increasing claimant numbers and increasing average payments. The increase in the payment per claim has averaged approximately 4% per annum over the last decade. (Note that the average payments are expressed in nominal dollars.) The average payment per claim will depend upon both the fortnightly rate at which benefits are being paid and the duration of the incapacity episode.

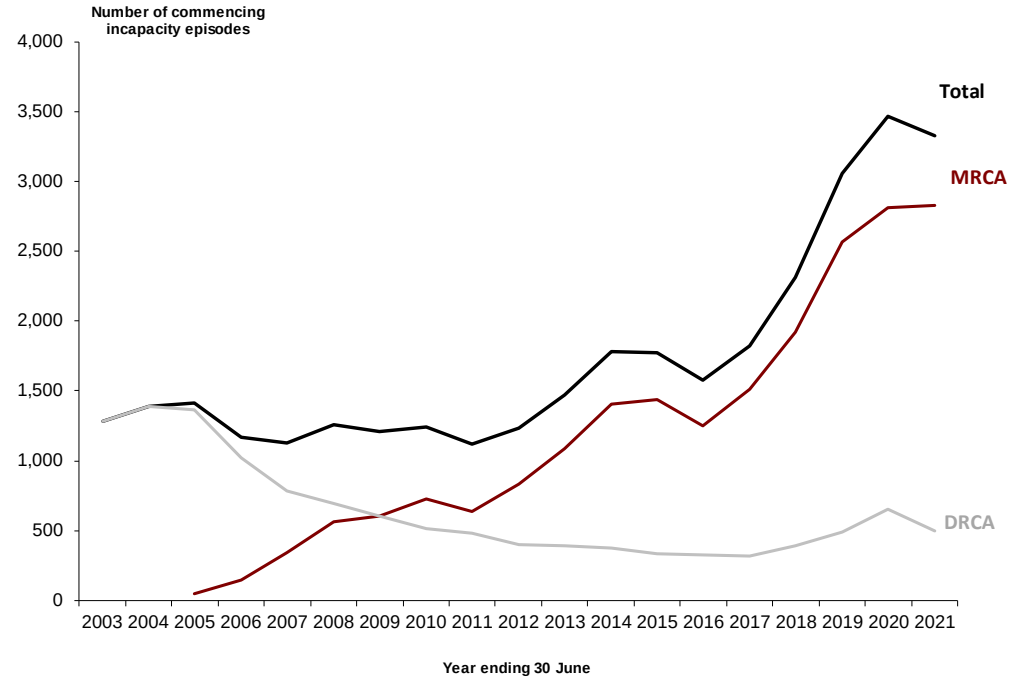
Figure 6.2: Number of short-term incapacity claimants and average annual payments



6.2.4 The approach to modelling incapacity used for the current valuation requires a projection of numbers of new incapacity episodes that commence during a year. Note that this is different from the figures shown in Figure 6.2 above, which include all people who received a payment during the year, not just those who commenced.

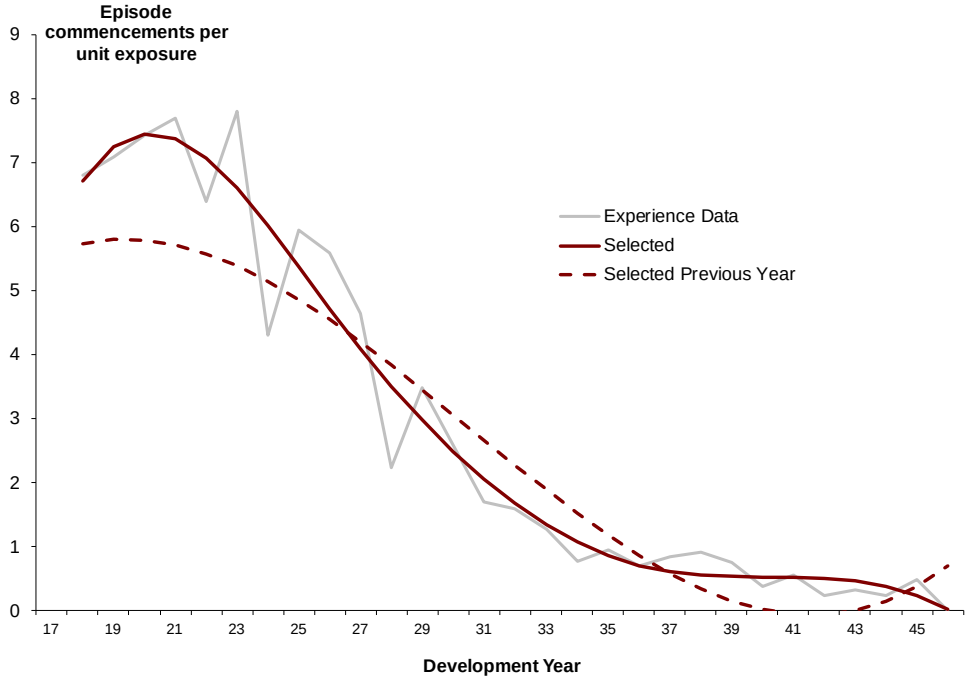
6.2.5 Figure 6.3 plots the numbers of new incapacity episodes under each scheme over the last 17 years. Although, the total number of new recipients has slightly decreased in 2020-21, driven by in the experience in DRCA, this could be a result of processing capacity issues in initial liability and not a genuine reflection of incapacity experience. The number of new DRCA claimants was slowly declining over most of this time but since 2017, has exhibited an increasing trend despite the scheme closing almost 16 years earlier.

Figure 6.3: Commencements of incapacity episodes by financial year



6.2.6 In order to project future claim numbers, we need to determine a pattern of episode emergence by accident year. Figure 6.4 shows the raw rates for DRCA commencements, together with the fitted assumption, and the selected assumption from the previous year. We have updated the calculation of accident dates where a recipient has accident dates post the DRCA cut-off date of 30 June 2004. Where we have previously taken the average incident date, we have now equated any dates post 30 June 2004 to the latest injury prior to scheme closure. This has resulted in the changed shape of the claimant curve from the previous year's selection. Overall, the fitted claim rates have increased since the last valuation, primarily driven by sustained high levels of DRCA claimants emerging.

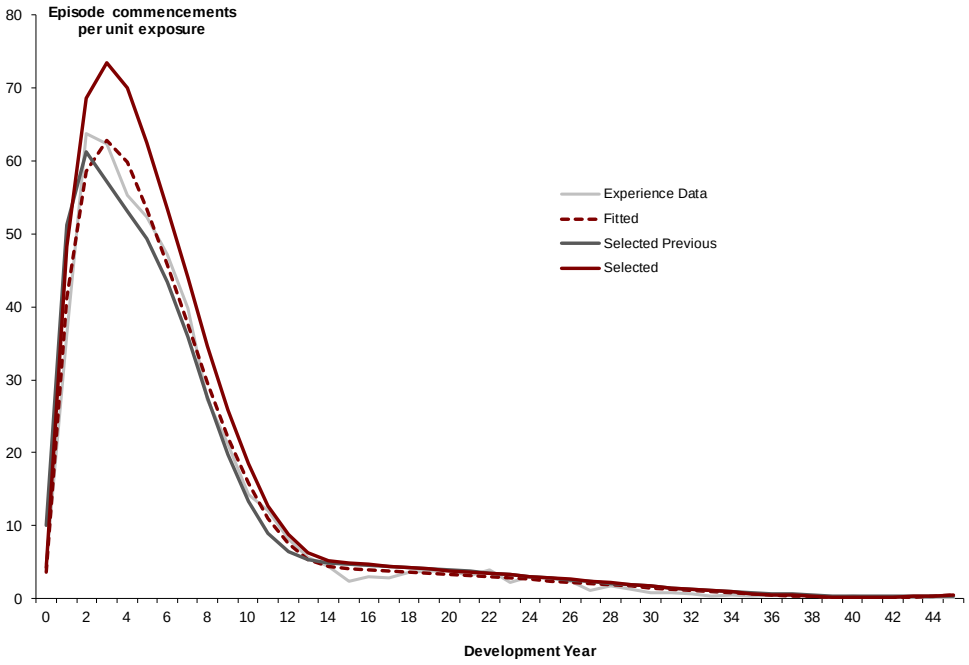
Figure 6.4: DRCA incapacity commencements by development year



6.2.7 For MRCA, we only have 17 full years of experience, as such, we have no experience for development years beyond this. Current experience to date suggests that MRCA experience may emerge very differently to DRCA in the later development periods. At this valuation, we have fitted durations at later periods using a combination of experience in DRCA and the fitted curve should the MRCA experience at delay 17 continue to later delays. Figure 6.5 shows the resulting raw and fitted rates. The claim rate has increased slightly across early development periods as a result of increased numbers of MRCA claimants in 2020-21 but is very similar compared to the previous year for later development years.

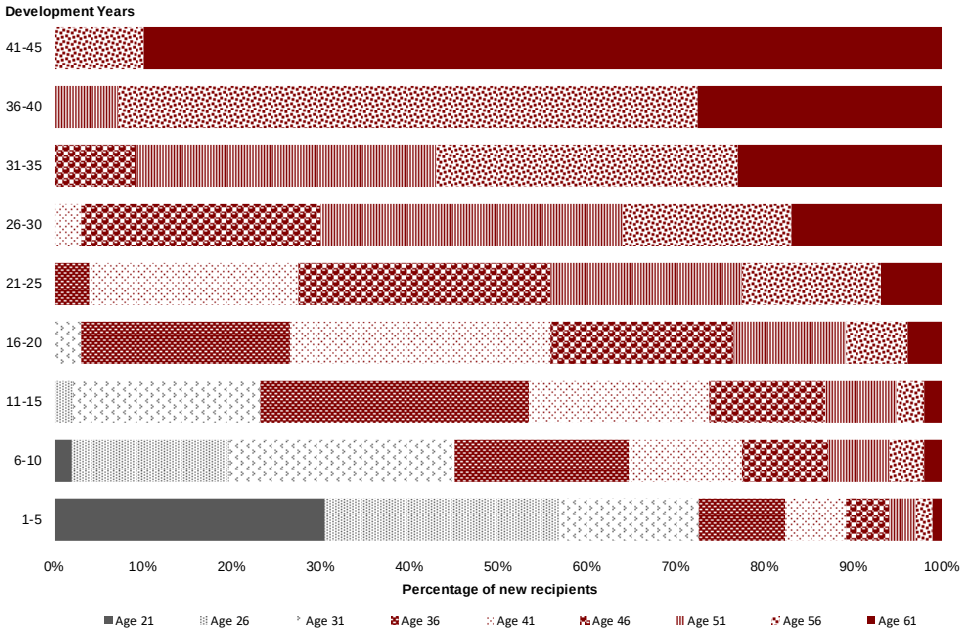
6.2.8 This year we been made aware of a large backlog in IL claims which could contain future incapacity recipients. It is therefore the case that the curves in Figures 6.4 and 6.5 have been constrained by a lack of processing staff. We expect that additional delegates will be assigned to IL and the number of claims processed will eventually match lodgements. We calculated the number of claimants expected and created a factor by which we could increase the fitted curve to the selected curve which accounts for the IL backlog.

Figure 6.5: MRCA incapacity commencements by development year



6.2.9 Our analysis of the duration on benefits found that age is an important determinant for key assumptions such as survival rates, exit rates, and average size. The second step in the process is therefore to assign an age distribution to the population of new entrants. There is a clear relationship between the development year and age. For example, someone who is projected to commence on incapacity benefits 40 years after the event giving rise to the claim cannot be aged under 55. On the other hand, the age distribution for those commencing on benefits in the year of the accident will reflect the current age distribution of serving ADF personnel. We have used the age distribution by development year shown in Figure 6.6 to assign ages to projected new short-term recipients. This takes account of the increasing age of new recipients as duration between incident and claim increases.

Figure 6.6: Age distribution of new recipients by development year



6.2.10 Having assigned ages, the next step is to determine the probability of remaining on benefits. As noted above, this probability depends upon a claimant's age. We have modelled survival probabilities i.e. the probability of claim continuation for the first 12 months for three age groups: those aged less than 35 at the beginning of an incapacity episode, those aged between 35 and 49 inclusive, and those aged 50 or more. We have also modelled the two schemes separately as there does appear to be differences in experience. Note that for DRCA, the very small number of recipients under the age of 35 have been included with those in the 35 to 49 age category this year.

6.2.11 Figure 6.7 shows the raw and fitted rates for DRCA and Figure 6.8 provides the corresponding information for MRCA.

Figure 6.7: DRCA survival probabilities

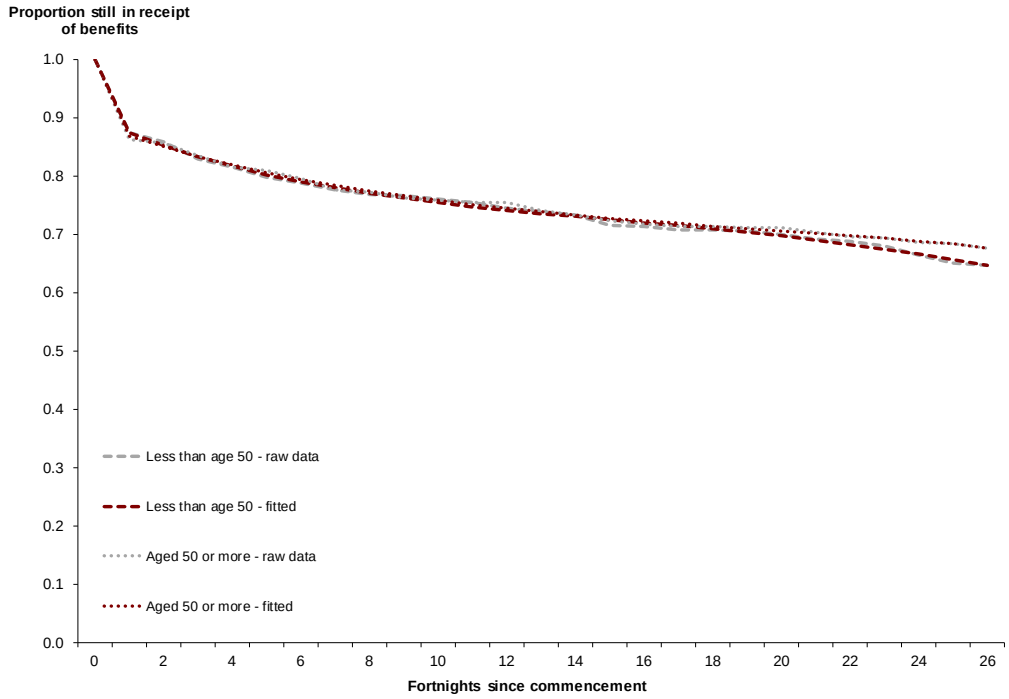
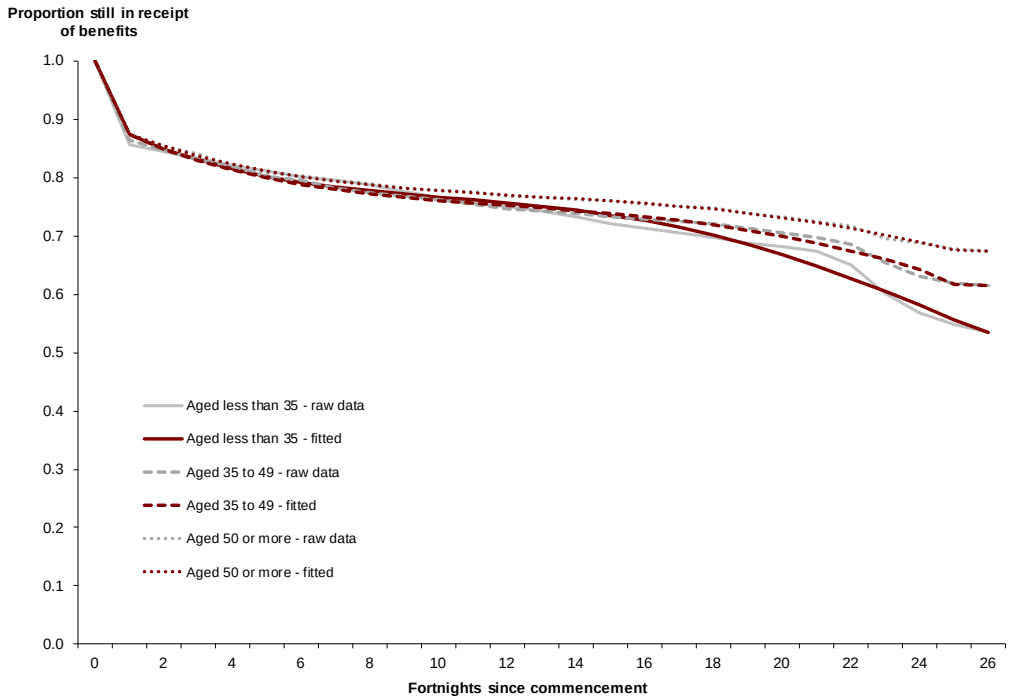
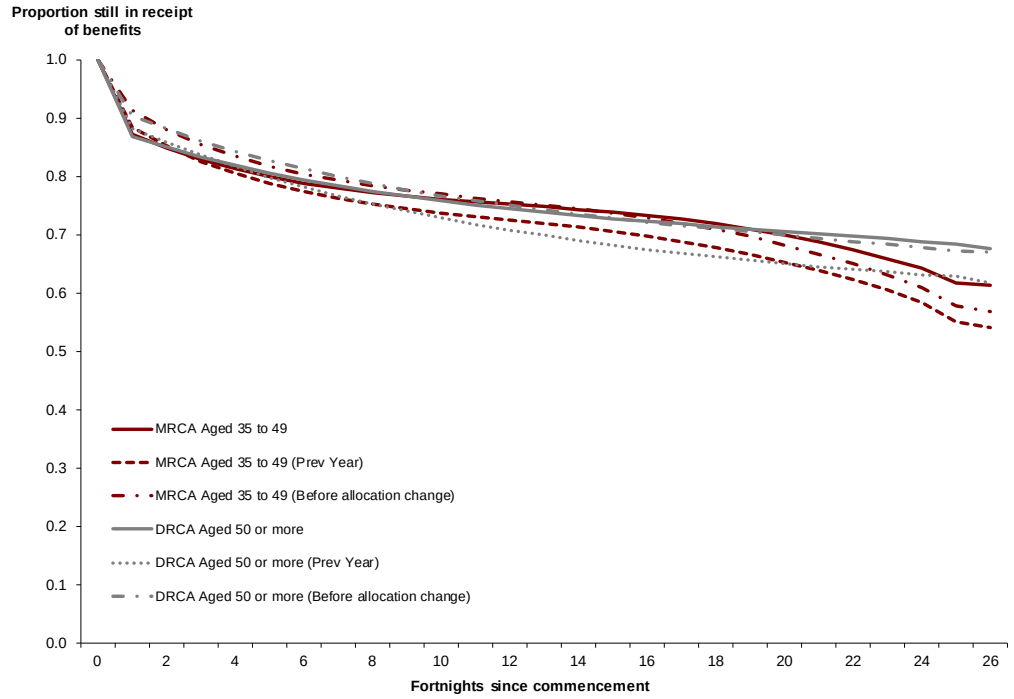


Figure 6.8: MRCA survival probabilities



6.2.12 The survival rates for older claimants in MRCA and DRCA have both increased from last year, showing a higher probability for new claimants to remain on benefits over time. This is expected as the updated allocation of short and long term recipients shows a larger number of incapacity recipients remaining on benefits for longer than a year. Figure 6.9 below shows a comparison of the rates selected this year compared to those selected last year. We have also included the rates as they would have been without the allocation change.

Figure 6.9: Comparison of selected survival rates



6.2.13 The final element needed for projecting future outlays is the average rate of payment. Again, we found this depended upon age. As the benefit is an income replacement benefit, it is not surprising that income prior to injury is likely to be positively correlated with age. We also found the average rate of payment in the first twelve months depended upon whether an individual was likely to become a long-term recipient. That is, the average fortnightly payment for those whose episode lasted for less than 12 months was lower than for those who went on to become a long-term recipient. This might reflect the relative severity of the injuries involved. Table 6.1 sets out the rates of payment that are assumed to apply in 2021-22. These amounts are lower for MRCA than last year as a result of the allocation change. Previously, large payments were counted in the short-term group and thus formed part of the average size

calculation. As these payments have been allocated to a larger number of pay periods, the average size as decreased. For later years, these rates are increased in line with the inflation rates set out in section 5.

Table 6.1: Assumed fortnightly rates of payment

Age Group	DRCA	MRCA
Assumed duration 12 months or less		
Less than 35	N/A	$954
35 to 49	$1,816[3]	$1,212
50 or more	$2,160	$1,575
Assumed duration more than 12 months		
Less than 35	N/A	$1,590
35 to 49	$2,270	$2,020
50 or more	$2,400	$2,250

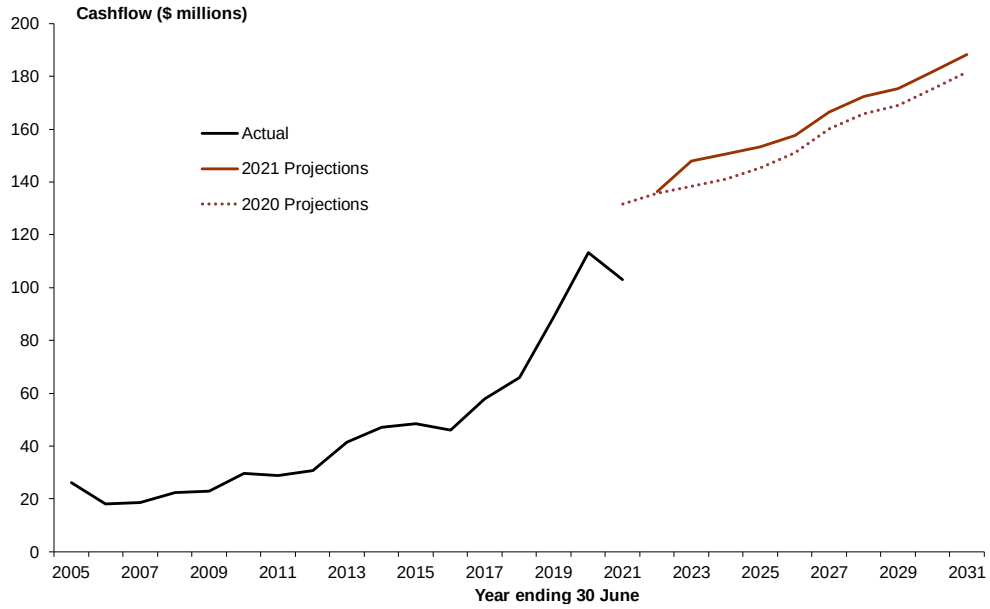
6.2.14 A divergence between the unit record and aggregate payments for DRCA incapacity has been observed since the 2015-16 financial year and has increased over time. At our request, DVA has investigated this issue and has informed us that this could be due to a number of reasons including offset payments received from superannuation or debt repayments where a miscalculation of benefits has occurred. As these receivables are not recorded at the unit record level, we cannot make an adjustment at this level to our data. The divergence over recent years has been approximately 20% of total DRCA incapacity expenditure, with the latest financial year showing a greater than 30% divergence in total expenditure. We have updated our assumption from a single 20% reduction adopted last year to a reducing variable assumption, where at the offset is expected to decline over time. This was selected in line with expectations from the valuation of long term costs in military superannuation schemes where the number of new retrospective invalidity pensions paid are expected to decrease to zero over the next 10 years. As these form a large component of the current offsets seen in DRCA incapacity, we do not believe this to be an unreasonable point of comparison. We will continue to monitor this experience and adjust our projections accordingly

[3] For DRCA, this group also includes those under age 35.

should the accounts receivable data be made available at the unit record level in future.

6.2.15 Combining these assumptions together gives the projection of cashflows shown in Figure 6.10. The overall results are higher than in the previous valuation, primarily as a result of increased numbers of expected claimants. The cashflow in the first year consists of a number of claimants from the 2020-21 financial year. A large proportion of these claimants are expected to continue receiving some level of payment in the next financial year and, unless their first payment was at the very beginning of the year and they become classified as long-term recipients, will remain as short-term recipients into the next financial year. Beyond the first year, it is the projected number of new claimants only that contribute to cashflows.

Figure 6.10: Historic and projected cashflows on short-term payments



6.3 Liability Estimate for Short-Term Payments

6.3.1 Table 6.2 shows the current estimate of the liability for short-term incapacity payments broken down by year of accident together with the liability estimated in the 2020 valuation.

Table 6.2: Outstanding claims liability as at 30 June 2021 for short-term incapacity payments by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
1979 and before	2.1
1980 – 1984	4.0
1985 – 1989	9.3
1990 – 1994	21.1
1995 – 1999	43.1
2000 – 2004	77.7
2005 – 2009	63.5
2010	18.4
2011	21.9
2012	25.8
2013	31.0
2014	39.9
2015	49.1
2016	60.6
2017	73.8
2018	86.4
2019	99.8
2020	108.5
2021	114.7
Total	**950.7**
Expected at 30/06/2021	*799.3*
Total (30/06/2020)	888.5

6.3.2 In the 2020 valuation, we projected a liability as at 30 June 2021 of $799.3m. The revised estimate of the liability is $950.7m, this is $151.4m higher than the projected liability and reflects the higher cashflows shown in Figure 6.10.

7 Valuing Long-Term Incapacity Payments

7.1 Modelling Approach

7.1.1 As discussed in the previous section, long-term recipients are a subset of the short-term population; that is, every long-term recipient must commence as a short-term recipient and can only transition to long-term status once benefits have been paid for a continuous period of 12 months. The liability in relation to long-term recipients can be considered to arise from three sources.

7.1.2 The first is those who had already been in receipt of benefits for 12 months or more and hence were classified as a long-term recipient as at 30 June 2021. The age distribution, length in receipt of benefits and rates of payment for this group are known. Using exit rates derived from past experience, we can estimate the probabilities of continuing entitlement and hence determine the present value of expected future payments.

7.1.3 The second group is those who were in receipt of an incapacity payment as at 30 June 2021 but had not reached the 12 month threshold to be classified as a long-term recipient. A proportion of this group would be expected to remain on benefits for 12 months and become long-term recipients. We have estimated the probabilities of this occurring for different age groups, given the current length in receipt of benefits, and then valued them as new long-termers from that point.

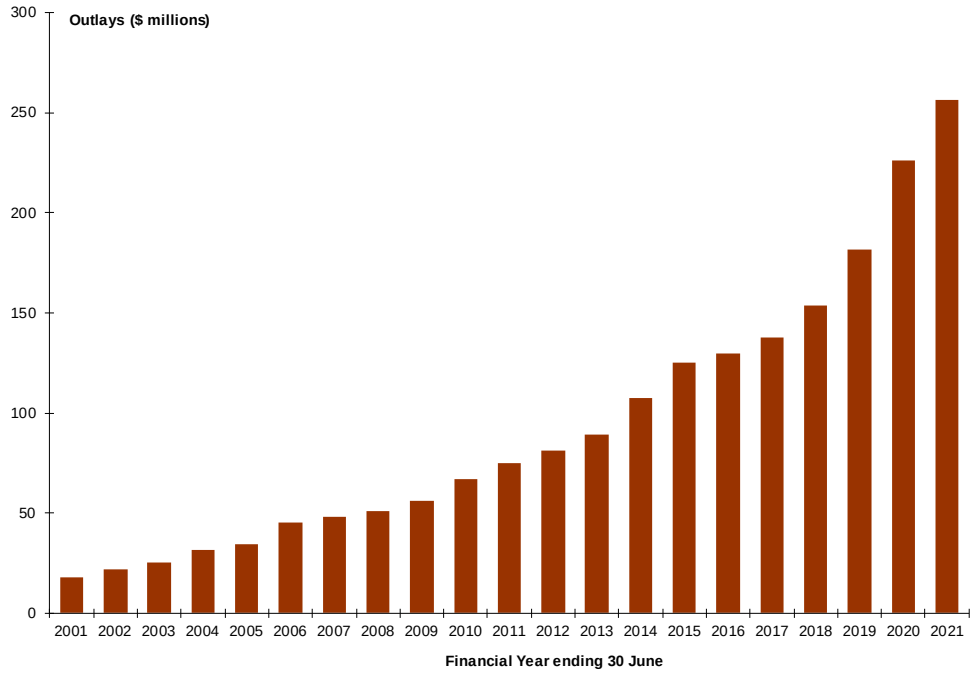
7.1.4 The third group is those who are expected to commence an incapacity episode in the future that relates to an incident that occurred prior to the valuation date. This is a subset of the projected short-term population described in the previous section. In this case, the probability of becoming a long-term recipient depends just upon age, since this group will have an initial duration in receipt of benefits of zero. Unlike the two previous groups, this group is entirely comprised of claimants who are yet to emerge and therefore involves the greatest uncertainty.

7.1.5 The projected cashflows arising from the second and third groups together comprise what we refer to as the Incurred But Not Reported (IBNR) liability, that is the liability in respect of those who were not long-term recipients at the valuation date, but are projected to receive long-term incapacity payments in the future. Note that this differs from the normal insurance meaning where IBNR relates only to claims not reported at the valuation date.

7.2 Recent Experience and Valuation Assumptions

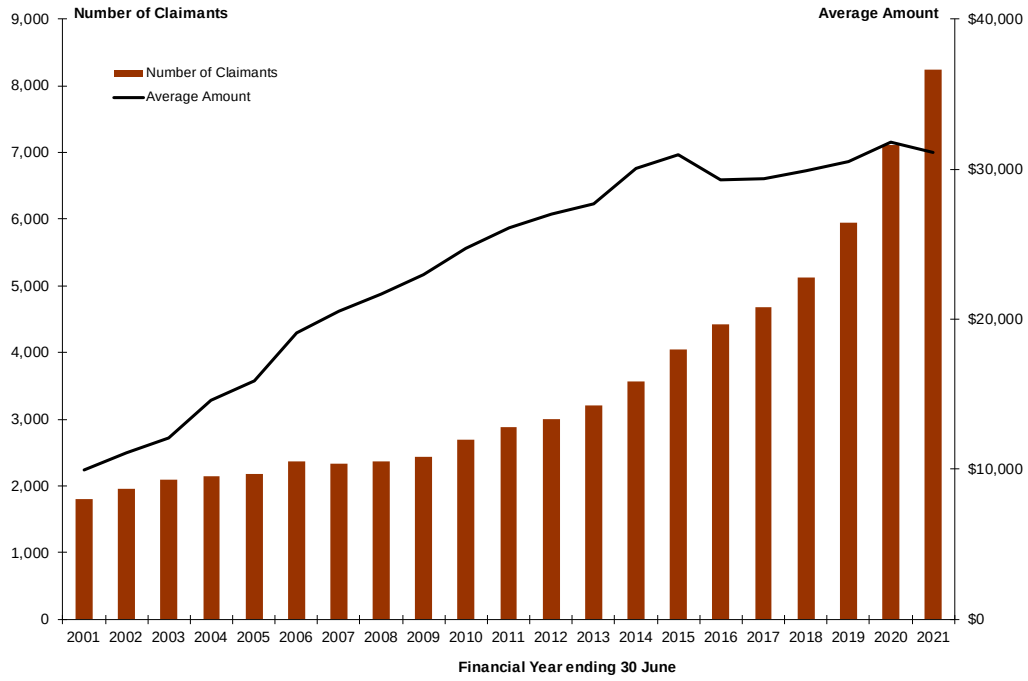
7.2.1 Figure 7.1 shows the expenditure on long-term incapacity payments since the turn of the century. The increasing trend in incapacity payments for long term recipients has continued in 2020-21.

Figure 7.1: Total expenditure on long-term payments (including adjustment payments)



7.2.2 As with short-term payments there was a period of relatively slow growth, but since 2010, outlays have grown substantially. Again, this has been primarily driven by the increase in the number of recipients, as shown in Figure 7.2. There has been a steady increase in the total number of claimants whilst the average payment has remained relatively stable in recent years. Note that the average payment is not the rate at which an individual claimant is being paid, but the average of the total amount paid during the financial year. Given that not everyone will be paid for the full year, the average payment shown here will be less than the average rate of payment at the end of the year.

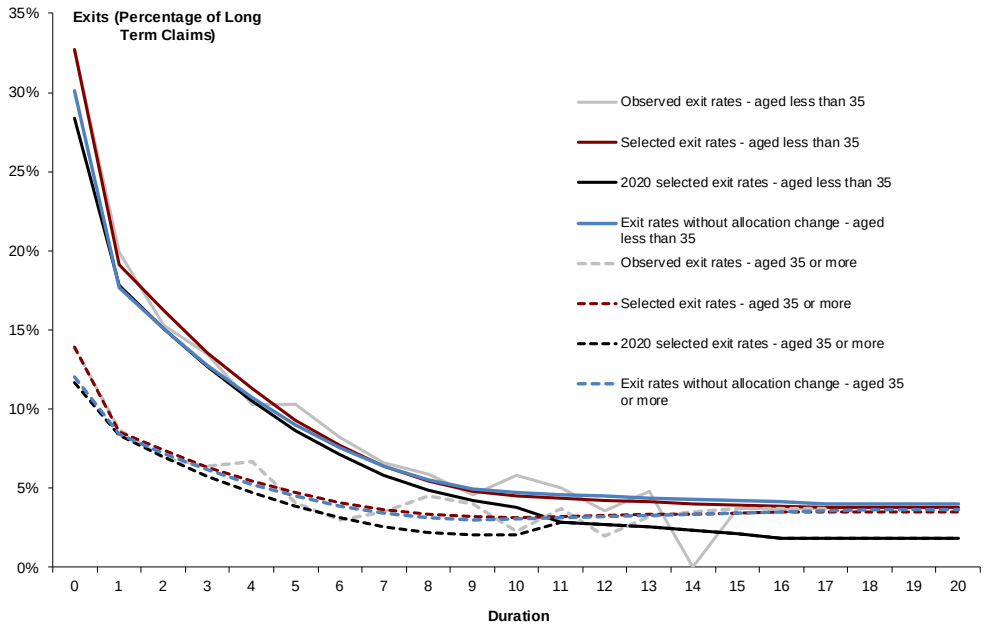
Figure 7.2: Total number of long-term incapacity claimants and average payments



7.2.3 For those who were long-term incapacity recipients as at 30 June 2021, the only valuation assumptions required relate to mortality, exits not due to mortality and payment inflation. We have used the mortality assumptions for invalidity pensioners from the latest available actuarial review of military superannuation. Payment inflation follows the assumptions set out in section 5, which allow for lower growth in the short term.

7.2.4 The exit rate assumptions are a key driver of the liability estimate. In line with our analysis of short-term incapacity payments, we looked at exit experience using the same age groups. This showed a quite clear distinction between rates of exit for those aged more or less than 35 at the time the long-term episode commenced, but the age 50 threshold did not appear to be significant. We have therefore adopted separate assumptions for those aged less than 35 and those aged 35 or more. The two rates are expected to converge asymptotically after 18 years or so. It can also be seen that the net effect of the allocation change between short and long termers has resulted in slightly increased exit rates, concentrated among the younger cohort. This follows on from the increased number of claimants now classified as long termers, thus increasing over exit rates due to their shorter average duration on benefits.

Figure 7.3: Observed and selected exit rates



7.2.5 Relative to 2020, we are assuming slightly higher rates of exit for those aged under 35. For claimants who are 35 or older, the selected rate of exit has also increased for all durations. The exit rates have increased this year because the new allocation of short termers and long termers has classified more long termers into this analysis, most of whom have lower durations than the previous group of long termers. The issue of relatively low exit rates is not unique to the MCS and is a common concern amongst other injury schemes with periodic benefits such as civilian workers compensation schemes. These schemes have often required multiple actions such as benefit redesigns, active monitoring of experience, and additional policy measures to encourage and enable claimants to transition back into the workforce.

7.2.6 As discussed in the previous section, the number of future long-term claimants is estimated based on the proportion of actual and projected short-term claimants who are assumed to reach 12 months on benefits. For existing short-term claimants, a probability is determined based on the number of fortnights on benefits as at 30 June 2021 and age at the time incapacity payments were first made. Figure 7.4 shows the probabilities of attaining long-term status for DRCA claimants and Figure 7.5 the equivalent information for MRCA claimants.

Figure 7.4: DRCA probability of becoming a long-term recipient

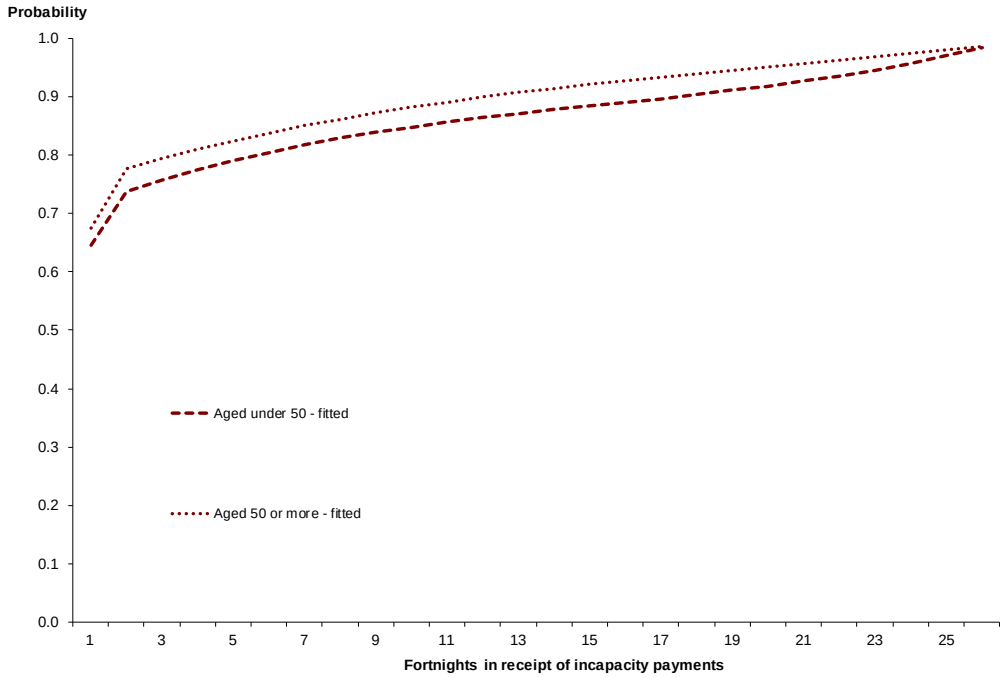
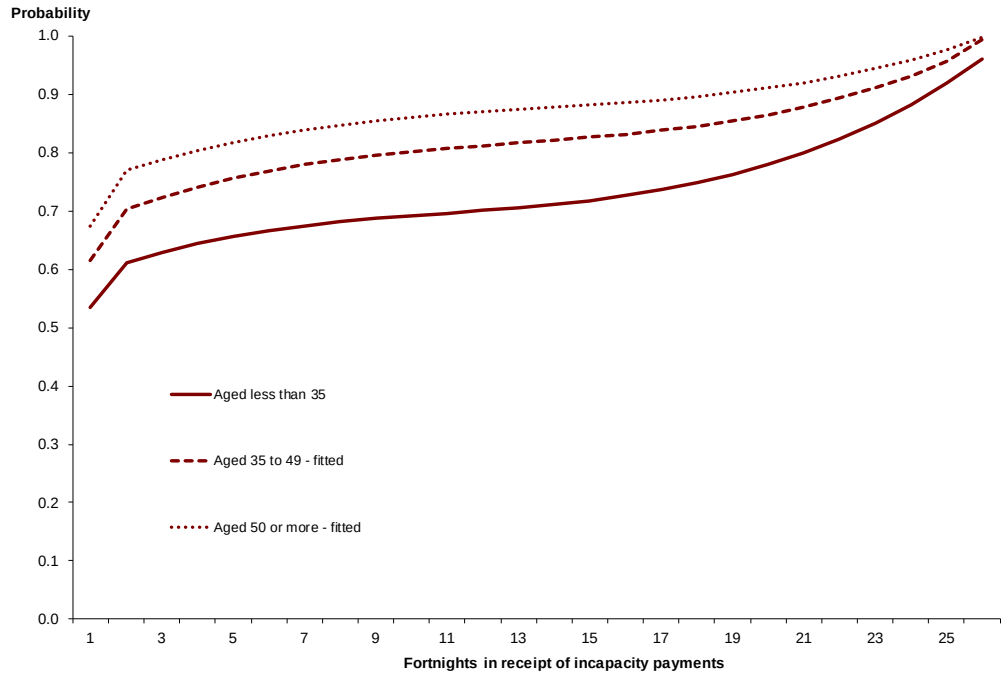


Figure 7.5: MRCA probability of becoming a long-term recipient



7.2.7 As would be expected, the probability increases with duration on benefits to date. What is perhaps more surprising, however, is the discontinuity between one and two fortnights on benefits. Those that receive benefits for two fortnights are significantly more likely to become long-term recipients than those who receive just one payment.

7.2.8 For projected short-term claimants, we use the probability for those with one fortnight of payment to determine the number that will go on to become future long–term recipients. These probabilities are shown in Table 7.1.

Table 7.1: Probability of a future short-term recipient receiving benefits for twelve months or more

Age group	DRCA	MRCA
Less than 35	N/A	0.53
35 to 49	0.65[4]	0.61
50 or more	0.68	0.67

7.2.9 Fortnightly payment rates for current long-term recipients are set at the rate that applied as at 30 June 2021 and inflated annually thereafter. Table 7.2 summarises the key statistics in respect of the 7,284 long-term recipients in payment as at the valuation date, together with the comparable statistics from the previous valuation.

7.2.10 The lifetime entitlement members are a grandparented group in the legislation whereby they can remain on incapacity payments beyond the retirement age. DVA were not able to provide the full list of claimants with a lifetime entitlement at this valuation. As such, statistical matching was performed between the data from this year and last year in order to retrieve the information of the ongoing lifetime group to the extent possible. We were able to determine that 8 of these members have ceased payments in the last year, and 1 additional member was found that was not present in 2020.

[4] For DRCA, this applies to all recipients under the age of 50.

Table 7.2: Profile of existing long-term claimants as at 30 June 2021

	2021 Valuation	2020 Valuation
DRCA		
Number of recipients		
- with lifetime entitlement	46	53
- without lifetime entitlement	2,147	1,892
Total	2,193	1,945
Average fortnightly entitlement	$1,633	$1,556
Average age	53.5	53.1
Average duration on benefit [5]	8.1 years	9.1 years
MRCA		
Number of recipients		
- with lifetime entitlement	0	0
- without lifetime entitlement	5,096	4,215
Total	5,096	4,215
Average fortnightly entitlement	$1,336	$1,363
Average age	42.7	41.9
Average duration on benefit	3.7 years	3.3 years

7.2.11 As would be expected, the average age has increased across both schemes. MRCA recipients are on average younger than DRCA recipients and, given the positive correlation between age and salary, this feeds through into lower average fortnightly payments. The average duration on benefit has decreased slightly in the case of DRCA and remained relatively similar for MRCA. This could be a reflection of the higher numbers of new long-term recipients who have had shorter durations on benefits.

7.2.12 For current short-term recipients, an allowance needs to be made for the fact that the rate of payment reduces after 45 weeks on benefits. The adjustment factors used have been derived from the experience data and are shown in Table 7.3. Note that these ratios are applied to the actual rates of payment for short-term recipients.

Table 7.3: Ratio between short-term and long-term fortnightly payments

Age group	DRCA	MRCA
Less than 35	N/A	0.65

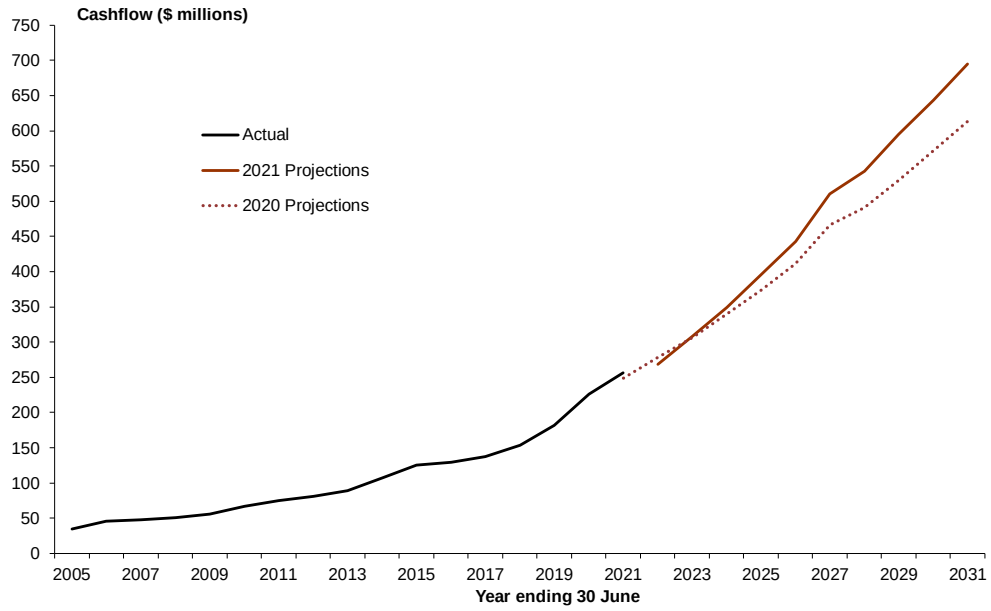
[5] Duration in this context is our estimate of continuous period on benefit.

Age group	DRCA	MRCA
35 to 49	0.80[6]	0.60
50 or more	0.80	0.70

7.2.13 For projected future long-term recipients, these ratios are applied to the rates of payment set out in Table 6.1 for those who are expected to become long-term recipients.

7.2.14 In combination, these assumptions yield the following pattern of future cashflows. Note that the slight uptick in 2027 is the result of the 27 paydays in that year. The increase in cashflows from the last valuation is primarily a result of higher numbers of expected long term recipients.

Figure 7.6: Historic and projected cashflows on long-term payments



7.3 Liability Estimate in respect of existing long-term claimants

7.3.1 Table 7.4 shows the incapacity payment liability estimate in respect of the existing long-term claimants broken down by year of accident. Note that we

[6] For DRCA, this applies to all recipients under the age of 50.

cannot definitively determine accident year for MRCA claimants and, where a claimant has multiple claims, we have used the average of all accident years recorded.

Table 7.4: Outstanding claims liability in respect of long-term claimants as at 30 June 2021

Year of Accident - year ending 30 June	Number of long-term claimants at 30/06/21	Liability ($'m)
1979 and before	197	38.1
1980 – 1984	69	10.1
1985 – 1989	149	26.6
1990 – 1994	373	77.8
1995 – 1999	673	173.0
2000 – 2004	732	227.6
2005 – 2009	1012	412.7
2010	374	141.7
2011	455	193.5
2012	548	194.7
2013	561	198.4
2014	506	186.3
2015	421	143.6
2016	404	148.0
2017	351	130.6
2018	285	113.2
2019	157	65.0
2020	22	10.4
2021	0	0.0
Total	**7,289**	**2,491.1**
Expected at 30/06/2021		*2,413.8*
Total (30/06/2020)	**6,160**	**2,512.0**

7.3.2 Note that the definition of long-term claimant means that the liability estimate in Table 7.4 for accident year 2020-21 must be zero. The liability for those injured during 2020-21 and projected to become long-term claimants is included in the IBNR estimates below.

7.3.3 Overall, the 2020 valuation would have projected the liability in respect of long-term incapacity claimants as at 30 June 2021 to be $2,413.8m (after allowance for the liability in relation to claimants commencing on incapacity benefits during 2020-21, which was included in the 2021 IBNR estimate). The liability at this valuation is $2,491.1m, which is $77.3m higher than projected.

7.4 Liability Estimate in respect of IBNR claimants

7.4.1 Table 7.5 shows the estimate of the liability for long-term IBNR claims broken down by year of accident. Again, note that the allocation of liability to accident year should not be relied upon.

Table 7.5: Outstanding IBNR claims

Year of Accident - year ending 30 June	Number of claimants	Liability ($'m)
1979 and before	68	11.5
1980 – 1984	92	6.8
1985 – 1989	192	21.5
1990 – 1994	446	70.7
1995 – 1999	912	185.9
2000 – 2004	1626	398.0
2005 – 2009	1202	269.9
2010	352	81.2
2011	437	103.4
2012	512	121.5
2013	628	151.4
2014	796	191.9
2015	998	242.5
2016	1228	292.3
2017	1496	351.6
2018	1749	400.0
2019	2029	450.0
2020	2164	473.1
2021	2266	488.3
Total	**19,192**	**4,311.5**
Expected at 30/06/2021		*4,293.2*
Total (30/06/2020)	**14,294**	**3,694.9**

7.4.2 The liability as at 30 June 2021 is $4,311.5m. At the 2020 valuation, we were expecting a liability of $4,293.2 at 30 June 2021. This is an increase of approximately $20m. The increase to IBNR has been driven by the increase in the number of claimants receiving incapacity payments and higher survival rates for short term recipients.

7.4.3 Overall, there has been an increase in the projected liability for incapacity payments. The increase was primarily driven by greater number of claimants entering the scheme and the persistent high probabilities of remaining on benefits.

8 Summary of Results for Incapacity Payments

8.1 Liability as at 30 June 2021

8.1.1 The following tables combine the results reported in the previous sections to give a total liability for all incapacity payments. Table 8.1 provides a reconciliation, to the extent possible, between the liability estimate as at 30 June 2020 and the current estimate at 30 June 2021.

Table 8.1: Reconciliation of liability estimates for incapacity payments

	$m
Liability estimate at 30/06/20 (previous valuation)	**7,095.5**
Assumed interest	358.9
Projected payments	(380.9)
Notional premium	546.3
Projected liability as at 30 June 2021 (previous valuation basis)	7,619.8
Experience effects and assumption changes	
difference between actual and projected payments	21.8
change in experience	(187.6)
change in claimant projection	(23.5)
change in survival rates	255.4
change in exit rates	(597.0)
change in average size	150.0
change in other assumptions	(21.0)
change in long/short term allocation	(156.6)
Inclusion of an IL adjustment	637.5
change in accounts receivable assumption	54.6
Current estimate	**7,753.3**

8.1.2 The changes in model assumptions described in the previous two sections have resulted in an increase in the liability for incapacity payments. The increased numbers of projected short-term recipients and the consequent flow-on to future long-term recipients (the IBNR population) is the major contributor to this increase.

8.1.3 In recent years, DVA has undertaken a major review of veterans' services with a focus on investments that might be expected to yield longer term savings. At present, these initiatives are unlikely to translate into experience that would alter our assumptions in the short term. Over the longer term, however, it is possible that changed processes might lead to lower numbers of veterans

commencing on incapacity payments and higher exit rates from the payment once commenced. If this does occur, we could see a reduction in the liability.

8.1.4 Table 8.2 shows the disaggregation of the incapacity liability by type of payment and year of accident

Table 8.2: Outstanding claims liability for incapacity payments as at 30 June 2021 - by year of accident

Year of accident-year ending 30 June	Liability (inflated and discounted) $m			
	Short-Term	Long-Term	IBNR	Total
1979 and before	2.1	38.1	11.5	51.6
1980 – 1984	4.0	10.1	6.8	20.9
1985 – 1989	9.3	26.6	21.5	57.3
1990 – 1994	21.1	77.8	70.7	169.6
1995 – 1999	43.1	173.0	185.9	402.1
2000 – 2004	77.7	227.6	398.0	703.3
2005 – 2009	63.5	412.7	269.9	746.0
2010	18.4	141.7	81.2	241.3
2011	21.9	193.5	103.4	318.8
2012	25.8	194.7	121.5	342.0
2013	31.0	198.4	151.4	380.8
2014	39.9	186.3	191.9	418.2
2015	49.1	143.6	242.5	435.1
2016	60.6	148.0	292.3	501.0
2017	73.8	130.6	351.6	556.0
2018	86.4	113.2	400.0	599.5
2019	99.8	65.0	450.0	614.8
2020	108.5	10.4	473.1	592.0
2021	114.7	0.0	488.3	603.0
Total	**950.7**	**2,491.1**	**4,311.5**	**7,753.3**
Total (30/06/2020)	**888.5**	**2,512.0**	**3,694.9**	**7,095.5**

8.1.5 Table 8.3 shows the breakdown of the liability estimate by Service Arm. Attribution to Service Arm was based on the relative percentages of incapacity payments made over the analysis period for each Service Arm. The IBNR was split in the same proportions as the existing long-term payments.

Table 8.3: Outstanding claims liability for incapacity payments as at 30 June 2021 - by service arm

	Liability (inflated and discounted) $'m			
SERVICE	Short-Term	Long-Term	IBNR	Total
Army	624.1	1,795.2	3,128.9	5,548.2
Navy	189.6	403.1	681.5	1,274.2
RAAF	137.0	292.7	501.2	930.9
Total	**950.7**	**2,491.1**	**4,311.5**	**7,753.3**

8.1.6 The proportion of the liability attributable to the different service arms are largely unchanged from the 2020 valuation, with the Army accounting for 72% and Navy and RAAF for 16% and 12% respectively.

8.2 Projected Cashflows

8.2.1 Cashflows have been projected for the following decade allowing for future injuries. Table 8.4 shows the projected cashflows in respect of injuries sustained before the valuation date under the DRCA, while Table 8.5 shows the cashflows in respect of injuries sustained before the valuation date under the MRCA.

8.2.2 Table 8.6 shows the cashflows arising from injuries sustained after this date. Note that all figures are in nominal dollars, that is, they have not been discounted to 2021 dollars.

Table 8.4: Projected future incapacity payments for DRCA claims

	Payments (future dollars) $'m			
Year ending 30 June	Short-Term	Long-Term	IBNR	Total
2022	20.1	62.1	5.3	87.5
2023	29.7	58.7	15.9	104.4
2024	28.0	55.2	27.5	110.7
2025	26.1	53.4	37.0	116.5
2026	24.1	52.2	45.8	122.1
2027	22.6	52.4	55.9	130.8
2028	20.9	48.5	61.1	130.6
2029	18.6	47.1	67.7	133.4
2030	16.8	45.1	71.0	132.8
2031	15.1	43.5	73.6	132.1

Table 8.5: Projected future incapacity payments for MRCA claims incurred as at 30 June 2021

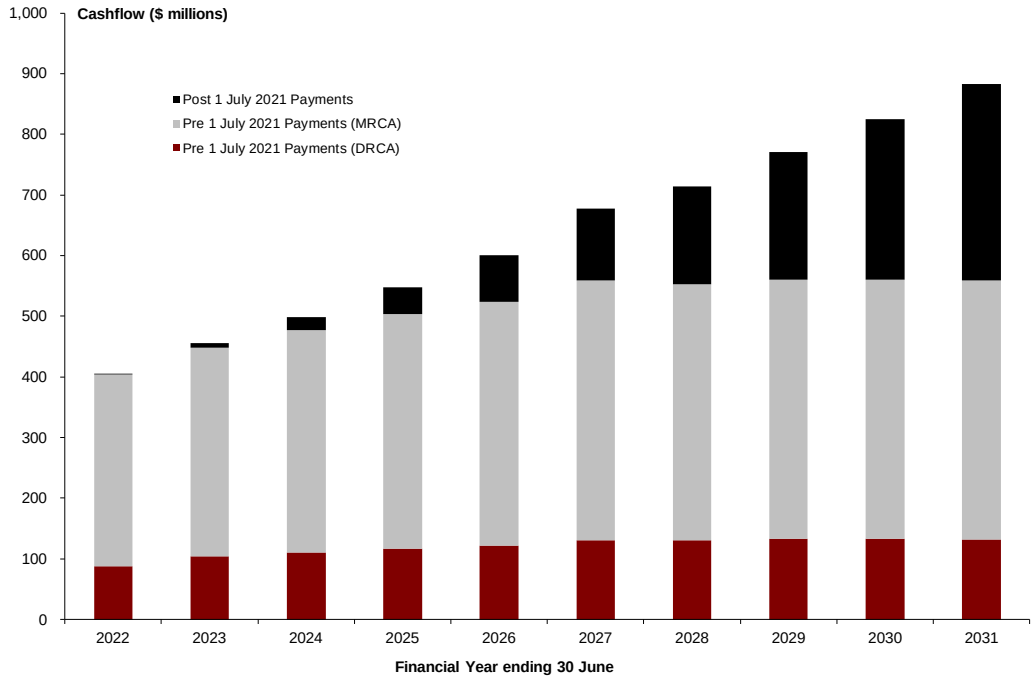
	Payments (future dollars) $'m			
Year ending 30 June	Short-Term	Long-Term	IBNR	Total
2022	115.7	175.6	25.1	316.4
2023	112.0	164.2	68.2	344.4
2024	103.9	154.0	109.0	366.8
2025	92.5	149.3	145.0	386.8
2026	80.5	145.3	176.2	402.1
2027	70.2	147.4	210.4	428.1
2028	59.1	138.9	224.5	422.4
2029	48.1	136.0	242.3	426.4
2030	39.8	133.3	253.8	427.0
2031	33.4	130.5	263.2	427.1

Table 8.6: Projected future incapacity payments for claims incurred after 30 June 2021

	Payments (future dollars) $'m			
Year ending 30 June	Short-Term	Long-Term	IBNR	Total
2022	0.5	0.0	0.0	0.5
2023	6.2	0.2	0.0	6.5
2024	18.7	2.9	0.0	21.7
2025	34.7	10.4	0.0	45.1
2026	52.9	23.5	0.0	76.4
2027	73.8	44.7	0.0	118.5
2028	92.3	69.4	0.0	161.7
2029	108.7	102.1	0.0	210.8
2030	125.1	140.6	0.0	265.7
2031	139.8	184.2	0.0	324.0

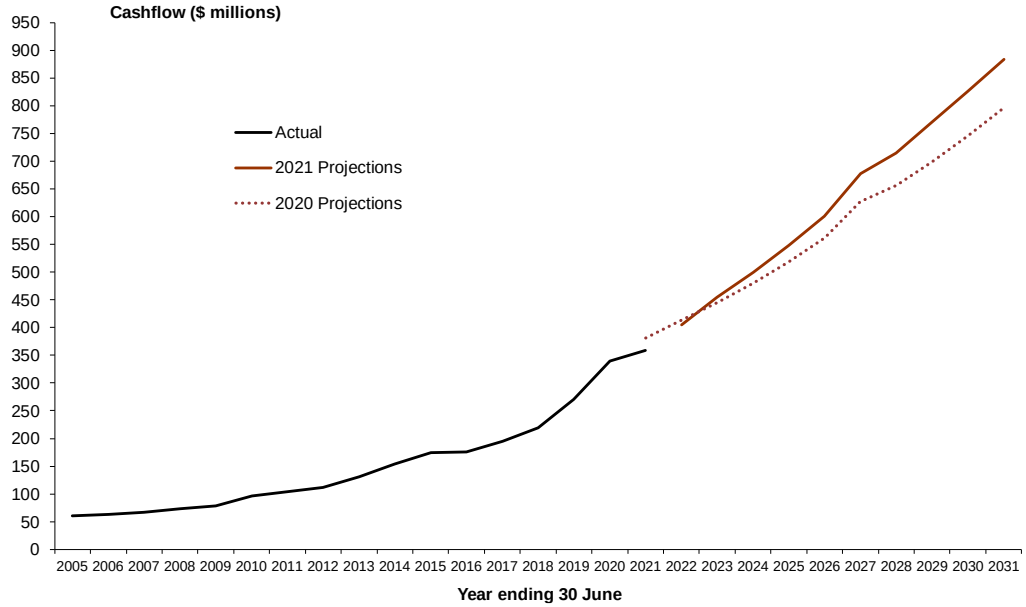
8.2.3 Figure 8.1 shows this information graphically. The long-term nature of the obligation to make incapacity payments is clearly evident, with payments in respect of claims incurred prior to the valuation date falling only very slowly over the projection period.

Figure 8.1: Projected incapacity payments



8.2.4 Finally, Figure 8.2 shows actual and projected cashflows for all incapacity payments. The projections from the previous year's valuation are included for comparison and illustrate the impact which the changes in assumptions have had on anticipated outlays.

Figure 8.2: Historic and projected cashflows on incapacity payments



9 Valuing Non-Incapacity Benefits – DRCA Permanent Impairment and Non-Economic Loss

9.1 Modelling Approach

9.1.1 Under DRCA, lump sum payments are made where a service person suffers a permanent impairment. In most cases, a further lump sum payment is made to compensate for non-economic loss. In the past, we have modelled these two payments separately. More recently, the strong correlation between the two payments has led us to simplify the approach and model the combined payment.

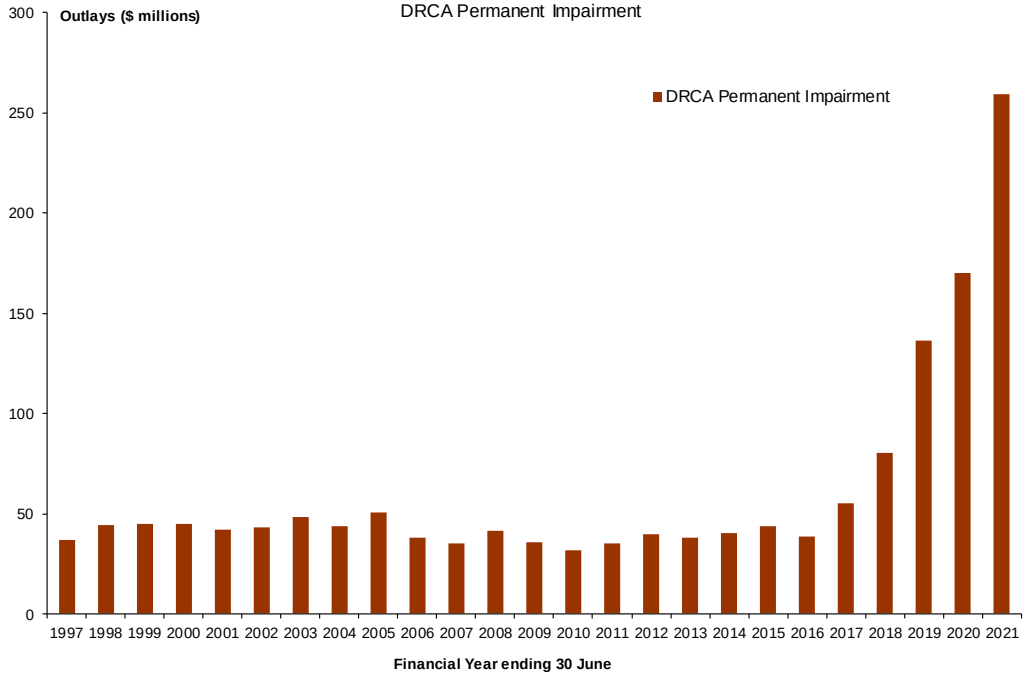
9.1.2 The modelling approach taken with DRCA payments was to look at the number of claims by development year per unit of exposure. Exposure is measured by the number of equivalent full time defence personnel, defined as the number of full time personnel plus 15% of the number of reserve personnel.

9.1.3 As in previous years, a statistical package was used to fit cubic splines to the raw data. In order to take account of the observed growth in claim frequency and the backlog of claims, both in initial liability and permanent impairment over the most recent years, we have also adopted additional growth on top of the number of observed paid claims.

9.2 Recent Experience and Valuation Assumptions

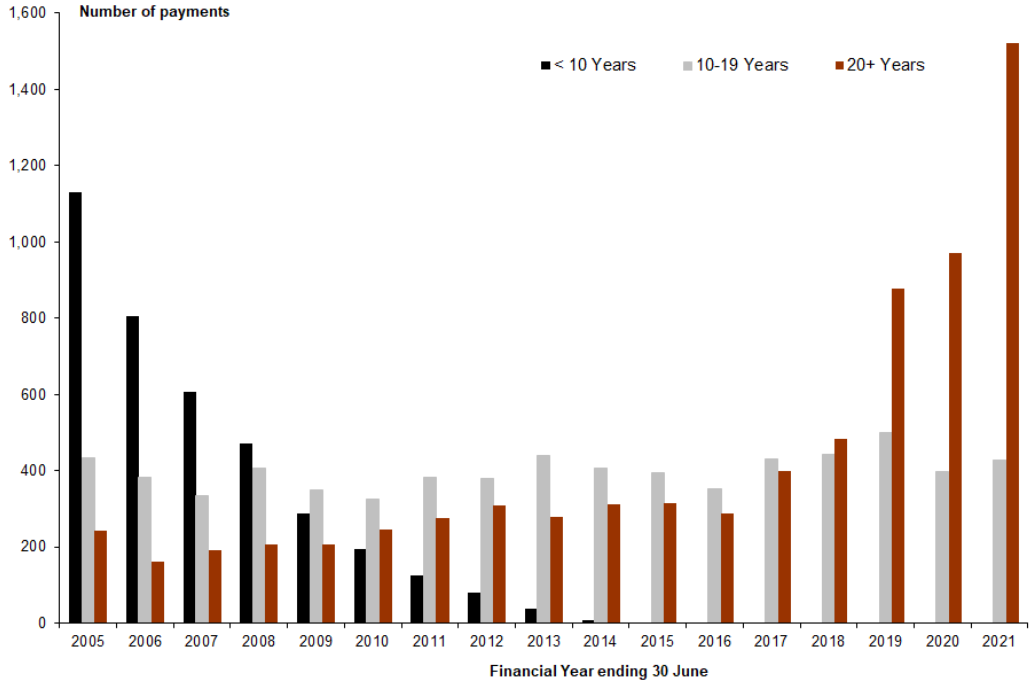
9.2.1 Figure 9.1 shows the expenditure on permanent impairment (including non-economic loss payments for DRCA) over the last two decades.

Figure 9.1: Expenditure on DRCA permanent impairment payments



9.2.2 Despite the closure of DRCA for injuries occurring after 1 July 2004, outlays have been trending upwards since reaching a minimum in 2009-10. Expenditure has significantly increased year on year since 2016-17, with the highest expenditure seen to date in 2020-21. The disaggregation of the claim numbers by the age of injury at the time of settlement in Figure 9.2 provides some evidence of what is driving this result.

Figure 9.2: Age of DRCA permanent impairment claims at time of payment

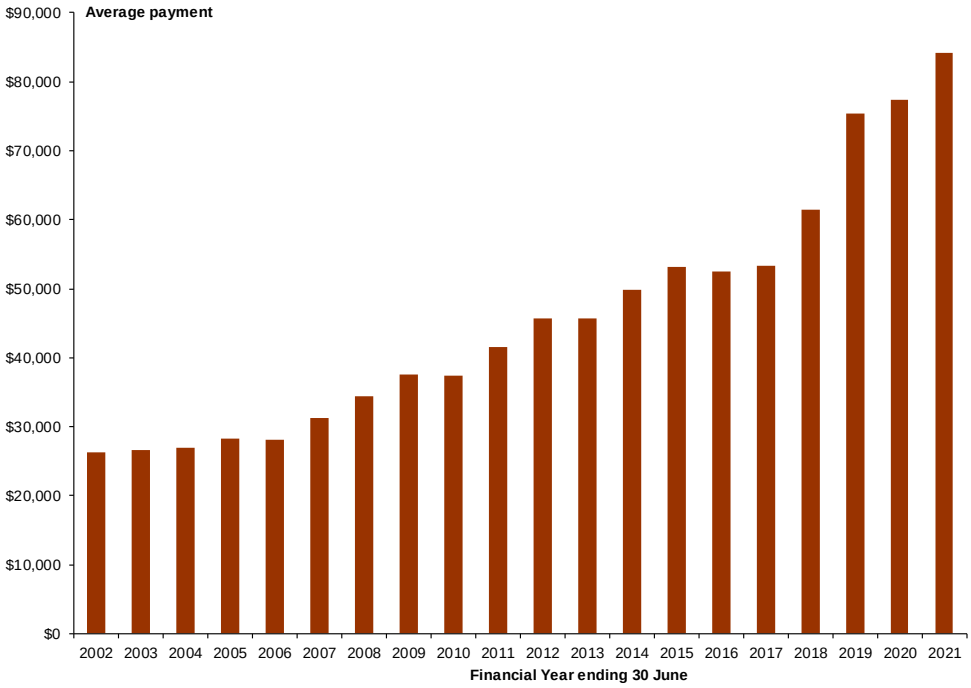


9.2.3 While the disappearance of short duration claims as a result of the time elapsed since closure of access to the scheme is clearly apparent, there has been an increase in long duration claims, particularly those made twenty or more years after the incident giving rise to the claim. For example, in each of the last six years the number of claims made after a lag of twenty or more years has been higher than at any time prior to 2011 with numbers in the most recent year being particularly high. The number of claims with a lag of 10 to 19 years has seen a recent decline, reflecting the fact that it is more than seventeen years since the closure of DRCA.

9.2.4 Part of the explanation for the rise in long duration claims is likely to be the various Court decisions mentioned earlier which have effectively expanded access to permanent impairment payments. In this regard, it is important to note that, unlike MRCA, there is no limit on the total amount which can be paid to compensate for permanent impairment.

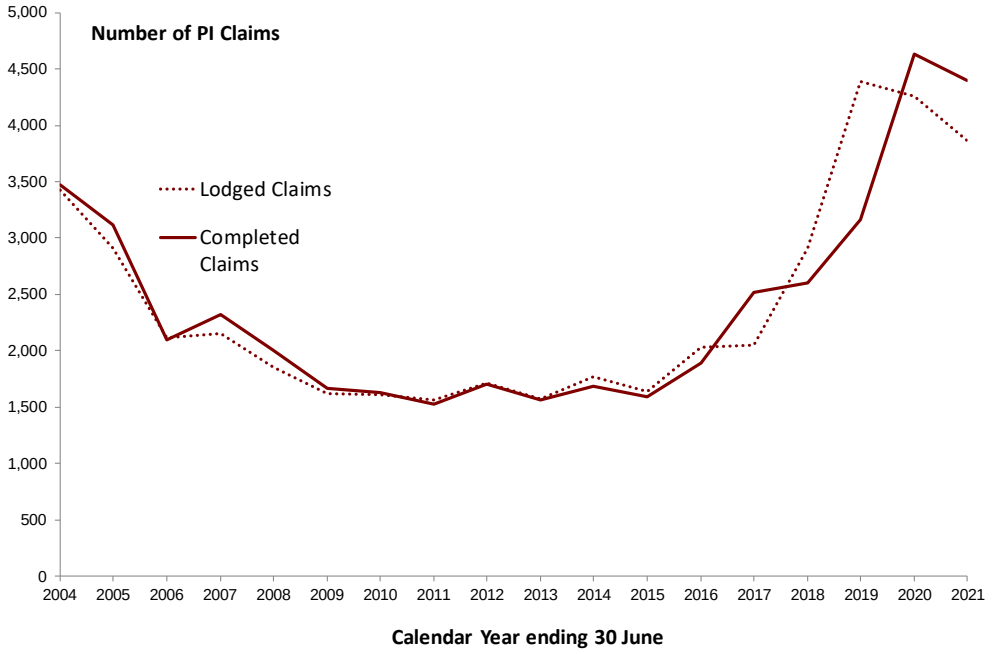
9.2.5 The impact of the increasing numbers of claims is magnified by the substantial increase in the size of payments made in respect of these claims, as shown in Figure 9.3.

Figure 9.3: Average size of DRCA permanent impairment payments



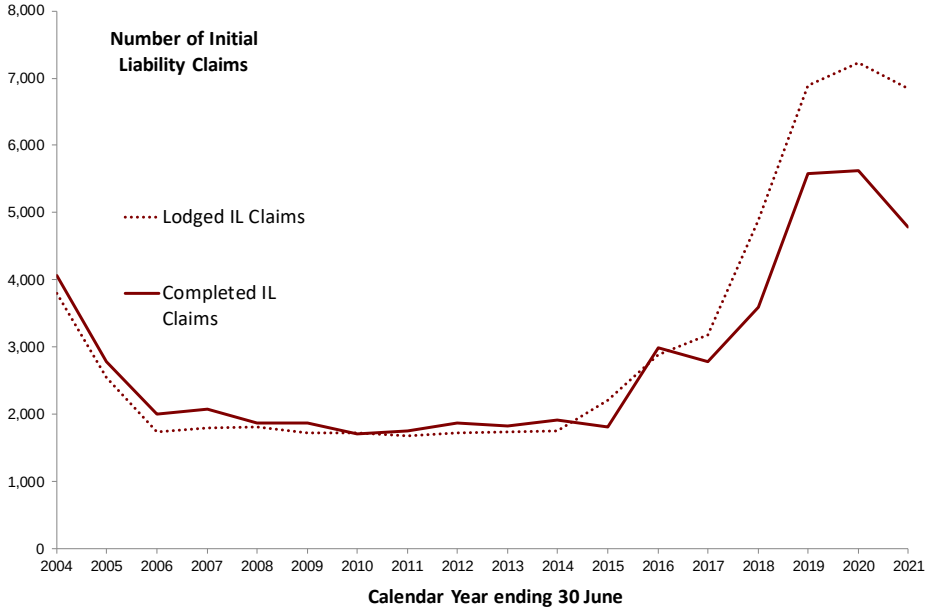
9.2.6 The average sizes of PI lump sums increased relatively slowly prior to closure of the scheme. However, since that time average payments trended strongly upwards, stabilising temporarily over the three years from 2015 to 2017. From 2017 to 2021 the average size increased year on year. Overall, the annual growth rate has averaged around 8% per annum since 2006. It might be expected that if claim numbers are growing more quickly that the growth in average payments might slow, since this might suggest more claims are being received from those with a relatively lower level of impairment. However, the recent growth in average payments suggests that the most recent claimants might also be presenting with higher severity injuries or number of injuries.

Figure 9.4 Lodged and completed claims



9.2.7 Although claims lodged in the most recent year appears to have stabilised, it is clear from Figure 10.64 above that there still remains a number of unprocessed DRCA PI claims.

Figure 9.5 Lodged and completed IL claims

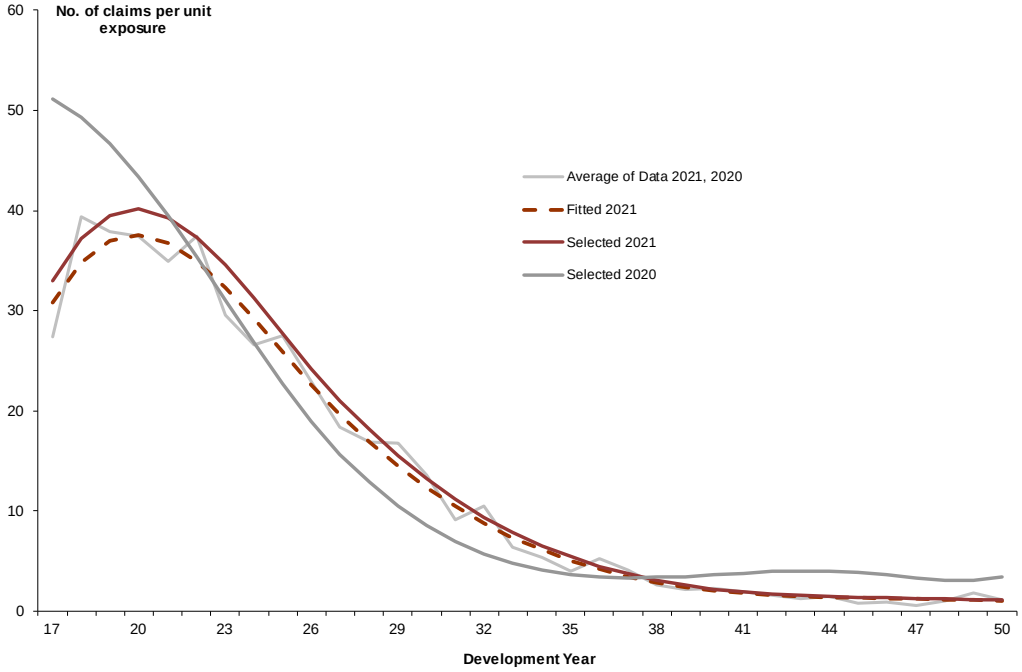


9.2.8 Similar to PI claims, initial liability claims also exhibit a material backlog in recent years due to limitations in processing capacity. As a significant proportion of initial liability claimants eventually claim for PI, it is important we provision for the initial liability backlog as well. We analysed historical transitions from initial liability lodgement to accepted PI claim to estimate the emergence of accepted PI claims that could arise from the current initial liability backlog.

9.2.9 The above shows the increase to the claims backlog as a result of sustained high levels of incoming lodged claims and limitations to processing capacity within DVA. As such, expected claims using only information from paid claims will not reflect potential future claims coming through. Last year, we increased our ultimate number of expected claims to account for the existing backlog of unprocessed initial liability and PI claims. Recently however, the PI processing rate has increased and exceeded lodgements for the past two years. We expect at this rate, delegates will keep up with future incoming claims and clear the existing backlog. However, there remains an initial liability backlog, which we account for by increasing the ultimate number of claims by 7% based on historical transition and acceptance rates from initial liability to PI claims. We have not made any explicit assumptions as to the timing of when increased processing capacity might occur but note that should the current level of lodgements continue, the level of processing must increase from current levels in order to keep pace.

9.2.10 Figure 9.4 shows the raw figures on the number of permanent impairment claims per unit exposure, the fitted rates, the selected rates, and the rates adopted for the 2020 valuation. We have set our assumptions for the current valuation in line with experience over the 2020 and 2021 calendar years.

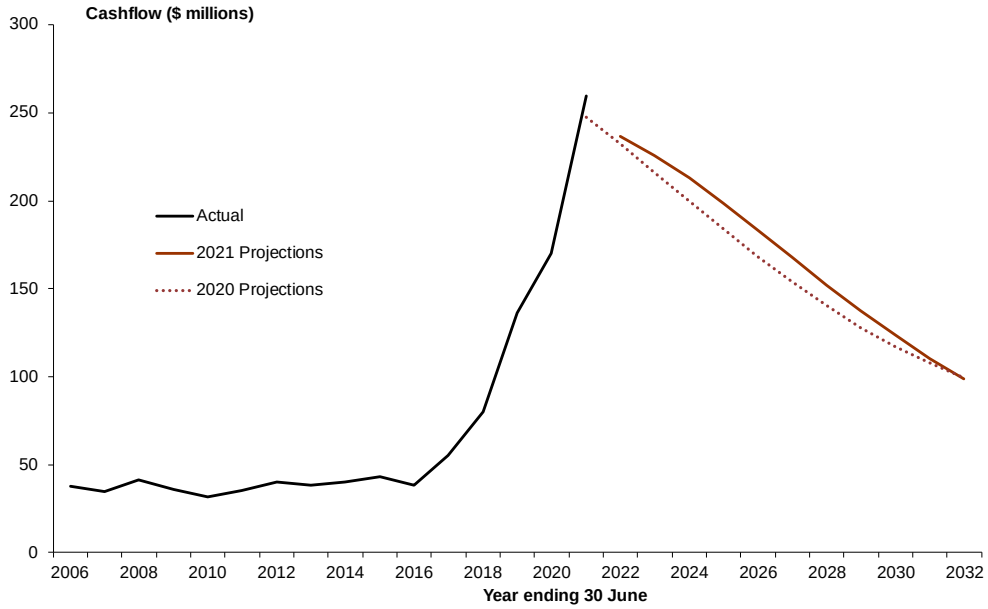
Figure 9.4: Number of claims per unit of exposure – DRCA permanent impairment claims



9.2.11 As in 2020, we have adopted a combined average claim amount which covers both permanent impairment and non-economic loss payments. We have retained the single rate of $84,000, inflated from the 2020 valuation. While, in theory, these payments are indexed in line with the CPI, in practice, the average payment has increased by more than double this index over the last 15 years. As such, we have retained the 2020 assumption that average claims will increase by 5% per annum in the long term.

9.2.12 Figure 9.5 shows the historic and projected cashflows for DRCA permanent impairment payments resulting from these assumptions. Aggregate payment data to the end of March 2022 ($167m) suggests the current projection is not unreasonable. As there remains uncertainty over the timing and quantum of future departmental funding levels, we have also provided additional scenario analysis in section 20 to show the impact on the liability should the level of claims be different over future years.

Figure 9.5: Historic and projected DRCA permanent impairment payments



9.3 Liability Estimate

9.3.1 Table 9.1 shows the outstanding liability at 30 June 2021 in respect of permanent impairment and non-economic loss claim payments broken down by year of accident. The total estimated liability for DRCA claims is $1,803.8m.

Table 9.1: Outstanding claims liability for permanent impairment and non-economic loss claims by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
1979 and before	28.5
1980 – 1984	55.7
1985 – 1989	117.8
1990 – 1994	258.1
1995 – 1999	490.4
2000 – 2004	853.4
Total	**1,803.8**
Expected at 30/06/2021	*1,895.0*
Total (30/06/2020)	**2,046.2**

9.3.2 The 2020 valuation projected that the DRCA liability as at 30 June 2021 would be $1,895.0m. This is around $91m higher, reflecting a small decrease to the claim rate assumption.

9.3.3 Table 9.2 reconciles the liability estimate with the corresponding estimate at the previous valuation.

Table 9.2: Reconciliation of liability for permanent impairment payments

	$m
Liability estimate at 30/06/20 (previous report)	**2,046.2**
Assumed Interest	96.2
Projected Payments	(247.4)
Notional Premium	0.0
Projected liability as at 30 June 2021 (previous valuation)	1,895.0
Experience effects and assumption changes	
difference between actual and projected payments	(27.2)
change in claim rate	(113.8)
other adjustments	49.8
Current Estimate	**1,745.1**

10 Valuing Non-Incapacity Benefits – MRCA Permanent Impairment

10.1 Modelling Approach

10.1.1 Under MRCA, the default entitlement in compensation for a permanent impairment is an income stream which can be converted to an age-related lump sum (reflecting the duration for which the income stream would have been expected to be paid). A small but significant number of MRCA PI payments are being taken as an income stream. We, therefore, model claimants and allow for a proportion of benefits to be paid as an income stream.

10.1.2 The amount of benefit payable depends upon a number of factors:

- the age of the claimant;
- the assessed impairment points;
- the lifestyle rating; and
- whether the incident giving rise to the impairment was related to warlike service or not.

10.1.3 Since 2013, we have been able to examine the distribution of claim severity. This is done separately for warlike/non-warlike claims and peacetime claims. For the current valuation, we have looked more closely at the distribution of impairment points. This showed clear evidence of consistent peaks in the distribution. The most obvious of these is at 5 impairment points, the minimum number of points required to receive a PI payment. A pronounced peak is also seen at 51 impairment points. Achieving an assessment of at least 50 impairment points brings with it a number of benefits; notably access to the Gold Card (which covers all health care costs, not just those related to the compensable injury), entitlement to the Special Rate Disability Pension and reimbursement of expenses for financial and legal advice to assist in making a choice between receiving PI compensation in the form of a lump sum or continuing periodic payments.

10.1.4 In setting assumptions regarding the severity distributions for the current valuation, we have had regard to these features in the data. We have examined the distribution of impairment points over time and have seen a shift in the proportion of claims at higher impairment point scores in recent years. As such,

we have used the most recent 3 years of experience to set the severity distribution at this valuation.

10.1.5 There is continuing evidence that the MRCA PI experience is markedly different from the DRCA experience prior to closure. As in 2020, we have continued to give more credibility to the MRCA data in setting assumptions.

10.1.6 Setting an assumption regarding the mix of warlike and peacetime claims remains challenging in the absence of reliable data on accident year for PI claims. For the current year, we have used data from the case file for initial liability claims to come up with an approximate mix of claims by accident year. This is intended to account for period-specific changes in operational tempo.

10.1.7 Increases in MRCA PI outlays since 2017 have been particularly marked, with payments approximately doubling year on year from 2016-17 to 2018-19. The recent growth in experience can, in part, be attributed to significant administrative and cultural changes within DVA. The growth in outlays appears to have slowed in more recent years, increasing only 24% and 5% for 2019 to 2020 and 2020 to 2021 respectively. Early data from 2021-22 suggests this trend will continue, with aggregate outlays indicating full year expenditure could reach $1,002m. Although this suggests some slowing of growth, it does not fully reflect the underlying claims experience as there exists a large number of unprocessed PI and initial liability claims. The slowed growth is thus more likely a result of limited processing capacity than a change in underlying experience. As with DRCA PI, we have made an allowance for this backlog of claims in our assumptions.

10.1.8 We note that there is considerable uncertainty surrounding the transition of initial liability claims into PI claims. We have used historic data to set transition assumptions between initial liability and PI claims, acceptance rates, and timing delays between when an initial liability is lodged to when a PI claim is paid. Under the MRCA scheme, claims are assessed on a whole person injury basis. As such, where a veteran has multiple injuries and multiple claims, it is not possible to determine which of the injuries led to a specific PI claim from our data. We have assumed in this scenario, that all injuries prior to the PI claim have contributed to the claim. Due to the uncertainty around these assumptions, we have provided additional scenarios in section 20 to highlight potential outcomes should experience differ from expected.

10.1.9 The administrative changes made within DVA have increased the accessibility of services and benefits to the veteran community and policy initiatives such

as Veteran Centric Reform have encouraged veterans to claim earlier for DVA benefits and increased awareness of these benefits amongst existing ADF members and the veteran population. This may have a short term effect in bringing forward claimants who may otherwise have claimed for a benefit in later years and captured existing veterans who may have faced barriers to claiming in previous years. The exact impact of these changes will not be known for a number of years and there is currently not enough data to help determine what the magnitude or length of the impact could be.

10.1.10 A key uncertainty in determining the level of claims for PI is the level of exposure, that is, the total population of existing veterans and serving ADF personnel who may eventually make a claim. We currently have data relating to the number of active personnel in each year but this encompasses the entire active force. To allow for more nuanced analysis, information regarding the number of people injured and the type of injuries incurred could provide a more robust picture of the exposure as it would provide visibility on the upper limit of claimants likely to arise from a particular accident year.

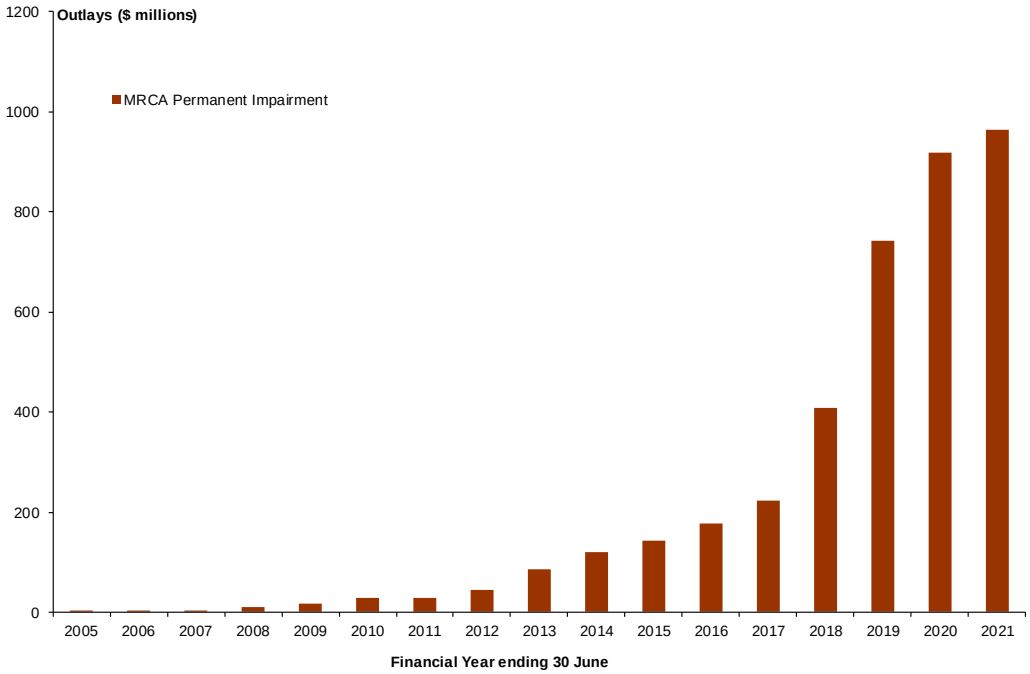
10.1.11 Claims also arise from the existing population of veterans who may have separated from Defence a number of years ago and where the severity of injuries has increased with time. Improved access to DVA services and greater awareness of benefits might be influencing the propensity of these veterans to make a claim and potentially claiming earlier than they otherwise would have. Information regarding discharges and the likely total veteran population may be useful in helping to narrow the exposure for claimants from the existing veteran population who might make a PI claim in future and provide an upper limit to the number of potential claimants likely to emerge over time from this cohort. We have included additional scenario analysis in section 20 of the report to explore potential outcomes under different exposure scenarios.

10.2 Recent Experience and Valuation Assumptions

10.2.1 Figure 10.1 shows expenditure on permanent impairment payments since the inception of MRCA. It can be seen that there were virtually no payments in the first two years of operation of the scheme and that even for the following five years, outlays increased only slowly. Over the past six years, however, payments have increased more than sevenfold. Outlays for MRCA PI approximately doubled year on year from 2017 to 2019, driven primarily by an increase in the number of claimants. Expenditure has continued to increase since, but not to the same magnitude as seen in previous years. Again, this is

likely a result of limitations to DVA's processing capacity than a reflection of underlying claims experience.

Figure 10.1: Expenditure on permanent impairment payments



10.2.2 The significant increases have been driven by both an increase in claimant numbers and an increase in the average payment amount. Figure 10.2 shows the number of claimants by the type of payment while Figure 10.3 shows the average lump sum payment for those electing to receive only a lump sum.

Figure 10.2: Number of MRCA claimants by type of payment

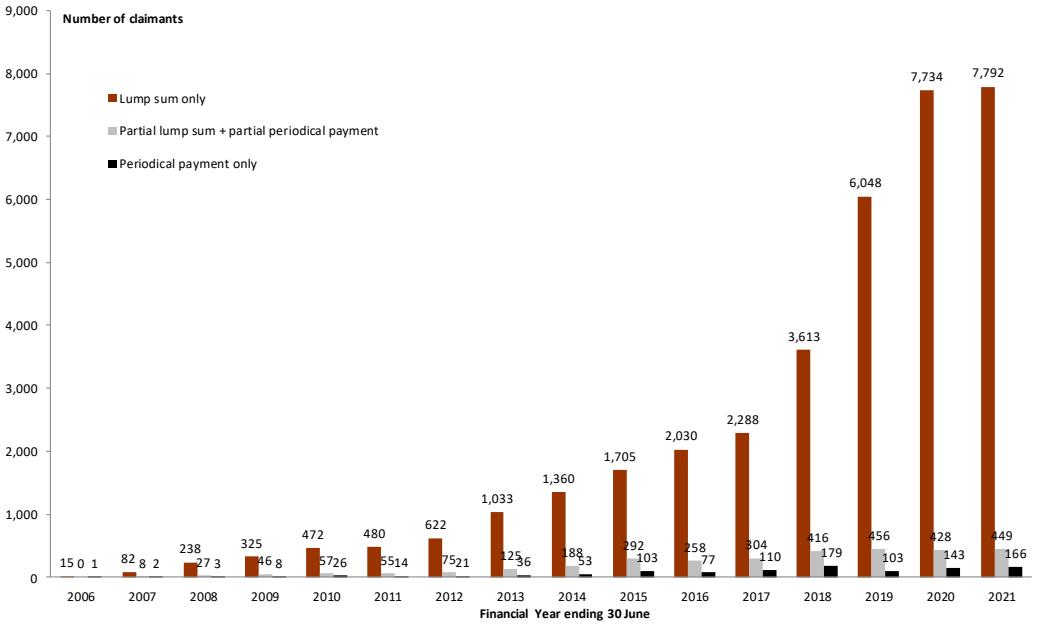
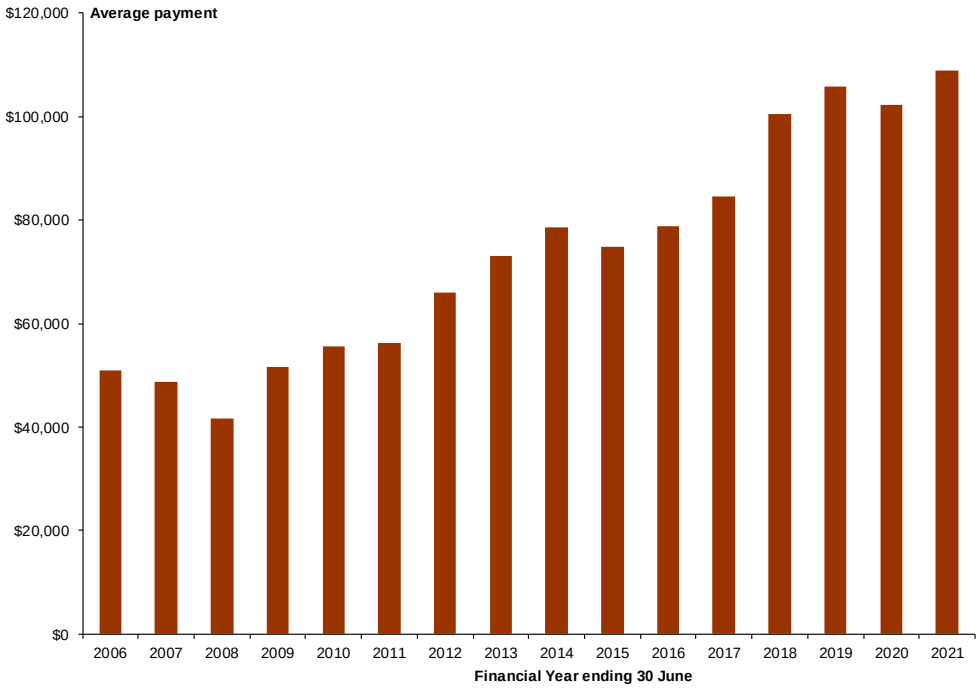


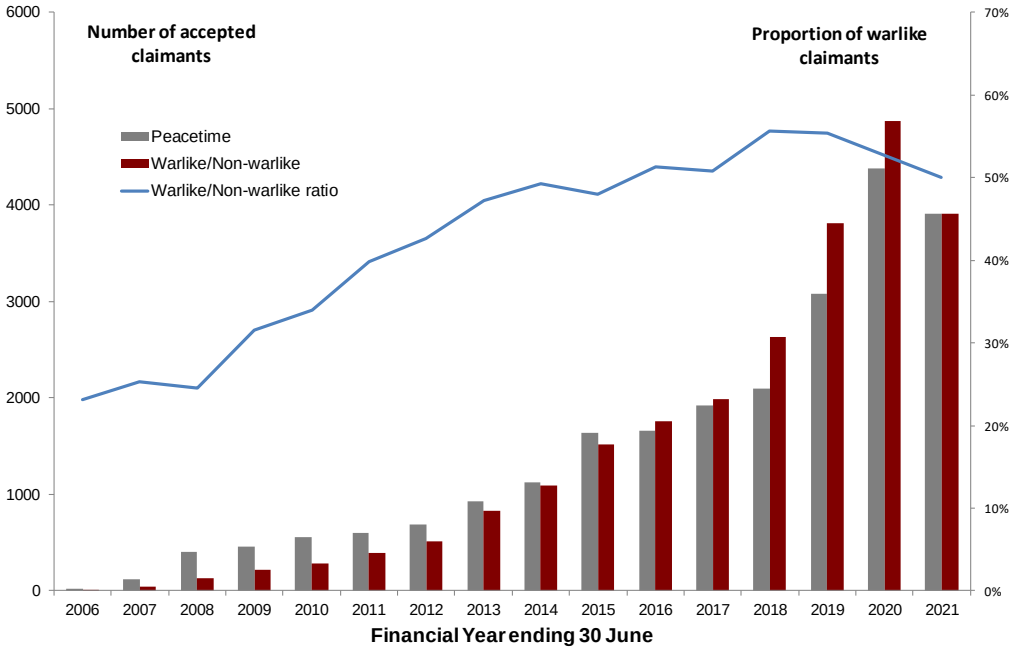
Figure 10.3: Average lump sum payment



10.2.1 The increase in the average amount over most of this period has been in part the result of a change in the mix of warlike and peacetime claims as shown in Figure 10.4. Note that in most cases it is not possible to unambiguously identify whether a claim is related to warlike or peacetime service. In previous years, we classified a claim's service type based on the service type associated with that claimant's latest injury. This year, we have assumed warlike service if a claimant sustains injuries during both wartime and peacetime service. This approach was adopted to be consistent with the wholistic injury assessment used in the PI claims process.

10.2.2 While the number of both types of claims has grown substantially over the period since 2011, growth has been greater for claims associated with warlike service. The proportion of warlike claims has steadily increased since the inception of MRCA. More recently however, the proportion of warlike claims appears to have stabilised.

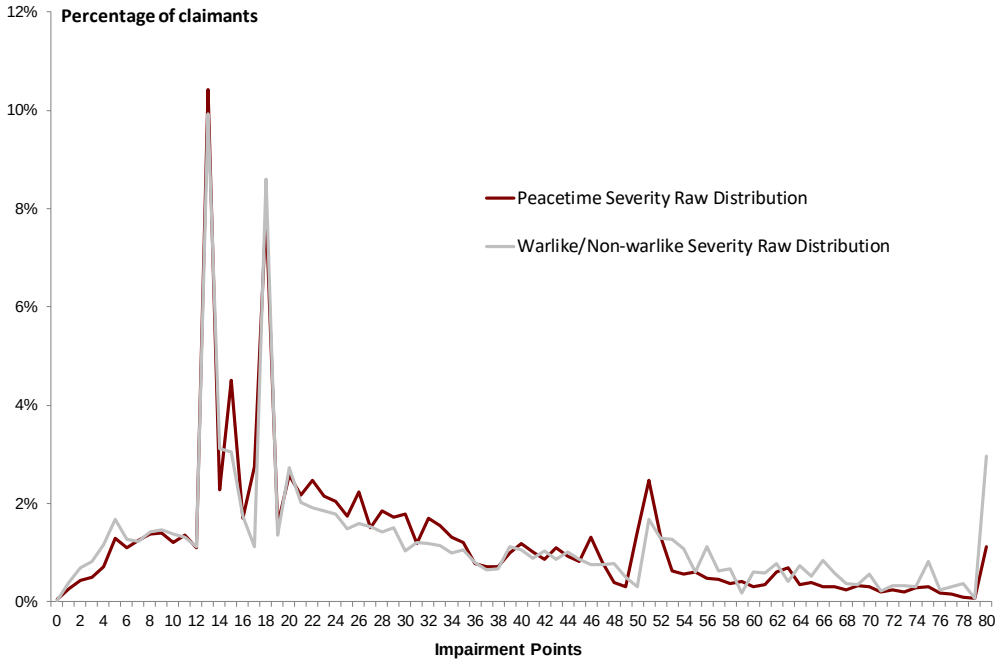
Figure 10.4: Number of recipients by nature of service



10.2.3 Claims arising from warlike service typically involve higher payments not just because the factors applying for a particular severity level are higher under the legislation, but also because the distribution of severity is quite different, as shown in Figure 10.5. It can be seen that the warlike service claims are more concentrated at the higher levels of severity. For example, over the last two

calendar years 21% of warlike service claims have 50 or more impairment points, while only 16% of peacetime claims fall into this category.

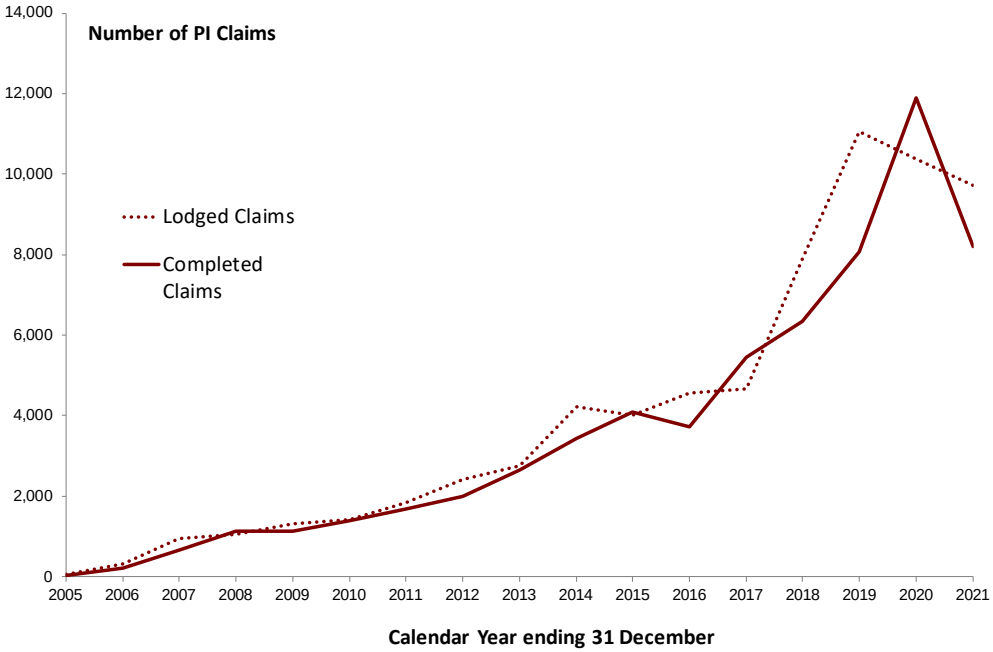
Figure 10.5: Comparison of claim severity distribution for warlike and peacetime claims – 2020-2021 raw data



10.2.4 The generally higher severity of claims relating to warlike service translates into higher average payments for these claims. In combination with the changing mix of claims, this has led to the average overall claim size growing by 5% per annum on average since 2006. Note however the average lump sum has only increased 3% per annum over the past 4 years. This is likely a result of the recent stabilising of both the proportion of wartime recipients and severity of injury of a typical recipient.

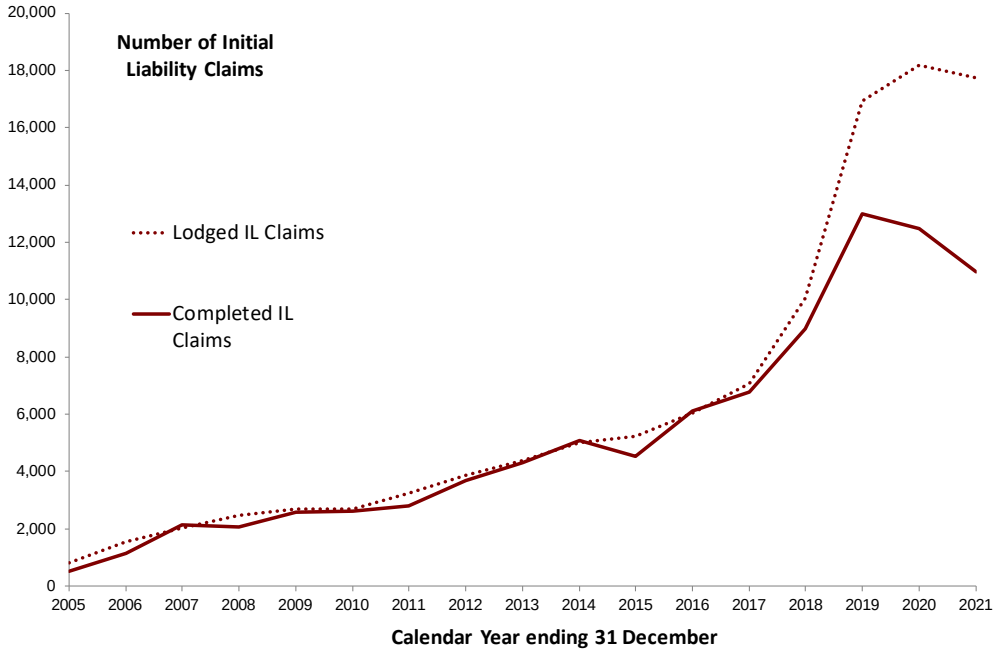
10.2.5 In projecting future payments, we need to set assumptions on the numbers of claims, the mix of warlike and peacetime service related claims (with allowance for this to change over time), the severity distribution for each type of claim, the age distribution of claimants and the rate of future growth in payments. In setting assumptions for MRCA, we have historically based the claim rates for the early development years on the MRCA experience and blended this into rates derived from DRCA experience for the longer development years. We have continued to blend DRCA experience for development periods where none is available for MRCA.

Figure 10.6: Lodged and completed claims



10.2.6 Although claims lodged in the most recent year appears to have stabilised, it is clear from Figure 10.6 above that there remains a number of unprocessed MRCA PI claims in the backlog.

Figure 10.7: Lodged and Completed IL Claims



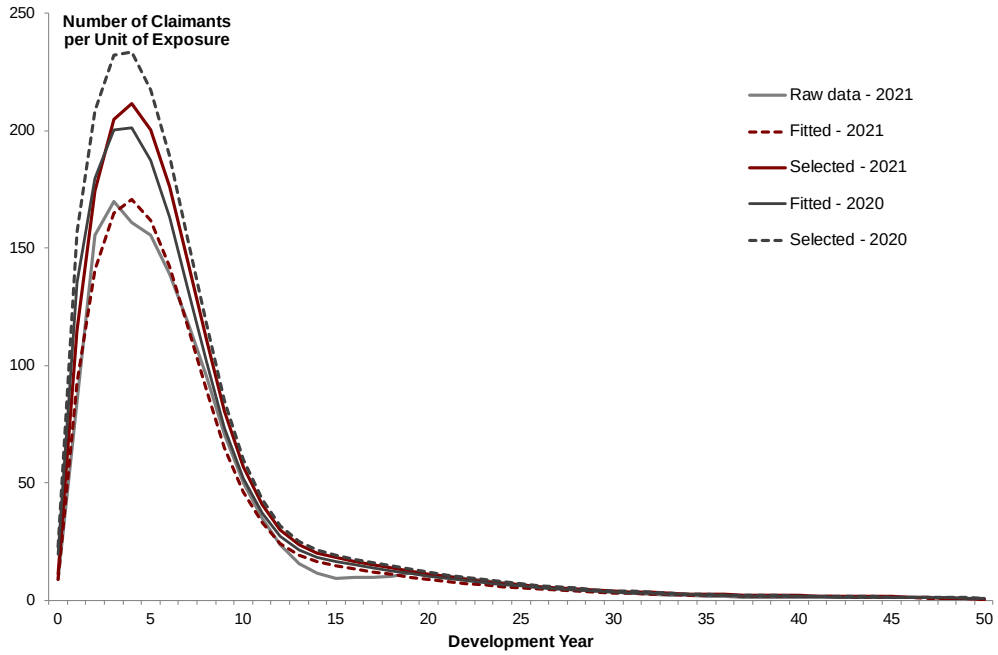
10.2.7 Similar to PI claims, initial liability claims also exhibit a material backlog in recent years due to limitations in processing capacity. As a large portion of IL claimants eventually claim for PI, it is important we provision for the initial liability backlog as well. We analysed historical transitions from initial liability lodgement to accepted PI claim to estimate the emergence of accepted PI claims that could arise from the current initial liability backlog.

10.2.8 We have explicitly provisioned for both the PI and initial liability backlogs by increasing our ultimate claim assumption by 24% and adjusting for clearance of the existing backlog of PI claims. This reflects the claims rate had processing capacity met both the level of lodged PI and initial liability claims over recent years. Based on aggregate data to 31 March 2022, it appears unlikely processing capacity will increase significantly in the short term. We have accounted for this by capturing the timing of increased processing capacity, based on advice provided by DVA. We note that the level of future cashflows will be influenced by the level of processing capacity available and the level of future claims experience. We currently do not have detailed insight into the future administrative funding available to the Department but have increased the expected future claims such that processing is kept up with expected lodgements in the long term. Should this not be the case going forward, there will continue to be a build-up of unprocessed claims leading to further growth

in the backlog. We have provided additional scenarios in section 20 to show the impact on the liability should the level of future lodged claims differ to that expected.

10.2.9 Figure 10.8 below shows the resulting assumptions over the full range of development years.

Figure 10.8: Assumed number of claimants per unit of exposure



10.2.10 The heightened level of outlays in MRCA PI is primarily driven by a significant increase in the number of claimants over recent years. There are several factors which may be driving this experience, including policy and cultural changes within the organisation, or an increase in the level of injuries sustained by claimants while at Defence. Examining the number of PI claims lodged show that the number of claims has stabilised in the latest year, suggesting the impact of these changes might be reaching a stable level. However, processing capacity has not kept in line with the level of lodged claims, resulting in a significant backlog of unprocessed MRCA PI claims and expenditure that does not fully represent the most recent underlying experience. It is difficult to know at this stage what potential processing capacity might be going forward. We will continue to monitor the emerging experience in MRCA PI in conjunction with discussions with DVA policy areas and review the assumptions at each future valuation.

10.2.11 As in the previous valuation, we have used the data available on the initial liability case file to determine the mix of warlike and peacetime claims by accident year. There are considerably more claims for initial liability than PI payments and so there is not necessarily a direct correspondence between the two measures. Nonetheless, the proportions derived from the initial liability file do not appear unreasonable when compared against the PI payment data.

10.2.12 For the current valuation, we have assumed that the proportion of warlike claims will reach a maximum in the 2020-21 payment year before declining. This might appear inconsistent with the reduced deployment opportunities since 2013-14, but it needs to be remembered that for some psychological conditions, what is reported as the date of accident is in fact date of diagnosis and thus can be some time after the events which gave rise to the condition. Furthermore, there are a range of on-going operations which have been determined to be warlike or non-warlike for the purposes of determining entitlements under MRCA. It is thus possible that the proportion could be sustained at a higher level for an extended period, if not indefinitely.

10.2.13 As discussed above, we have looked at the severity distributions for warlike and peacetime service by individual impairment point ratings. Over the last 10 years, there has been a shift in the distribution of impairment points for both warlike/non-warlike and peacetime claims which have contributed to the increase in average payment size. As in the previous valuation, we have used more recent experience to set the distributions of claim severity for both warlike/non-warlike and peacetime claims.

10.2.14 Figure 10.9 shows the raw and fitted rates for warlike service and Figure 10.10 shows the corresponding figures for peacetime service.

Figure 10.9: Distribution of claim severity for warlike/non-warlike claims

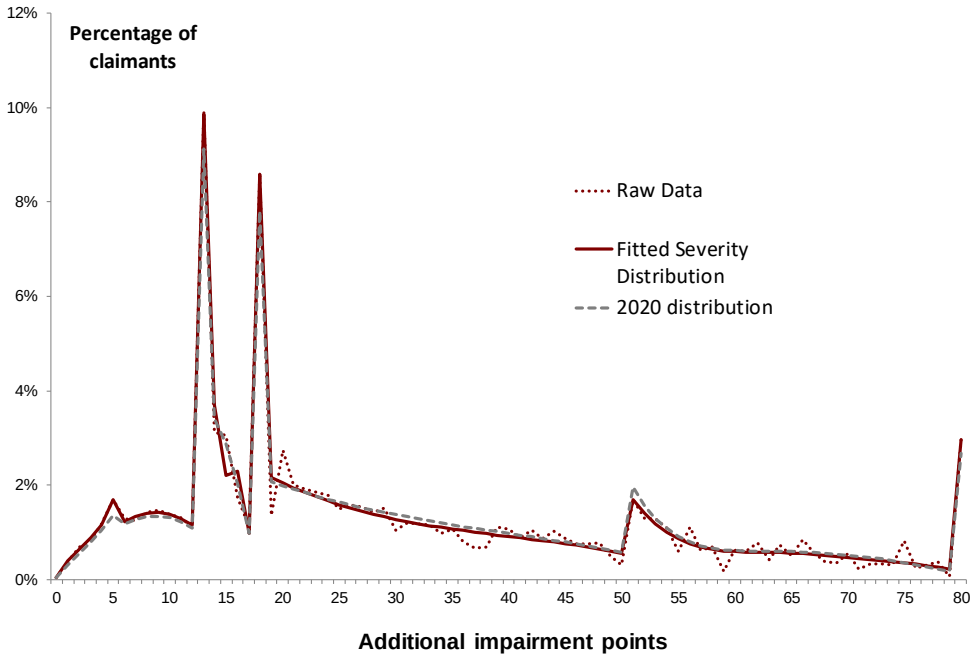
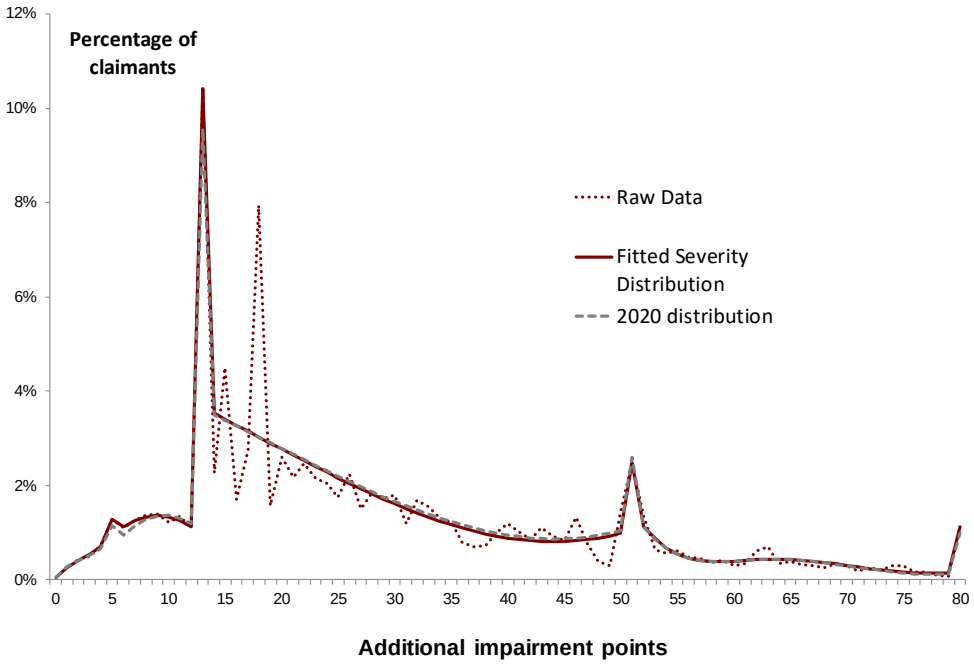


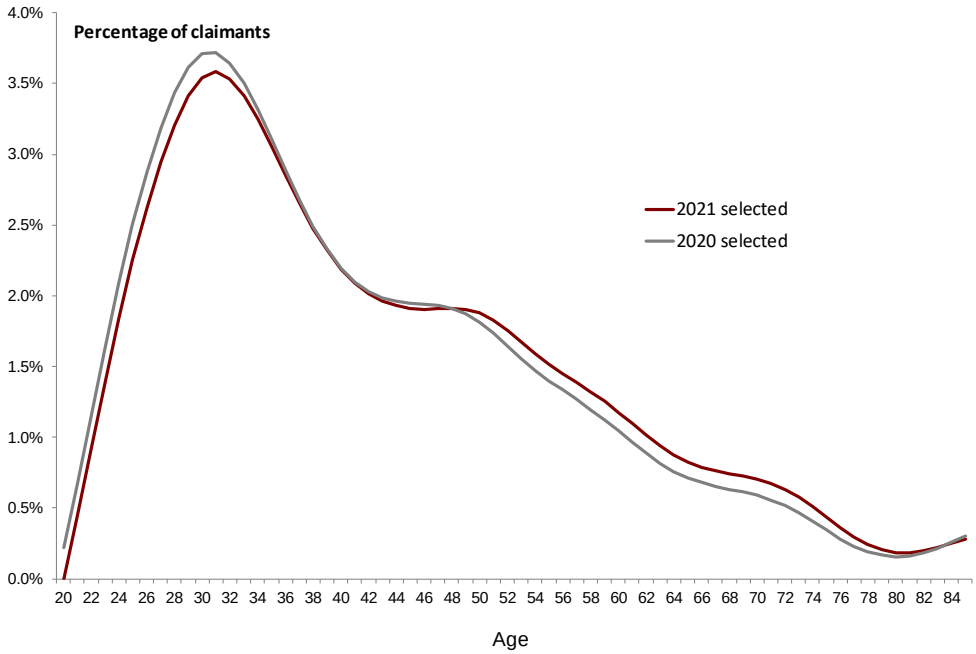
Figure 10.10: Distribution of claim severity for peacetime claims



10.2.15 The claim severity distributions do not appear to depend upon age or gender or the number of claims received.

10.2.16 At present, MRCA claimants are significantly younger than their DRCA counterparts. Over time, it could be expected that there will be an increase in the proportion of older claimants and a corresponding decrease in the proportion of younger claimants. In order to model what this longer term profile might look like, we looked at combined MRCA and DRCA experience. The age distribution derived from this combined experience was used as the long-term distribution to which MRCA would trend over the next 15 years. Figure 10.11 below shows the selected distribution in 2021.

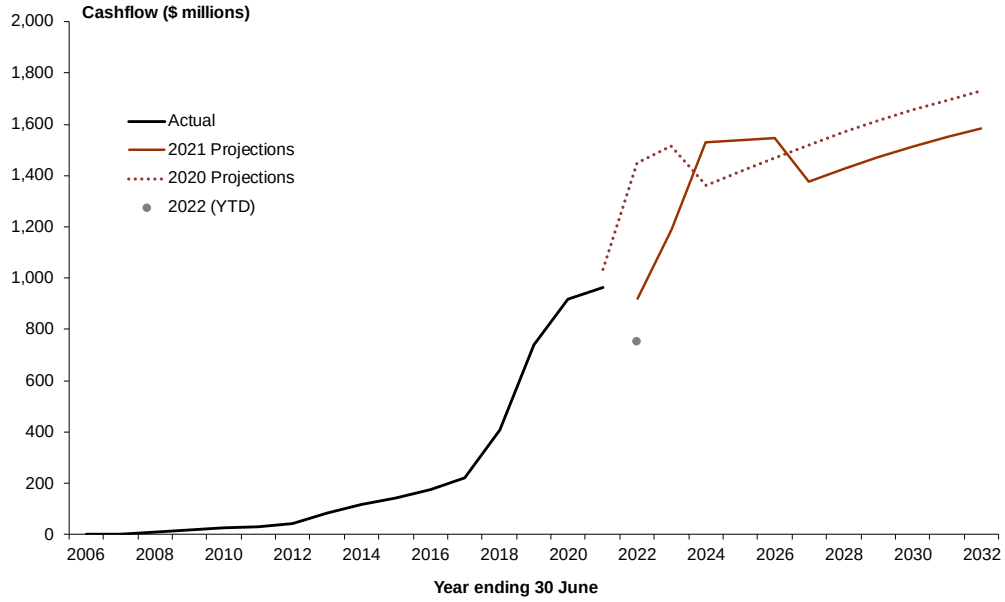
Figure 10.11: Ultimate age distribution of PI claimants



10.2.17 Under MRCA, rates of payment for permanent impairment at a given level of impairment are indexed in line with the CPI. Given that the historical growth in average claim size has been driven by the mix of warlike/non-warlike and peacetime claims, which we explicitly allow for in our modelling process, and the relative stability in the severity distributions in recent years, we have assumed that the underlying payment rates to which the severity distributions will apply will increase by 2.5 per cent per annum, that is, the midpoint of the Reserve Bank of Australia target range for inflation. This is the same as the rate assumed in the 2020 valuation.

10.2.18 Figure 10.12 shows the historical and projected cashflows for MRCA permanent impairment payments generated by these assumptions. The changes are primarily driven by the assumed claims rate.

Figure 10.12: Historic and projected MRCA permanent impairment payments



10.2.19 The rate of growth in total expenditure in recent years is lower, largely due to processing limitations within DVA which impact the timing of expected future cashflows. We expect payments from 2022-23 to increase to account for the current backlog of claims and the high levels of lodged claims in recent experience but it is important to note that there is uncertainty around the timing of when this might occur. However, it is important to note that should experience continue at current levels, the current processing capacity will mean an increase to the backlog of claims year on year.

10.3 Liability Estimate

10.3.1 Table 10.1 shows the outstanding liability at 30 June 2021 in respect of permanent impairment claim payments broken down by year of accident.

Table 10.1: Outstanding claims liability for permanent impairment claims by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
2005	79.8
2006	86.3

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
2007	96.6
2008	110.4
2009	128.5
2010	150.6
2011	180.2
2012	214.3
2013	258.5
2014	330.2
2015	426.3
2016	549.8
2017	690.9
2018	833.1
2019	971.9
2020	1,082.5
2021	1,161.4
Total	**7,351.3**
Expected at 30/06/2019	*7,755.2*
Total (30/06/2018)	**7,184.2**

10.3.2 The 2020 review projected that the MRCA liability as at 30 June 2021 would be $7,755.2m. The current estimate is $7,351.4m, which is $403.8m lower than expected and reflects changes to the claims rate from the last valuation.

10.3.3 Table 10.2 reconciles the liability estimate for PI payments with the corresponding estimate at the previous valuation.

Table 10.2: Reconciliation of liability for permanent impairment payments

	$m
Liability estimate at 30/06/19 (previous report)	**7,184.2**
Assumed Interest	364.3
Projected Payments	(1,033.4)
Notional Premium	1,240.0
Projected liability as at 30 June 2020 (previous valuation)	7,755.2
Experience effects and assumption changes	
difference in actual and projected payments	(119.6)
adjust wartime ratio	72.9
change in claims rate	(506.1)
other adjustments	149.0
Current Estimate	**7,351.3**

11 Valuing Non-Incapacity Benefits – DRCA Medical Costs

11.1 Modelling Approach

11.1.1 Serving ADF personnel are entitled to medical treatment provided by ADF health services. Thus, DVA typically only becomes involved in providing medical services at the time an individual is discharged. An exception applies for reservists whose health care costs related to a compensable injury will be covered by DVA. For non-reservists, however, the existence of a medical expenditure transaction indicates that the individual concerned has been discharged. Given this feature, it is reasonable to conclude that all future costs in relation to medical services for non-reservists have been accrued at the time the first transaction arises.

11.1.2 For DRCA, by definition, all incidents giving rise to medical expenditure have already occurred. Accident dates after the closure of DRCA can occasionally be present in the data. This tends to occur where a specific date cannot be determined and instead the date of diagnosis is recorded. In reality, however, to be compensable the condition must have been caused by ADF service, which, in turn, must have occurred prior to 1 July 2004 for a DRCA claim. To account for this, we exclude active claims with a reported year of accident after 30 June 2004 from this analysis and adjust the results to allow for the additional cashflows arising from this group.

11.1.3 Note that, as in 2020, we have not included those receiving only pharmaceutical benefits in the claimant population, but instead applied a loading to projected non-pharmaceutical cashflows in line with the historical relationship between the two components of expenditure. For the current review, a loading of 25% has been applied.

11.1.4 In previous years, we have attempted to identify claimants who have been severely injured and are expected to have exceptionally large payments under the medical head of damage over an extended period; we called this group 'Big Medical'. Payments to these claimants typically amounted to around 20 to 25 per cent of total expenditure and would be valued separately. For the current review, we are unable to identify any DRCA medical claimants that could be classified as 'Big Medical'. DVA has informed us that this may not be due to a genuine reduction in expenditure but rather an administrative reclassification of payments for these claimants to attendant care and

household services payments. As we are unable to identify any potential DRCA 'Big Medical' claimants, the distinction has been retired at this valuation.

11.1.5 For all medical payments under DRCA, we have retained the approach used in the last four years, which models the number of active claimants by accident year by applying a rate of attrition to the current number of active claimants. We explicitly allow for mortality by applying age-based mortality rates to the active population aged 75 or more.

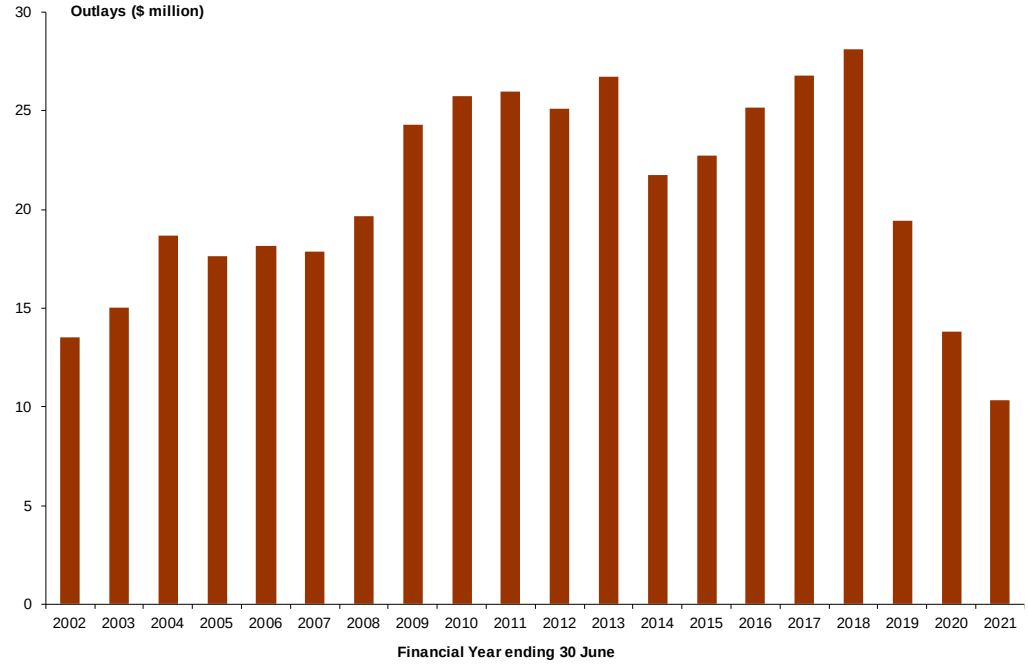
11.1.6 The experience is now being perceptibly affected by the introduction of health care cards for DRCA claimants and the hierarchy which exists in relation to these cards. Specifically, where a client has been issued with a health card and has entitlements under both DRCA and MRCA, any medical expenditure will become a liability under MRCA and the individual will not appear as an active DRCA claimant. This has no effect on the earlier cohorts since they will have completed their service well before the transition to MRCA. For later cohorts, however, there are significant numbers of claimants with an entitlement under both schemes and the sharp drop-off observed for the more recent cohorts reflects the fact that such claimants will be classified as MRCA recipients.

11.1.7 We have not attempted to model this transition between schemes and this will lead to some outlays which we project as occurring under DRCA actually being made under MRCA. It is therefore important to consider the outcomes for this head of damage in aggregate across both schemes.

11.2 Recent Experience and Valuation Assumptions

11.2.1 Figure 11.1 shows the annual expenditure on DRCA medical payments over recent years. It can be seen that, after a period of growth, annual expenditure stabilised at around $25m in 2010. This stability in experience was disrupted by the introduction of health care cards for DRCA claimants in 2013 and the associated transition of medical expenses to MRCA for those with claims under both Acts. There was an immediate decline in DRCA outlays in 2013-14, however outlays increased over the next 4 years, reaching the highest point of $28m in 2017-18. The effect of the policy change appears to materialise thereafter, with outlays declining since, reaching its lowest of $10m in the latest financial year.

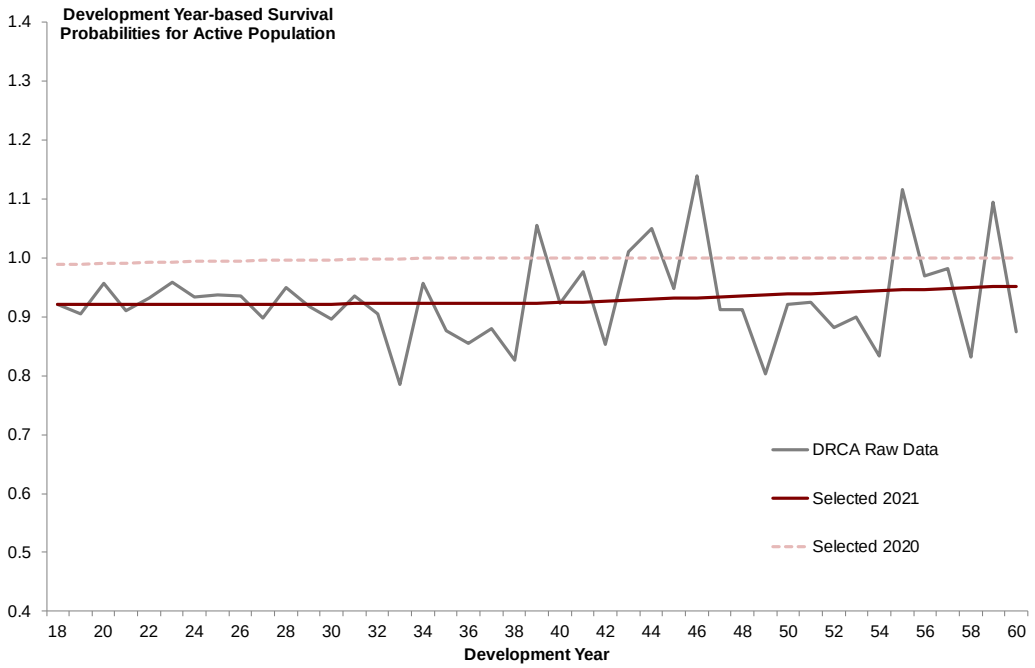
Figure 11.1: Expenditure on DRCA medical payments



11.2.2 To project the number of active claimants, we apply a rate of attrition to the current number of active claims. We use development year-based attrition rates based on DRCA experience until age 75 with any subsequent attrition being the result of mortality. The intuition behind this assumption is that the entitlement for coverage of medical costs associated with a compensable condition continues for life and as such we expect limited non-mortality decay in the active population after age 75.

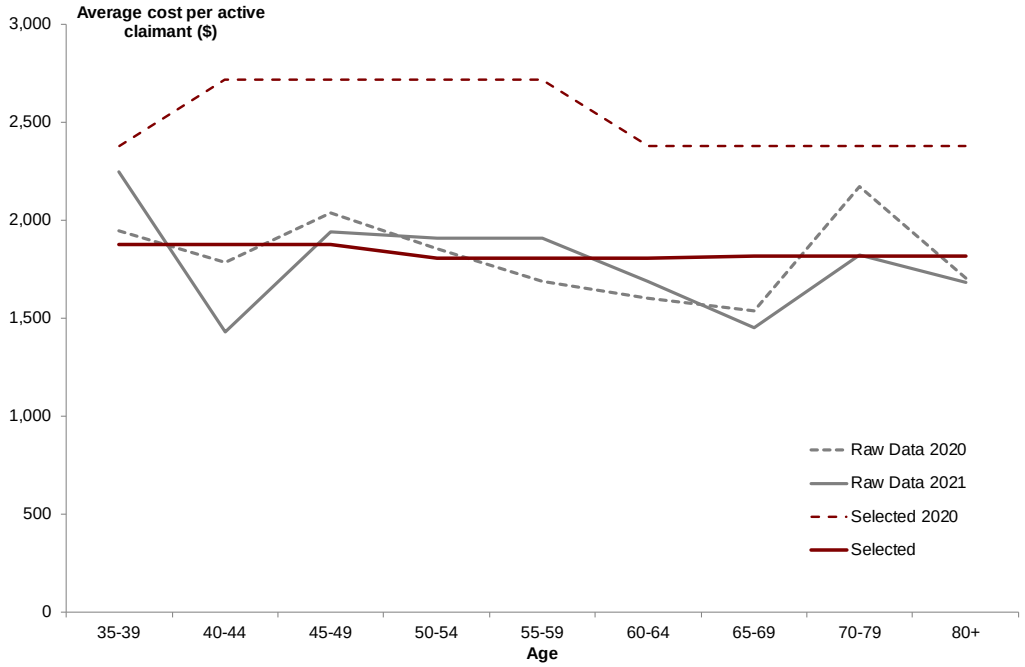
11.2.3 Figure 11. shows the raw data, the assumed development year-based survival probabilities adopted for the current valuation and those assumed in the 2020 valuation. These survival probabilities have been updated to incorporate the most recent experience. As in 2020, the age-based mortality rates for invalidity pensioners from the latest available actuarial review of military superannuation have been applied to the active claimant population from age 75.

Figure 11.2: Assumed survival probabilities for active DRCA medical claims to age 75



11.2.4 Future cashflows are then calculated by multiplying the resulting projections of active claimants by the average cost per active claimant. Figure 11.3 shows the average cost per active claimant by age over the last two calendar years and the selected assumption, together with the assumption adopted in 2020. We have analysed the medical card data and medical reimbursement data together, resulting in a lower average cost per active claimant compared with the 2020 valuation.

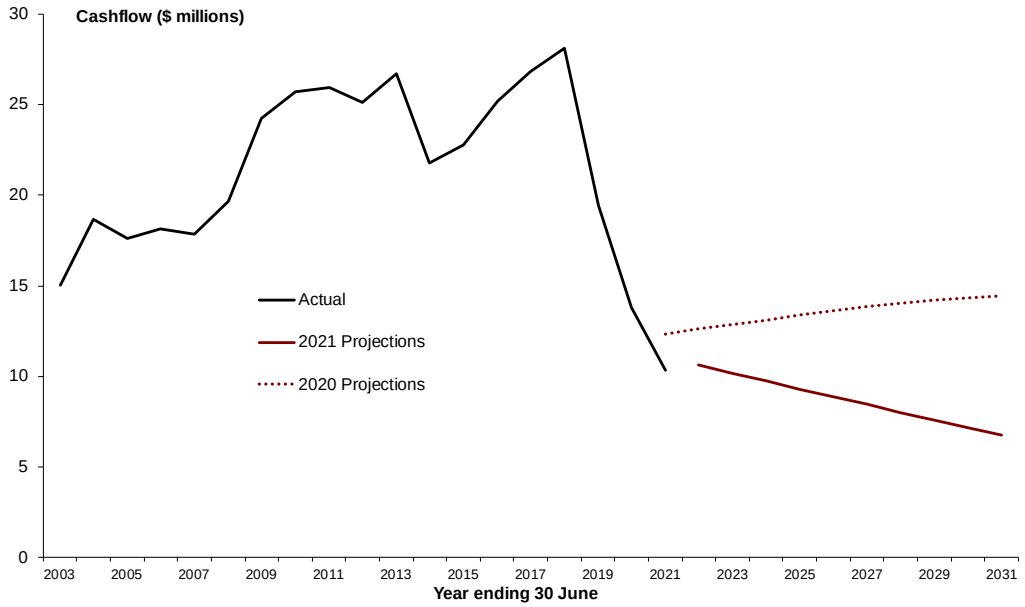
Figure 11.3: Average annual costs per active claimant by age



11.2.5 As in 2020, we have assumed that the average cost per active claimant will increase by 4% per annum in future. This is somewhat higher than the inflation seen over the past few years but we regard it as a reasonable assumption going forward as costs are likely to be largely driven by wages.

11.2.6 Figure 11. shows the historical and projected cashflows for DRCA medical claims. The decrease in projected cashflows compared with the previous review reflects the reduced average size and lower development year-based survival probabilities adopted for the current valuation. Aggregate expenditure data to 31 March 2022 shows total outlays of under $6m in the 9 months to date, suggesting a full year expenditure of around $8m for 2021-22. In light of this, our cashflow projections do not look unreasonable.

Figure 11.4: Historic and projected DRCA medical payments



11.3 Liability Estimate

11.3.1 Table 11.1 shows the estimate of the liability to meet medical costs broken down by year of accident. As noted above, we have treated claims shown with an accident date of after 2004 as having accrued before that date and pro-rated up the observed claims with an accident date prior to closure of the scheme.

Table 11.1: Outstanding claims liability for medical costs by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
1979 and before	11.2
1980 – 1984	5.8
1985 – 1989	11.2
1990 – 1994	22.0
1995 – 1999	31.2
2000 – 2004	24.8
Total	**106.1**
Expected at 30/06/2021	246.2
Total (30/06/2020)	**246.5**

11.3.2 The projected liability as at 30 June 2021 in the 2020 valuation for DRCA medical claims is $246.2m. The liability at the 2021 valuation is $106.1m, which

is $140.1m lower than expected, reflecting the decrease in projected cashflows seen in Figure 11.7. The difference between these two figures is reconciled in Table 11.2.

Table 11.2: Reconciliation of liability for DRCA Medical cost

	$m
Liability estimate as at 30 June 2020 (previous report)	**246.5**
Assumed Interest	12.0
Projected Payments	(12.3)
Notional Premium	0.0
Projected liability as at 30 June 2021 (previous report)	**246.2**
Experience effects and assumption changes	
difference between actual and projected payments	2.0
change in experience	(1.8)
change in year of accident loading	37.2
change in average cost	(75.5)
change in decay rate	(114.7)
change in pharmaceutical loading	12.7
Current Estimate	**106.1**

12 Valuing Non-Incapacity Benefits – MRCA Medical Costs

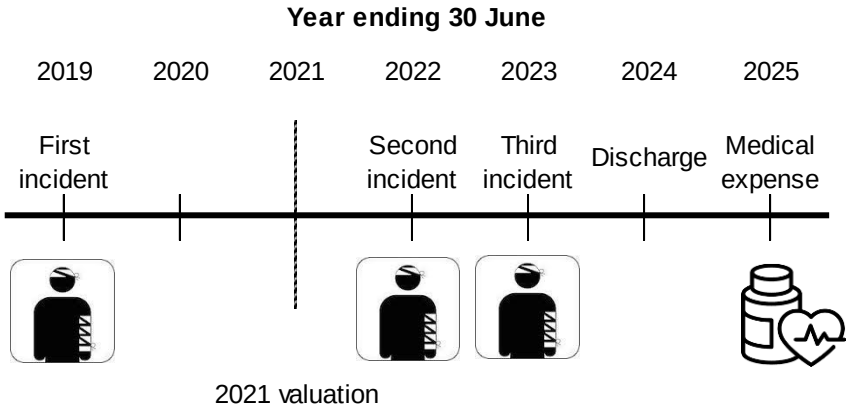
12.1 Modelling Approach

12.1.1 We have retained the same approach to modelling MRCA medical costs as adopted in the 2020 valuation. As with the previous year, we have used the first year of accident for determining development year. However, most MRCA claimants have multiple claims spanning a range of accident years. Furthermore, expenditure is incurred through the use of health care cards and the data does not record the particular condition to which a service was related. For those with gold cards, all medical expenditure is covered, not just that related to compensable conditions. This means there is considerable ambiguity about the proportion of expenditure that should be treated as part of the liability at the valuation date.

12.1.2 As with DRCA, we have used the existence of ADF health to conclude that those who have incurred expenditure will have been discharged from the ADF. Thus, any future projected expenditure for claimants who have had any medical transactions in the past can be treated as fully accrued, regardless of what date of accident might be recorded on future claims. That is, all future expenditure arising from these claimants forms part of the liability as at 30 June 2021. This is not necessarily true for reservists, but the assumptions we have adopted are intended to allow for this.

12.1.3 There is a further population of potential claimants who have already suffered an incident that could be expected to lead to future MCS medical expenditure but have not incurred any such expenditure to date. It is possible that these people have been discharged from service. However, it is also possible that they are still serving members of the ADF. For this latter group, future expenditure may relate to incidents that occurred before the valuation date but there is the potential for expenditure to arise from future incidents that occur after the valuation date. Figure 12.1 illustrates a hypothetical scenario of this type.

Figure 12.1: Illustrative claim scenario



12.1.4 In this example, one of the three incidents which will give rise to future medical expenditure has occurred before the valuation date, but the other two occur in the future. Conceptually, only that portion of expenditure that relates to the first incident should be treated as a liability for the current valuation. In estimating the liability, therefore, we need to treat the population that have not yet given rise to medical expenditure differently from those who have already incurred expenditure.

12.1.5 For those who have had medical expenditure in the past (and, hence, can be assumed to have been discharged from the ADF), we have used transition probabilities to simulate whether or not they will incur expenditure in future years. We allow for mortality to gradually reduce this population over time.

12.1.6 For the population who have not incurred medical expenditure (and whose ADF status is therefore unknown), we have used claim rates based on development year from date of earliest claim to project the number of claimants we might expect to see in future who have an earliest accident year prior to the valuation date. A proportion of these future claimants will have only one claim. For this subset, all future expenditure forms part of the liability.

12.1.7 Based on experience to date, however, we would expect most future claimants to have multiple claims. This is particularly the case for those with a long period between the earliest incident and first medical expenditure. To determine the proportion of future expenditure that should be treated as accrued at the valuation date and included in the liability, we have used information on the historical distribution of claims conditional upon the period of time between the earliest accident year and the year in which expenditure is first incurred. In the scenario illustrated in Figure 12.1 above, one of the three incidents occurs prior

to the valuation date and, hence, we would treat one third of the expenditure as having accrued as at 2021, while the remaining expenditure for this individual would form part of the notional premium for future years.

12.1.8 Once we have a projected population and an accrued proportion, we apply assumptions on usage and average cost per transaction to estimate the future cashflows that should be included in the liability.

12.1.9 Note that, as in 2020, we have not included those receiving only pharmaceutical benefits in the claimant population, but instead applied a 10% loading to projected non-pharmaceutical cashflows in line with the historical relationship between the two components of expenditure.

12.1.10 Note also that we have not made any explicit allowance for the provisions in MRCA that entitle all veterans who have rendered warlike service on or after 1 July 2004 to a gold card at age 70. Given the current information available, this is impossible to model since we would need to know the potentially eligible population and the proportion who would not already have a health care card prior to reaching age 70. Costs for this group might also be expected to be somewhat lower, since by definition they would not be existing MRCA claimants. The first of this group might be expected to qualify in around ten years, but significant numbers are unlikely for another thirty years or so. This is a practical example of how access to improved information on the veteran population could improve the estimate of the projected cashflows.

12.2 Recent Experience and Valuation Assumptions

12.2.1 As for the 2020 valuation, we received unit record data beyond the valuation date to 31 December 2021 for the 2021 valuation. This allowed us to analyse experience based on calendar years to 31 December 2021 and to set assumptions based on this more contemporaneous data.

12.2.2 There are a small number of claimants whose medical claims are several times larger than the average. These are claimants who have been severely injured and have had exceptionally large medical payments over an extended period. Accordingly, we have taken the approach of separately identifying these claimants and valuing them individually, assuming that their total annual payments grow by 4% per annum in nominal dollars and that they experience a mortality rate of 3% or the mortality rates for invalidity pensioners from the latest available actuarial review of military superannuation, whichever is higher. This latter assumption has been set on the basis of the small amount of experience we have which suggests that the injuries suffered by this group

are such as to make normal age-related mortality rates largely irrelevant. As a group, these claimants are referred to as 'Big Medical'.

12.2.3 For the current review, we have identified six claimants with medical payments which have been substantially higher than average over a period of at least 3 years and who therefore appear likely to continue receiving such higher payments on an ongoing basis. Table 12.1 shows the six big medical claimants that have been modelled on an annuity basis. An allowance has also been made for future big medical claims to emerge.

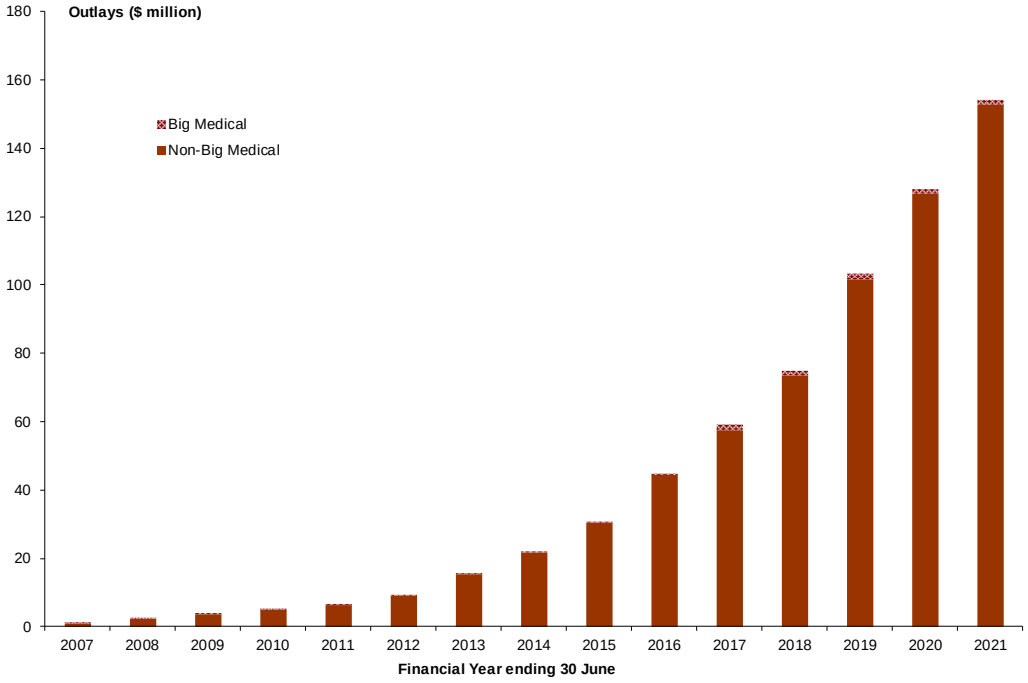
Table 12.1: Summary of large MRCA medical claims – experience and assumptions

Claimant	Payments in 2019	Payments in 2020	Payments in 2021	Assumed Future Payments (p.a.)
1	969,000	649,000	595,000	$750,000
2	149,000	127,000	145,000	$140,000
3	79,000	106,000	164,000	$120,000
4	112,000	155,000	80,000	$115,000
5	123,000	112,000	75,000	$105,000
6	106,000	114,000	81,000	$100,000

12.2.4 The group of large MRCA medical claimants has not remained static over time with some existing claimants moving off large benefits and new large claimants entering the group year on year. We currently do not hold information regarding treatment details and thus, cannot determine whether the claimants have medical conditions which require ongoing access to treatment. Ideally, this group would be determined by the nature of the claimants' injuries and anticipated future treatment requirements but in the absence of this data, the proxy of multiple years of high expenditure has been selected to separate this group from the remaining MRCA claimants. This is important to ensure the analysis for the remaining MRCA medical claimants is not skewed by the significantly higher expenditure experience of those included in the large medical group.

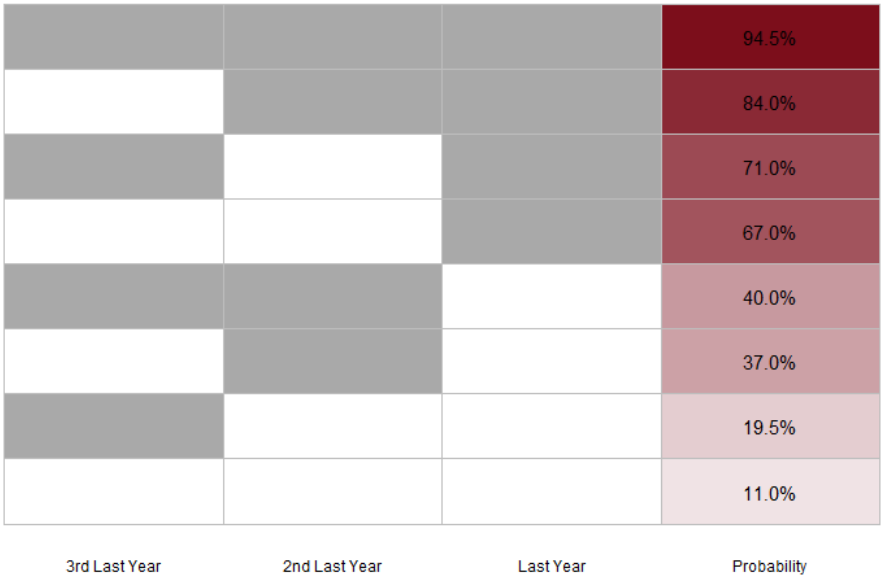
12.2.5 Figure 12.2 shows MRCA expenditure with the outlays on big medical claimants separately identified. Outlays grew very slowly over the early years of operation of the scheme but have increased very rapidly over the last few years with an increase of 21% in the latest financial year.

Figure 12.2: Expenditure on MRCA medical by type of claimant



12.2.6 As in 2020, we have set transition probabilities that are conditional on three previous years of expenditure experience. The assumed probabilities and their dependence upon the experience of the three previous years are shown in Figure 12.3. For the experience data, a grey cell indicates there was expenditure, while the transition probabilities indicate the likelihood that an individual with a given pattern of usage in the preceding three years will incur medical expenditure in the following year. The transition probabilities have been volatile from year to year and as such we have looked at experience going back to 2013 in setting the assumption.

Figure 12.3: Assumed transition probabilities



12.2.7 As would be expected, the greater the number of years in which expenditure has previously been incurred, and the more recent those years of expenditure are, the higher the probability the expenditure will be incurred in the next year.

12.2.8 For claimants who do not have the full three years of claims history, we have used their most recent claims experience to set their transition probability. That is, for existing claimants who have only been in the data set for two years or less, only their previous year of claim experience is used. For those who had a claim in the previous year, the probability of receiving a payment again in the following year was selected to be 77%. For those who did not receive a payment in the previous year, the probability of receiving a payment in the next year was selected to be 22%. These selected probabilities are based on the experience of new claimants in their first two years going back to 2012.

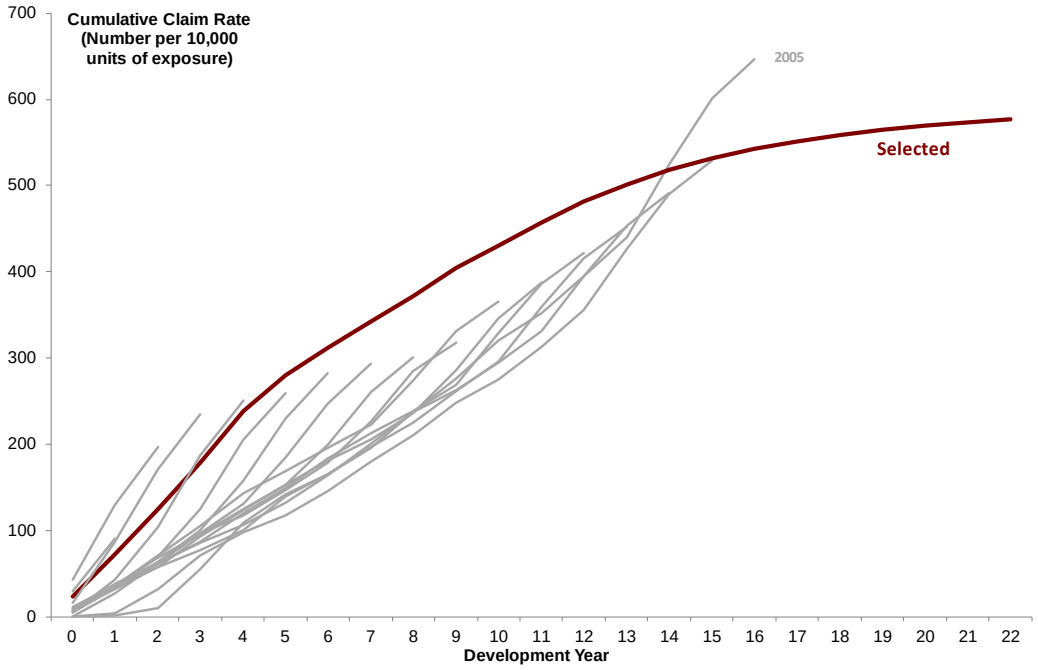
12.2.9 The second set of assumptions relates to incurred claims that have not yet given rise to expenditure. Figure 12.4 shows the relationship between earliest accident year and the year in which medical expenditure is first incurred. While the number of new claimants in the most recent year was lower than expected, discussions with DVA and our analysis of the lodged initial liability claims as at 31 December 2021 using historical conversion rates and delay patterns, suggest that the reduction in new claimants is not representative of the underlying experience but rather a result of ongoing processing delays due to high volumes of claims on hand. As such, we have retained the selected claims rates from the previous review and made an adjustment to account for current

processing constraints. Specifically, we assume claim numbers will continue to be supressed in the 2022 financial year before the impact of recruitment initiatives becomes apparent and processing staff reach levels commensurate with demand during the 2023 financial year. We expect the backlog to decrease to baseline levels over the 2024 and 2025 financial years, which will inflate the number of claims in these years (above ultimate levels to compensate for the suppressed claims in the 2021 and 2022 financial years).

12.2.10 Over the past few years, there has been a significant increase in the number of new claimants emerging in MRCA medical who are claiming for medical benefits in the same year as their accident. Older accident years also appear to have new claimants emerging a number of years after the first injury date. As with the 2020 valuation, we have accounted for these potential timing differences for different accident year cohorts. For example, we expect a veteran who was injured in the earliest years of the scheme to approach DVA a number of years later than those who are injured in 2021. There is some evidence of this in the experience where we are seeing continued high numbers of claimants in recent years with their first injury incurred in the earliest years of the scheme and where veterans receiving benefits in the same year as their first injury has increased significantly in the last three years.

12.2.11 It is currently too early to determine what proportion of the most recent experience is due to timing or process changes and what proportion is a genuine increase in the rate of claiming amongst DVA's clients. We will continue to closely monitor the emergence of new claims as more experience emerges and adjust any assumptions in future accordingly.

Figure 12.4: Cumulative claim rate by lag between earliest accident year and first expenditure

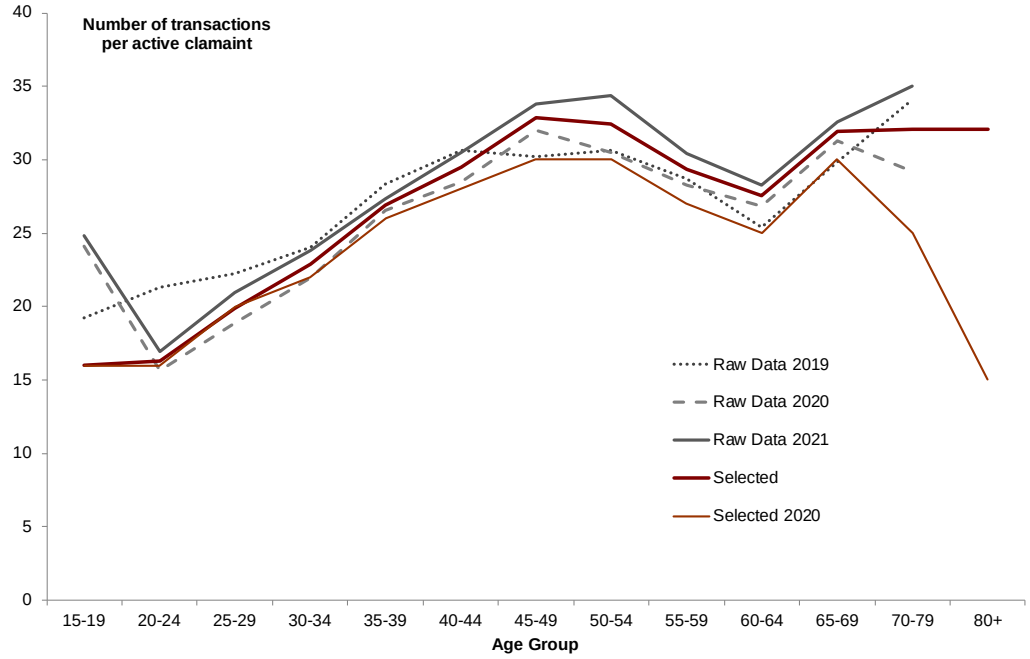


12.2.12 We use these rates for the accident years for which we have some data by applying the increases implied by the selected rates in Figure 12.4 to claims to date. For future accident years, where no data is available, we use the selected series shown in Figure 12.4. There are two main areas of uncertainty in setting the claims rate assumption. One is the significant changes in experience seen in the last few years as mentioned in 12.2.10. The second area of uncertainty is in regards to when claims will stabilise for a given accident year. It can be seen from the chart above that each of the recent years (represented by the grey lines) has ended at a higher point than the year prior. This shows that claims are continuing to emerge at a higher rate in each year than in the previous year. Of particular note is the 2005 year, the earliest accident year for MRCA, which is still exhibiting an upwards trend rather than any stabilisation represented by a flattening of the cumulative claims curve, thus showing more claimants are still emerging over time. As medical benefits can be accessed for a long period of time, sometimes for over 60 years, it might still be some time before experience is mature enough to set the claims rate assumption with more certainty.

12.2.13 The average expenditure per active claimant has been derived by looking separately at numbers of transactions per claimant and average cost per transaction.Figure 12.5 shows the usage rates observed for MRCA over the

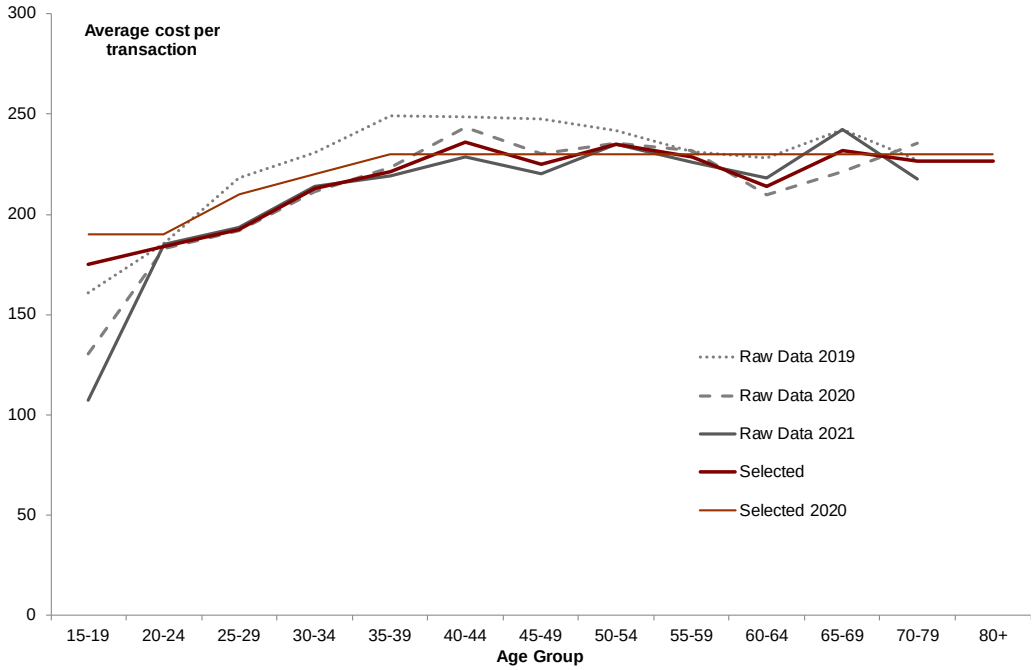
last three years. It can be seen that for most age groups, the most recent experience has been higher than the rates assumed for the 2020 valuation and as such the selected rates for the current valuation have been adjusted accordingly. For the 80+ age group where there is currently no experience, we have assumed usage will be consistent with the 70-79 age group as there is currently no evidence of medical usage decreasing at older ages. We will continue to revise this assumption as more experience emerges.

Figure 12.5: Usage rates by age group



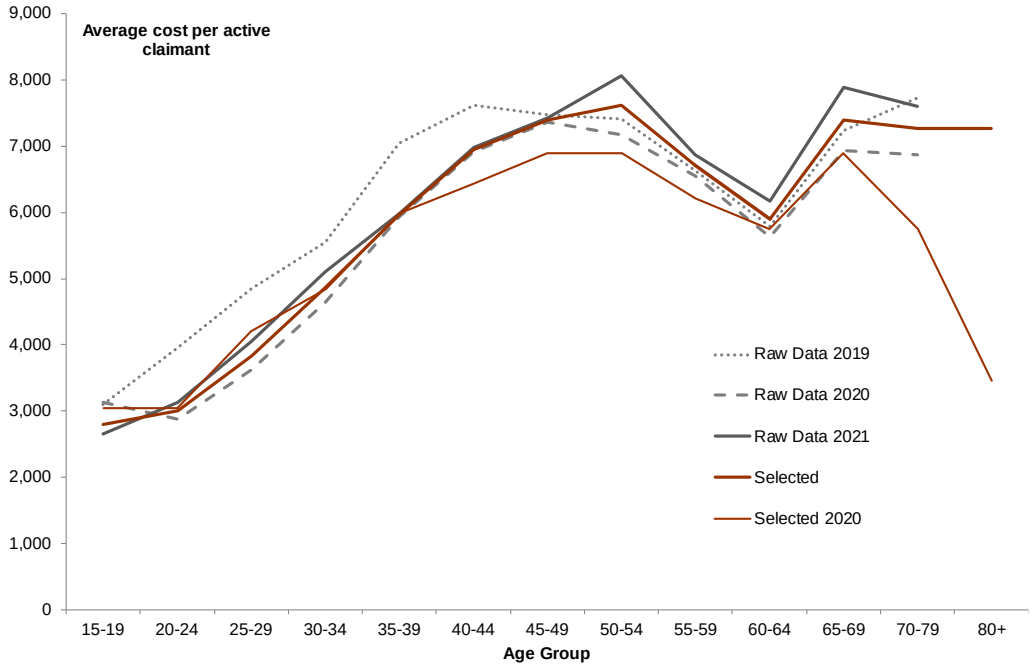
12.2.14 Figure 12.6 shows the selected size per transaction by age. These are slightly lower, especially at the younger ages, compared with the 2020 valuation assumptions to reflect the most recent experience. We have assumed that the average cost per transaction for the 80+ age group will be consistent with the 70-79 age group and we will continue to revise this assumption as more experience emerges.

Figure 12.6: Cost per transaction by age



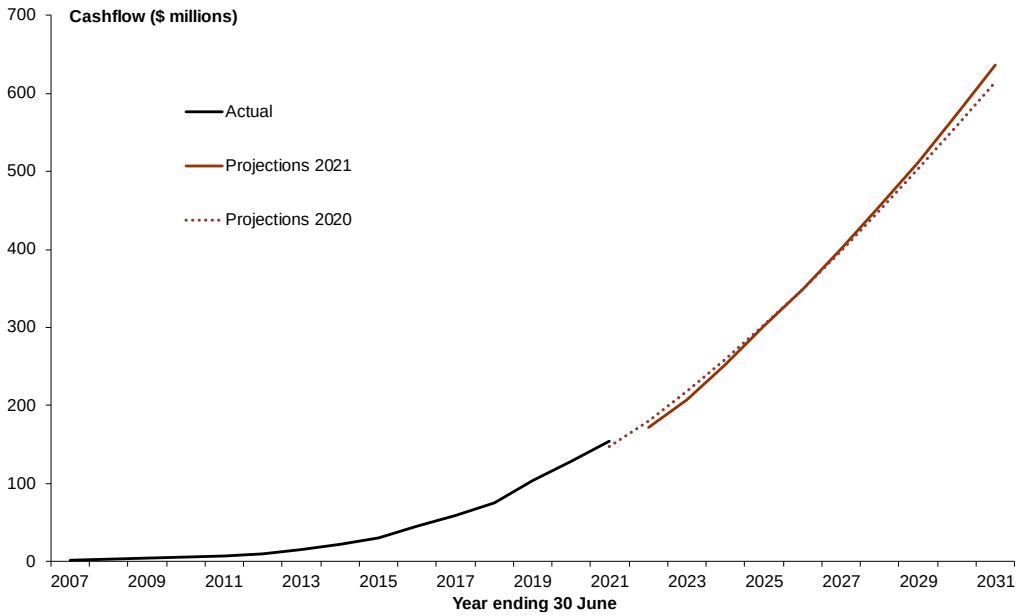
12.2.15 The assumption for expenditure per claimant is based on the usage rate and average size per transaction. The assumed expenditure per claimant is shown in Figure 12.7 and these amounts are assumed to grow by 4% per annum as costs should be driven in large part by wages. For new claimants, we assume they commence receiving benefits in the middle of the year and accordingly, have applied a ratio of 50% to usage for these claimants in their first year.

Figure 12.7: Assumed expenditure per claimant



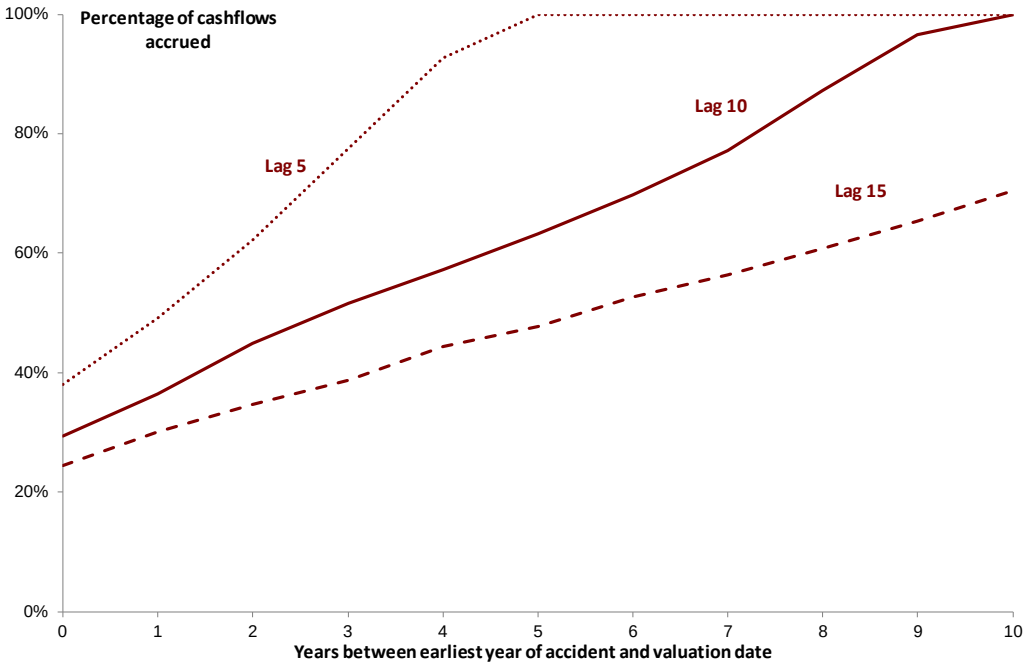
12.2.16 Applying these average cost figures to the projected population figures gives an estimate of total future cashflows as shown in Figure 12.8. Note that aggregate data to the end of March 2022 shows expenditure at approximately $127.0m, suggesting that the current projections are not unreasonable.

Figure 12.8: Historic and projected cashflows for MRCA medical



12.2.17 Some of these cashflows will relate to incidents that occur after the valuation date. In order to arrive at an estimate of the incurred expense, we have examined how accident dates are spread over the period between the earliest accident year and the year in which expenditure is first accrued. Figure 12.9 shows the proportion of claims with an accident prior to a given date within this period for those with more than one claim for three different lag periods.

Figure 12.9: Distribution of claims



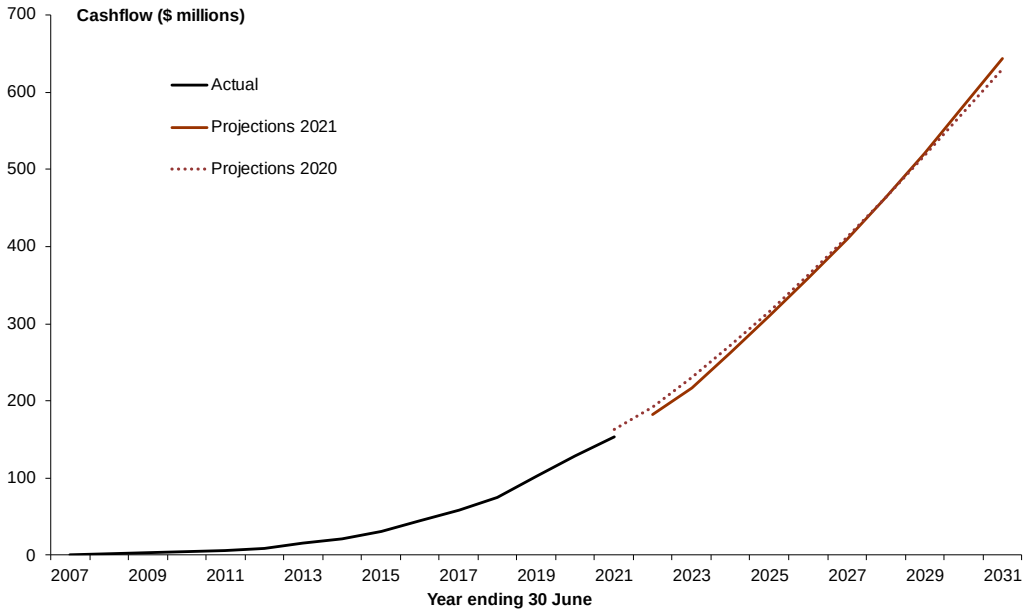
12.2.18 Note that we would not expect the average cost per claim to be constant for different claim numbers, since, on a per claim basis, the first claim is likely to involve more expense than subsequent claims. However, there is a strong positive correlation and, as a simplifying assumption for those with multiple claims, we have used the percentages shown in Figure 12.9 to split projected expenditure between amounts accrued at the valuation date and amounts expected to be accrued in future accident years. For example, for a claimant with an earliest accident year of 2016 and a ten year lag until medical expenditure is incurred, the proportion of expenditure that is assumed to be accrued as at the valuation date of 30 June 2021 can be found by looking at the Lag 10 curve where the x-axis value is 5, that is 63 per cent.

12.2.19 While this might slightly underestimate accruals for full-time ADF personnel there is an offsetting effect from reservists, for whom the assumption that claims have fully accrued at the time of first expenditure may not be true. Given the high level of uncertainty around the estimates of medical costs, we do not believe that this simplifying assumption is unreasonable.

12.2.20 Under our assumption that an individual has discharged at the point at which expenditure first occurs, all future expenditure is assumed to be accrued from that time.

12.2.21 As noted in the previous section, there has been a drift of DRCA expenditure to MRCA cards that could be expected to continue for some time yet. As a result, the split of liabilities between the two schemes is somewhat arbitrary and it is preferable to look at combined expenditure across both schemes. This is done in Figure 12.10.

Figure 12.10: Historical and projected medical payments (DRCA and MRCA)



12.3 Liability Estimate

12.3.1 Table 12.2 shows the estimate of the MRCA liability to meet medical costs broken down by earliest year of accident. As noted in the previous section, there is now some MRCA liability related to accident years prior to 1 July 2004 and some of the liability shown against later accident years will arise from those with DRCA claims and a MRCA health care card.

Table 12.2: Outstanding claims liability for MRCA medical costs by year of earliest accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
1979 and before	5.4
1980 – 1984	5.4
1985 – 1989	13.5
1990 – 1994	23.4
1995 – 1999	39.4
2000 – 2004	41.6
2005 – 2009	3,097.4
2010 – 2014	3,714.0

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
2015	630.7
2016	673.9
2017	786.0
2018	623.1
2019	732.2
2020	479.6
2021	321.6
Total	**11,187.1**
Expected at 30/06/2021	*9,543.9*
Total (30/06/2020)	**8,521.9**

12.3.2 Across both DRCA and MRCA, the total estimated liability at 30 June 2021 is $11,293.2m. The projected liability in the 2020 valuation for 30 June 2021 was $9,790.1m. The estimated liability at this valuation is $1,503.1m higher than expected, primarily due to increases in the usage and transition assumptions in response to recent experience.

12.3.3 Table 12.3 below shows the reconciliation of liability results for MRCA from last year to this year.

Table 12.3: Reconciliation of liability for MRCA medical costs

	$m
Liability estimate at 30/06/20 (previous report)	**8,521.9**
Assumed Interest	440.5
Projected Payments	(146.8)
Notional Premium	728.3
Projected liability as at 30 June 2021 (previous valuation)	9,543.9
Experience effects and assumption changes	
difference between actual and projected payments	(1.8)
change in experience	(493.5)
initial liability adjustment	344.9
change in claim distribution	(56.9)
change in cost and usage	1,199.2
change in transition probabilities	651.3
Current Estimate	**11,187.1**

12.3.4 The increase in the MRCA liability may appear anomalous given the relatively small difference between projected cashflows in 2020 and 2021. However, it needs to be remembered that medical liabilities are extremely long tailed and relatively small changes in the propensity of claimants to continue to receive benefits from one year to the next can have a substantial impact on the liabilities. The increase in the number of gold cards on issue is also worth

noting. As at September 2021, there were around 7,164 MRCA gold card holders. This is an increase from 5,508 in 2020, 3,800 in 2019 and 2,600 in 2018. We explore a gold card growth scenario in Chapter 20.

13 Valuing Non-Incapacity Benefits – DRCA Rehabilitation

13.1 Modelling Approach

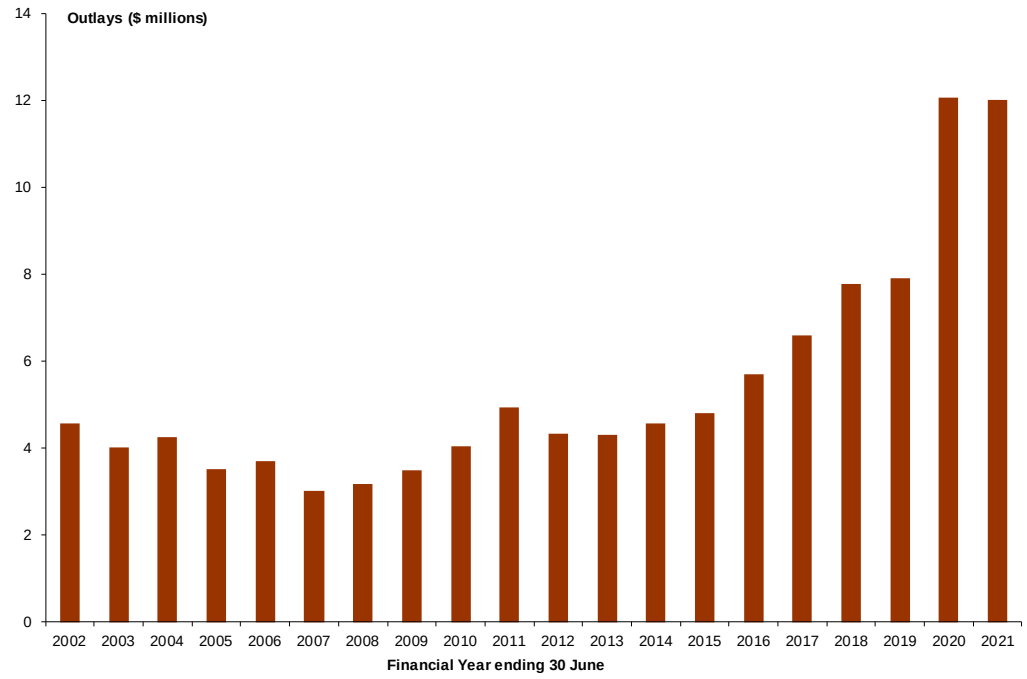
13.1.1 Rehabilitation is the smallest component of the DRCA non-incapacity liability. However, it has grown quite strongly over recent years despite the closure of the scheme.

13.1.2 Our modelling approach involves fitting a cubic spline to the pattern of claims per unit exposure by development year observed over the last two years and then applying an assumption around average amounts paid per claim in a year.

13.2 Recent Experience and Valuation Assumptions

13.2.1 Figure 13.1 shows the expenditure on rehabilitation for DRCA since 2002. The experience has been quite volatile, with a rapid increase over the period from 2007 to 2011 followed by a dip which has now been fully reversed with high expenditure in 2020 and 2021.

Figure 13.1: Expenditure on DRCA rehabilitation



13.2.2 The main objective of rehabilitation expenditure is to return the veteran to work. This tends to primarily be through socialisation and retraining with some

expenditure also related to minimising claimants' functional impairments. DVA clients receiving incapacity payments are required to participate in the rehabilitation program. DRCA claimants, due to their higher average age, will tend to have reduced prospects for a return to the labour force. At the same time, the degree of functional impairment is likely to increase with advancing age. The relative importance of the two objectives in DVA's approach to rehabilitation is therefore likely to influence DRCA outlays in this area. For example, DVA advised that the period of rapid growth between 2007 and 2010 was the result of an increased focus on rehabilitation for all veterans, not just those with a prospect of returning to work. Subsequently, rehabilitation efforts became more focussed on return to work programs and, given the older age profile of DRCA claimants, this is likely to have explained the decline until 2012-13. The most recent increases are a result of higher utilisation rates, particularly among those with accident years between the early nineties and early 2000s.

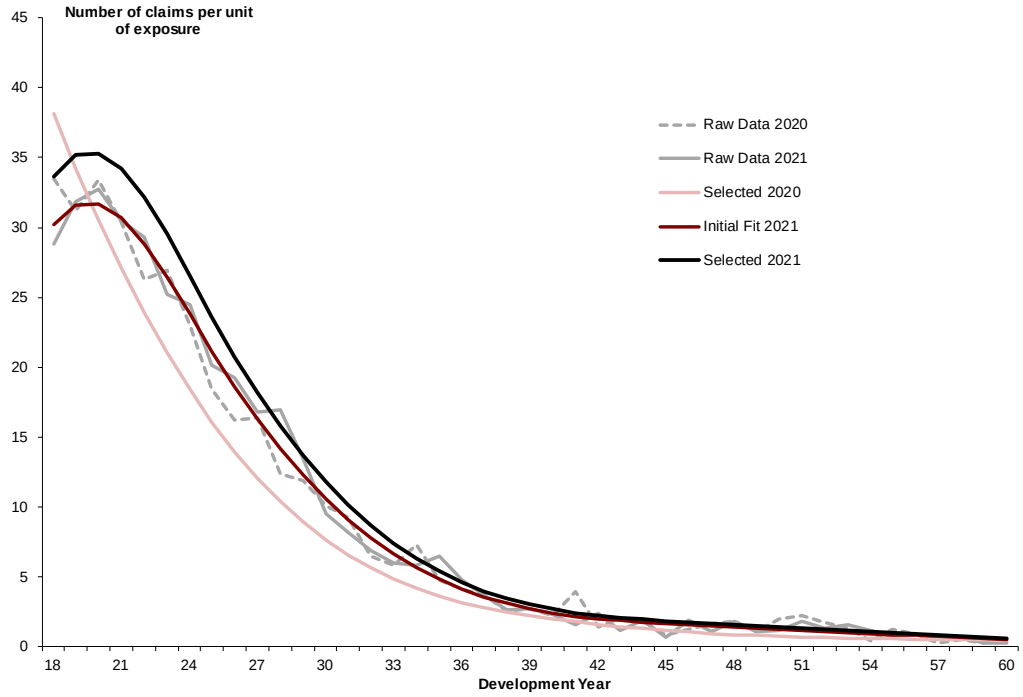
13.2.3 A new scheme is currently in place where claimants who are studying can retain 100% of their incapacity benefit past the initial 45 week period. DVA staff have advised that this has led to increasing numbers of claimants remaining on rehabilitation programs than they have seen historically.

13.2.4 Figure 13.2 compares the number of claims per unit of exposure over the two most recent calendar years with the assumptions adopted for the current valuation and the 2020 valuation. For claims that are lodged many years after the injury, it is often difficult for delegates to determine the specific injury date. In such cases, the date of diagnosis is often recorded in place of a specific accident date. In reality, however, to be compensable the condition must have been caused by ADF service, which, in turn, must have occurred prior to 1 July 2004 for a DRCA claim. To account for this in the current valuation, we have adjusted injury dates recorded after the closure of the DRCA scheme to equal the last valid injury date for each claimant. It can be seen that by adopting this approach we are allowing for a higher number of claims over the later development years than at the previous valuation.

13.2.5 Discussions with DVA indicated the current claimant numbers may be supressed due to the large volume of claims on hand which continue to result in delays in processing claims. To account for this in the valuation, we analysed the lodged initial liability claims as at 31 December 2021 and based on historical conversion rates between initial liability, incapacity payment and rehabilitation payment as well as historical delay patterns, we have increased

the assumed rates by 11.5 per cent to account for potential impacts of processing delays on the most recent experience.

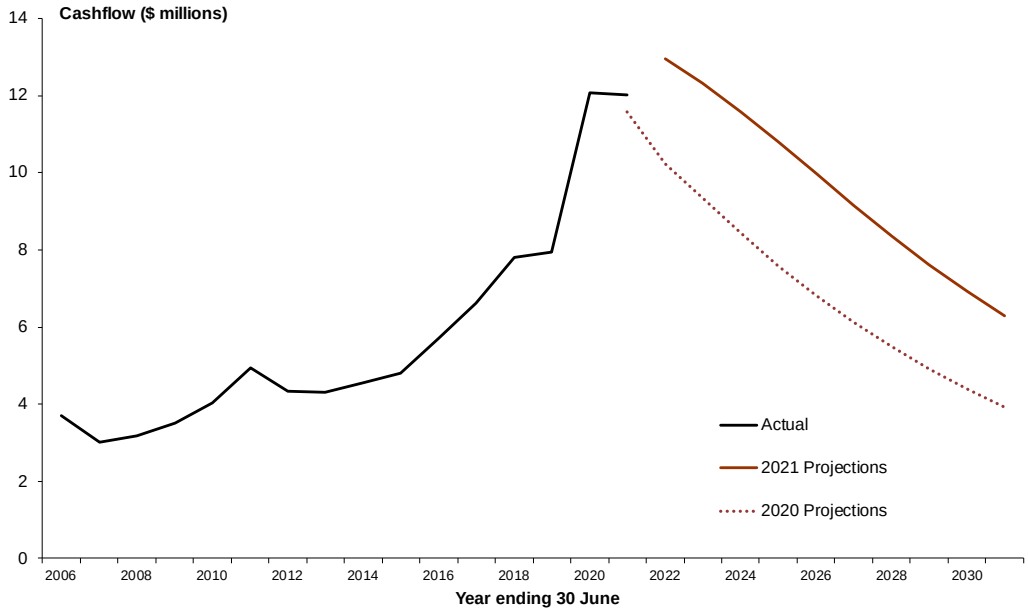
Figure 13.2: Number of claimants per unit of exposure – DRCA rehabilitation



13.2.6 The average cost per claimant has increased slightly and was selected to be $4,903 in 2021, compared to $4,866 in 2020. We have assumed that the average cost per claimant will increase by 4% per annum in future. This is somewhat higher than the inflation seen over the past few years but we regard it as a reasonable assumption going forward given that costs should be driven in large part by wages.

13.2.7 The resulting projected cashflows are shown in Figure 13.3, together with the historic cashflows and the projections from the 2020 valuation. The increased claim rate assumption has led to an increase in projected cashflows over the next ten years.

Figure 13.3: Historic and projected DRCA rehabilitation payments



13.3 Liability Estimate

13.3.1 Table 13.1 shows the estimate of the liability for DRCA rehabilitation costs broken down by year of accident.

Table 13.1: Outstanding claims liability for rehabilitation costs by year of accident

Year of accident (year ending 30 June)	Liability (inflated and discounted) ($'m)
1979 and before	6.2
1980 – 1984	5.3
1985 – 1989	8.7
1990 – 1994	15.7
1995 – 1999	26.4
2000 – 2004	43.4
Total	**105.8**
Expected at 30/06/2020	*70.5*
Total (30/06/2019)	**78.4**

13.3.2 The 2020 valuation projected a liability of $70.5m as at 30 June 2021. The current estimate is $105.8m, which is $35.3m higher, reflecting the adjustments to assumptions. Table 13.2 reconciles the current liability estimate with the earlier figure.

Table 13.2: Reconciliation of liability for rehabilitation costs

	$m
Liability estimate at 30/06/19 (previous report)	**78.4**
Assumed Interest	3.6
Projected Payments	(11.6)
Notional Premium	0.0
Projected liability as at 30 June 2020 (previous valuation)	**70.5**
Experience effects and Assumption changes	
difference between actual and projected payments	(0.4)
change in claim rate	27.4
change in average cost	0.7
change in inflation assumption	7.6
Current Estimate	**105.8**

14 Valuing Non-Incapacity Benefits – MRCA Rehabilitation

14.1 Modelling Approach

14.1.1 MRCA rehabilitation is modelled based on the number of claimants per unit of exposure and the average expenditure per claimant. The pattern of claimants by development year is derived by fitting a cubic spline to a composite series derived from MRCA data for the 2020 and 2021 calendar years and DRCA claims experience for the later development years where we have no MRCA experience.

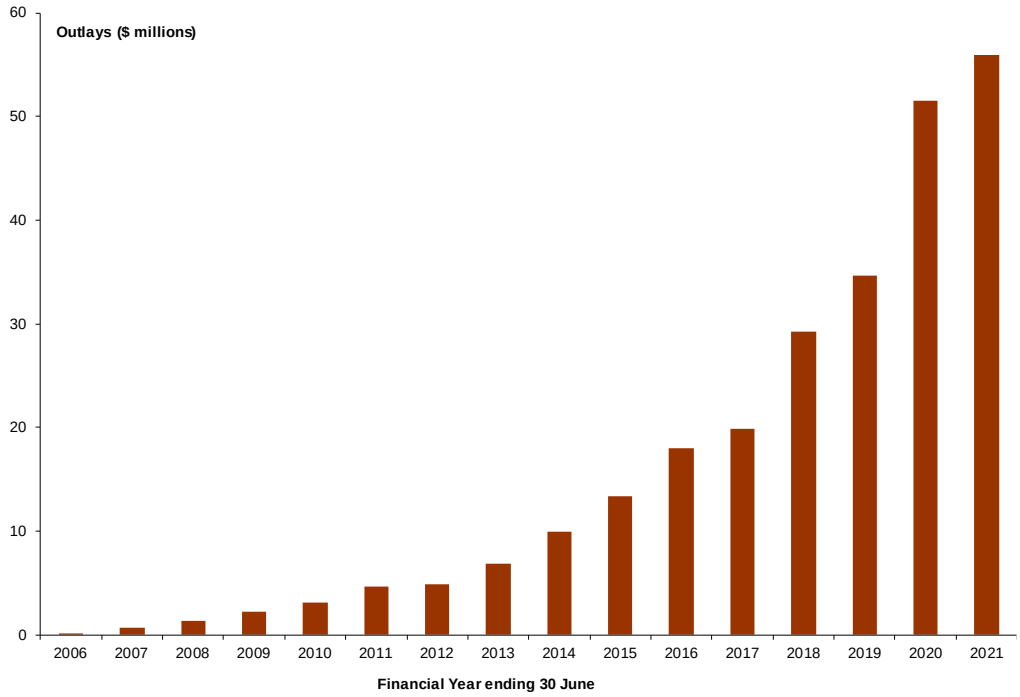
14.1.2 The MRCA claim rates observed to date are well above those seen for DRCA immediately prior to closure of the scheme, but the MRCA rates for durations where we have recent data for both schemes are lower than the rates we are now seeing for DRCA. It does not seem unreasonable that the higher rates of utilisation of rehabilitation services in the early development years could lead to lower utilisation rates in later years. We have therefore used an average of the most recent DRCA experience and the rates which applied immediately prior to closure in 2004 as the basis for setting assumptions for the later development years.

14.1.3 The average cost per claimant has been derived from the most recent MRCA experience.

14.2 Recent Experience and Valuation Assumptions

14.2.1 Figure 14.1 shows the expenditure on rehabilitation for MRCA since 2006. Apart from a pause in 2011-12, expenditure has grown strongly over the period. DVA's advice is that they expect rehabilitation outlays to continue to increase, particularly for those with a prospect of returning to work, which would comprise the bulk of the MRCA population.

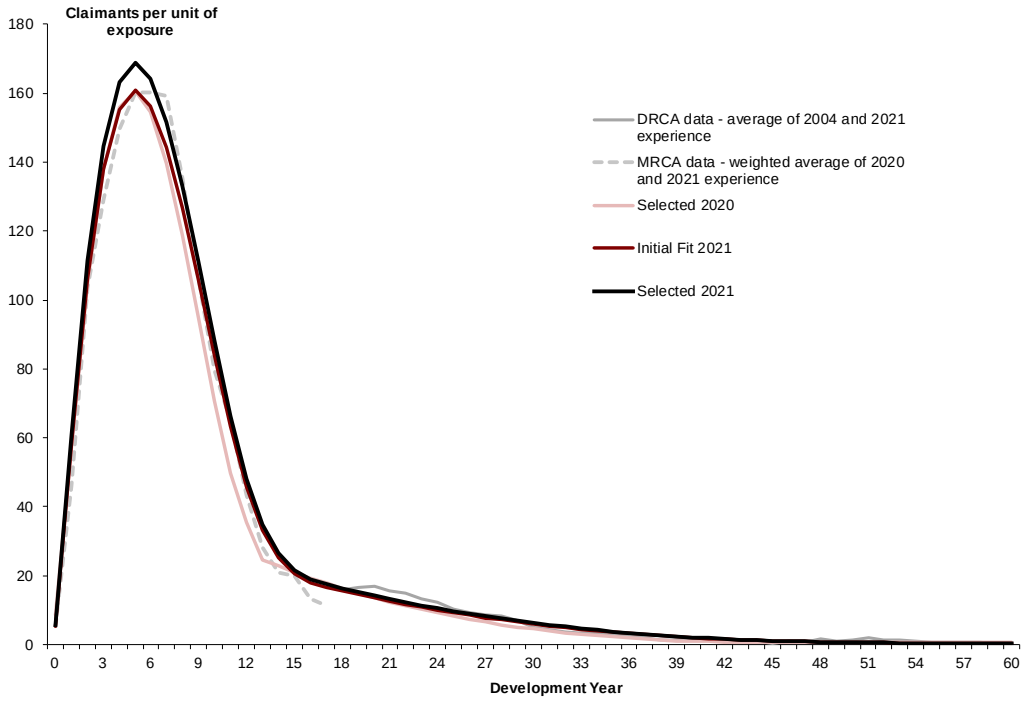
Figure 14.1: Expenditure on MRCA rehabilitation



14.2.2 Figure 14.2 shows the raw data that was used for setting assumptions, together with the selected MRCA assumption which applies from 2021-22 onwards. The rates assumed in the 2020 valuation are also shown for comparison.

14.2.3 Discussions with DVA indicated the current claimant numbers may be supressed due to the large volumes of claims on hand which continue to result in delays in processing claims. To account for this in the valuation, we analysed the lodged initial liability claims as at 31 December 2021 and based on historical conversion rates between initial liability, incapacity payment and rehabilitation payment as well as historical delay patterns, we have increased the 2021 rates by 5 per cent to account for potential impacts of processing delays on the most recent experience.

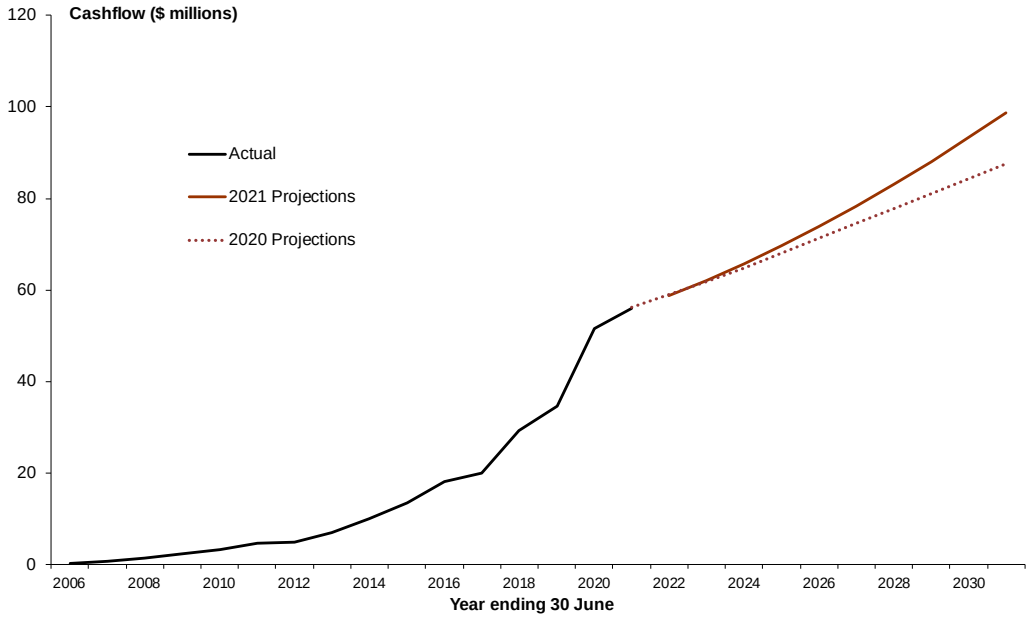
Figure 14.2: Number of claimants per unit of exposure – MRCA rehabilitation



14.2.4 An assumption on the average cost per claimant was also required and this was based on the most recent two years of experience and set at $6,039. This is slightly lower than the assumption adopted in 2020 of $6,495. As with DRCA, we have assumed that the average cost per claimant will increase by 4% per annum in future. This is somewhat higher than the inflation seen over the past few years, but we regard it as a reasonable assumption going forward given that costs should be driven in large part by wages.

14.2.5 Figure 14.3 shows the historical and projected cashflows for MRCA rehabilitation payments, together with the projections from the 2020 valuation.

Figure 14.3: Historic and projected MRCA rehabilitation payments



14.3 Liability Estimate

14.3.1 Table 14.1 shows the estimate of the liability for MRCA rehabilitation costs broken down by accident year.

Table 14.1: Outstanding claims liability for rehabilitation costs by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
2005 - 2009	40.3
2010 - 2014	93.5
2015	31.9
2016	38.0
2017	44.4
2018	50.0
2019	55.0
2020	59.4
2021	62.4
Total	**474.9**
Expected at 30/06/2020	*432.4*
Total (30/06/2019)	**410.4**

14.3.2 The 2020 valuation projected a liability of $432.4m as at 30 June 2021. The adjustments to the assumptions have resulted in an increase in the estimated liability. The liability at 30 June 2021 is $474.9m; this is $42.5m higher than

projected last year. Table 14.2 reconciles the current liability estimate with the 2020 projection.

Table 14.2: Reconciliation of liability for MRCA rehabilitation costs

	$m
Liability estimate at 30/06/20 (previous report)	**410.4**
Assumed Interest	20.6
Projected Payments	(56.1)
Notional Premium	57.5
Projected liability as at 30 June 2021 (previous valuation)	**432.4**
Experience effects and Assumption changes	
difference between actual and projected payments	(0.2)
change in claim rates	42.6
change in average cost	(33.4)
change in inflation assumption	33.0
Current Estimate	**474.9**

15 Valuing Non-Incapacity Benefits – Death Benefits

15.1 Modelling Approach and Assumptions

15.1.1 Death benefits are the smallest liability among the various heads of damage and the number of deaths can be highly variable from year to year. The assumptions made therefore involve a more significant degree of judgement relative to the other components of the liability.

15.1.2 Under DRCA, lump sum benefits are payable to surviving spouses on death due to work related causes. In addition, fortnightly benefits are payable to dependent children until they reach the age of 21. Under MRCA, a lump sum death benefit is payable on death where the deceased had suffered impairment as a result of service assessed at 80 or more impairment points, and an additional benefit is payable to a dependent spouse where the death occurred in service. The lump sum death benefit is broadly equivalent to the VEA widow's pension and can be taken as a periodic payment or a lump sum. As at 31 December 2021, there were 88 widows and 212 dependent children in receipt of periodic payments. A further lump sum benefit is payable in respect of each dependent child as well as an additional lump sum where the death has been accepted as having been related to ADF service.

15.1.3 The DRCA maximum lump sum death benefit payable as at 1 July 2021 was $583,419, while the maximum MRCA lump sum benefit was $971,555 with the actual amount payable dependent upon the age of the widow or widower and whether or not the death is accepted as having been related to ADF service.

15.1.4 Apart from deaths due to long latency diseases, such as asbestos related illnesses, the main compensable cause of death is likely to be accidental. Lump sum benefits payable on death would also generally be expected to be paid within a relatively short time after the death. Thus, in most cases, the lag between the time of the injury causing death and the payment of benefits will be relatively short.

15.1.5 From September 2017, the smoking policy was amended to allow claims for smoking-related illnesses if they satisfy certain criteria under the DRCA scheme. There is a possibility that this could increase the number of DRCA death claims. Further to this, policy changes were made in November 2018 to lower the level of evidence required in relation to asbestos exposure for veterans who served on certain RAN ships from 1940 to 2003. In addition,

changes to straight through processing for mental health conditions related to operational service could mean posthumous mental health diagnoses become easier to determine for suicide cases. Anecdotal evidence from the DVA policy area suggests that the broader suite of services provided by Service Coordination within DVA could have been proactively seeking out potential death payment claimants. All these factors could have led to the sustained high levels of death payments seen in recent years.

15.1.6 For MRCA, almost all death benefits paid to date have been paid within two years of the date of death, with over 40 per cent of the benefits being paid in the year of death and a further 40 per cent being paid in the following year. This might be expected to change in future as the scope for lagged claims increases with the ageing of the scheme. At this stage, however, we have not made any allowance for the emergence of lagged death claims under MRCA. This does not mean that such claims will not arise in future, but at present we have no basis for making a judgement about the quantum of any liability. In particular, the DRCA experience with asbestos related diseases might not be expected to be a good guide to future MRCA outcomes.

15.1.7 For DRCA, however, typically around 30% of death benefits paid in a given financial year are for deaths occurring more than two years prior to the end of the financial year and it is reasonable to model payments rather than deaths. This pattern of lags between deaths and payment has been reasonably consistent over the last three years and needs to be allowed for in the valuation since the amount of the death benefit entitlement will depend upon the year of death rather than the year of payment.

15.1.8 Table 15.1 shows the number of death benefits paid in each of the last sixteen calendar years under DRCA and MRCA. In the past, we were able to receive the date of death, but this year we were only given the calendar year of death, so a table of financial year deaths was not possible.

Table 15.1: Number of death benefits in recent calendar years

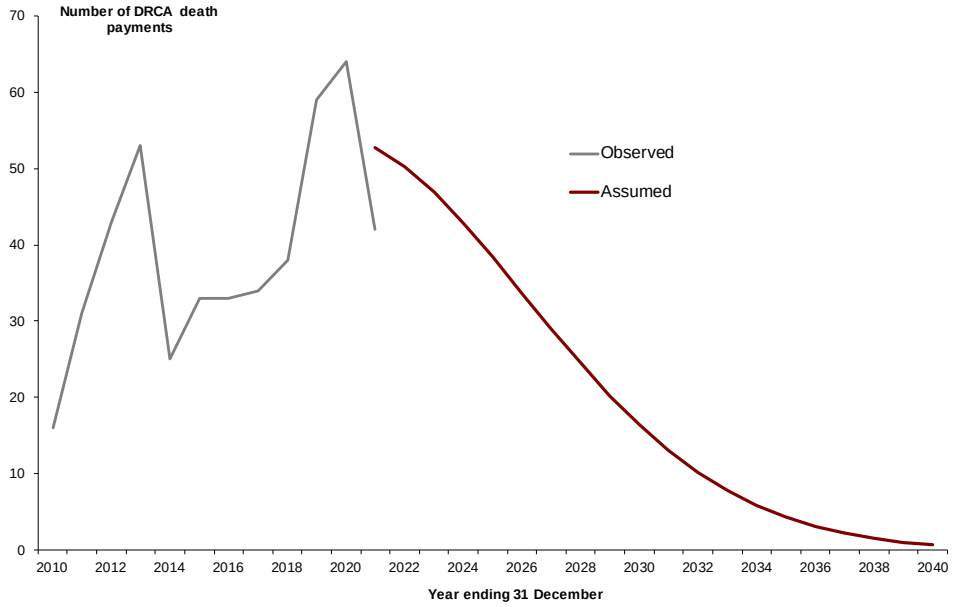
Calendar Year	DRCA Deaths	MRCA Deaths
2004	14	0
2005	10	4
2006	5	9
2007	15	2
2008	19	5
2009	24	12
2010	16	7

Calendar Year	DRCA Deaths	MRCA Deaths
2011	31	14
2012	43	10
2013	53	8
2014	25	10
2015	33	8
2016	33	11
2017	34	15
2018	38	28
2019	59	22
2020	64	14
2021	42	30

15.1.9 DRCA death benefit claims did not decline as expected following the closure of the scheme in 2004 but rather trended upwards. It seems likely that most of these claims have arisen from long latency diseases such as those related to asbestos exposure. The future trajectory of these claims is quite uncertain. However, other information on claim patterns for asbestos related diseases suggests that such death claims are likely to continue for an extended period and the liability for these claims will be material. The sustained high numbers of claims seen since 2011/12 support this view. The possibility of future claims where exposure to jet fuel or other toxic chemicals is identified as a contributory factor increases the level of uncertainty around these assumptions.

15.1.10 Figure 15.1 plots the run-off in claims assumed in 2021 against recent experience. We have seen a sustained high level of death payments over the last two years for DRCA. It is likely that recent policy changes could have had an impact on the level of claims arising.

Figure 15.1: Observed and assumed number of DRCA death payments from long latency diseases



15.1.11 We have assumed that these payments relate to deaths occurring up to 3 years prior to the year of payment. All the benefits are assumed to be paid at the higher rate which came into effect from 1 July 2009. In practice, a small number of claims relate to still earlier years and would be paid at the lower rates; this was the case for only 1 of the 42 claims in 2021. In view of the other uncertainties, we do not consider that this assumption gives rise to any material error.

15.1.12 We have increased our assumption regarding the number of MRCA death benefit payments to twenty-five deaths per year. Over the seventeen years of operation of the scheme, which encompasses a period of multiple overseas deployments, the number of deaths has averaged roughly twelve deaths per year. The number of deaths was lower in the earlier years of the scheme than in more recent years, with the number of deaths averaging approximately twenty-four deaths per year over the last four years compared to roughly nine deaths per year in the first thirteen years of the scheme.

15.1.13 The age distribution assumed for surviving dependants affects how long periodic payments made to a spouse or children are assumed to continue. Table 15.2 shows the age distribution adopted in the 2021 valuation for surviving spouses together with the latest observed data. The distribution is identical to that adopted in 2020 which is also included in the table.

Table 15.2: Observed and assumed age distribution for surviving spouses

Age Group	Observed	2021 Assumption	2020 Assumption
Less than 25	6%	5%	5%
25-29	18%	20%	20%
30-34	13%	10%	10%
35-39	19%	20%	20%
40-44	15%	15%	15%
45-49	9%	10%	10%
50-54	9%	10%	10%
55-59	5%	5%	5%
60 or more	4%	5%	5%

15.1.14 The assumed distribution of children is shown in Table 15.3 below. The assumptions are identical to those adopted at the 2020 valuation which are also included in the table.

Table 15.3: Observed and assumed age distribution for dependent children

Age Group	Observed	2021 Assumption	2020 Assumption
Less than 5	27%	25%	25%
5-9	29%	30%	30%
10-14	23%	22%	22%
15-19	19%	20%	20%
20 or more	3%	3%	3%

15.1.15 The average number of children per surviving spouse was 1.4; the same as the assumption adopted in 2020. Children's pensions are assumed to cease at age 21, while spouse pensioners are assumed to experience mortality in line with the most recent Australian Life Tables (ALT 2015-17).

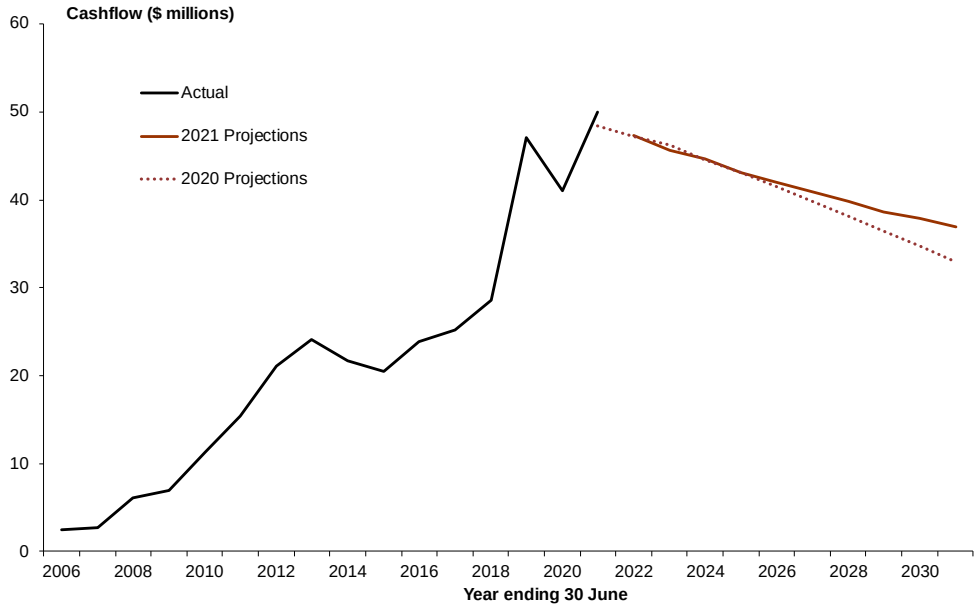
15.1.16 Benefits are assumed to increase in future in line with the relevant statutory provisions. For DRCA, this means that we are allowing for indexation of the lump sum benefit, which constitutes the bulk of the liability, in line with general wage growth and indexation of any periodic payment for children in line with price inflation. For MRCA, all benefits are indexed in line with price inflation.

15.2 Liability Estimate

15.2.1 The liability estimate for death benefits amounts to $272.6m. The bulk of the liability relates to DRCA claims and the estimate is extremely sensitive to the assumed number of DRCA death payments. It is important to note that death benefits are extremely volatile and the degree of uncertainty around this assumption cannot be overstated. I consider the assumptions adopted to be reasonable but note that actual outcomes may turn out to be significantly different.

15.2.2 Figure 15.2 shows the projected cashflows for both schemes combined.

Figure 15.2: Projected cashflows – DRCA and MRCA death benefits



15.2.3 At the previous valuation, we were projecting a total liability of $285.7m as at 30 June 2021, which is slightly higher than the 2021 valuation result of $272.6m. Aggregate expenditure to 31 March 2022 shows total death benefits of $31.7m which suggests that our current projections are not unreasonable.

16 Valuing Non-Incapacity Benefits - DRCA Other

16.1 Modelling Approach

16.1.1 The residual category of 'other payments' covers transactions in respect of costs of household services, attendant care, legal costs, general services/medical examinations, travel, funeral expenses and damage to property.

16.1.2 We have historically divided expenditure under this head of damage into two categories. The first is payments associated with medical examinations and legal services undertaken as part of the claim process. We refer to this as the Other 1 category. The Other 2 category covers all other payment types, which relate primarily to attendant care and household services.

16.1.3 Other 1 expenditure has been split between medical examinations and legal expenses in order to take account of their quite divergent experience over recent years. For each type of payment, we have modelled the number of claims per unit exposure and applied an average cost to the resulting estimate of future claims.

16.1.4 For the Other 2 category, we have adopted essentially the same approach as we have used for DRCA medical outlays. That is, we use the most recent figures on the active claims and apply a decay rate to estimate future active claim numbers.

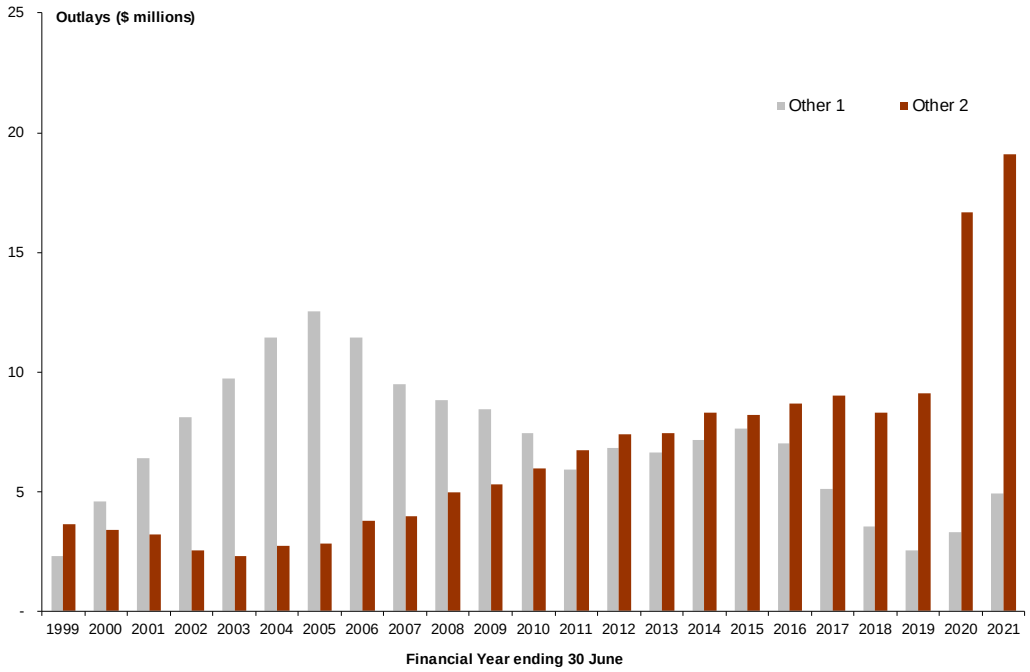
16.2 Recent Experience and Valuation Assumptions

16.2.1 Figure 16.1 shows the expenditure on other payments since 2000, split between Other 1 and Other 2. DRCA Other 1 expenditure underwent rapid growth in the years leading up to the introduction of MRCA. This was probably attributable to the influx of claims for liability and then permanent impairment, both of which will generally involve medical examinations. Subsequently, the Other 1 expenditure fell quite sharply up to 2010-11. Since that time, outlays have trended upwards, but only slowly and have been decreasing rapidly from 2015. However, the most recent two years have seen an increase in expenditure again. The decrease in Other 1 payments had been driven primarily by a significant reduction in the number of claims for medical exam costs. This could be a result of the change in medical evidence requirements moving from specialist reports to GP reports for claims.

16.2.2 By contrast, Other 2 expenditure has steadily increased in recent years. This sustained level of payments is likely to be due, at least in part, to DVA's goal of maintaining a high level of functional independence in an ageing population. The most recent two years saw a significant surge in outlays, driven by a higher number of recipients.

16.2.3 The increasing importance of attendant care costs and associated reduction in the proportion of costs associated with case investigation reflect a scheme with an ageing population and smaller numbers of new claims requiring medico-legal assistance.

Figure 16.1: Expenditure on DRCA other payments by category



16.2.4 Figure 16.2 shows the raw data on the numbers of claim per unit of exposure for medical examinations and the selected assumptions, while

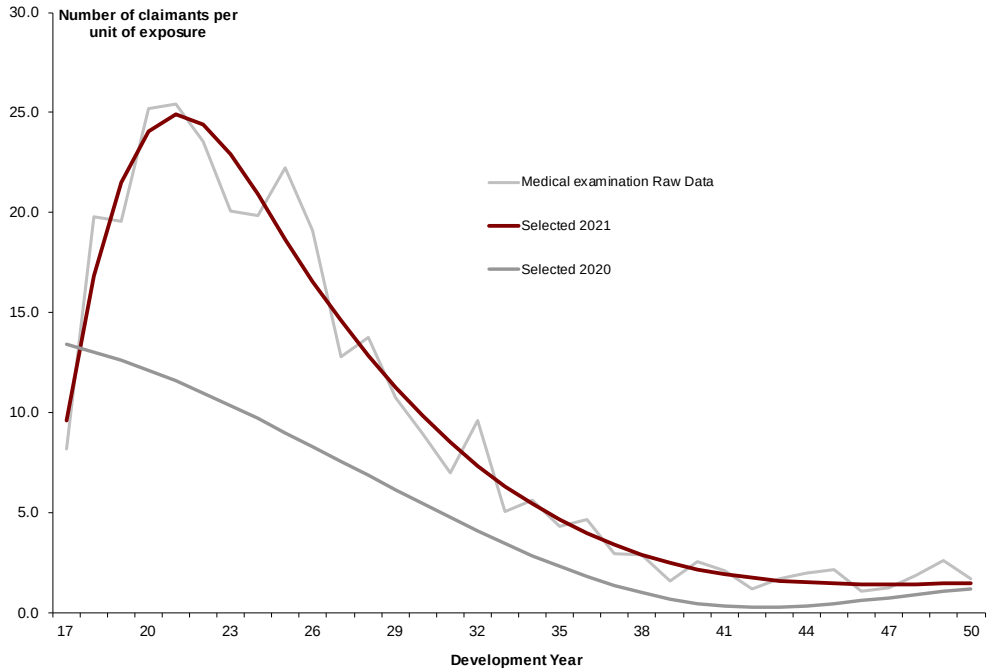


Figure **16.3** shows the equivalent information for legal expenses. We have set our assumptions for the current valuation in line with experience over the 2020 and 2021 calendar years, with greater credibility given to the most recent year.

Figure 16.2: Number of claimants per unit of exposure – category 1, medical examinations (DRCA)

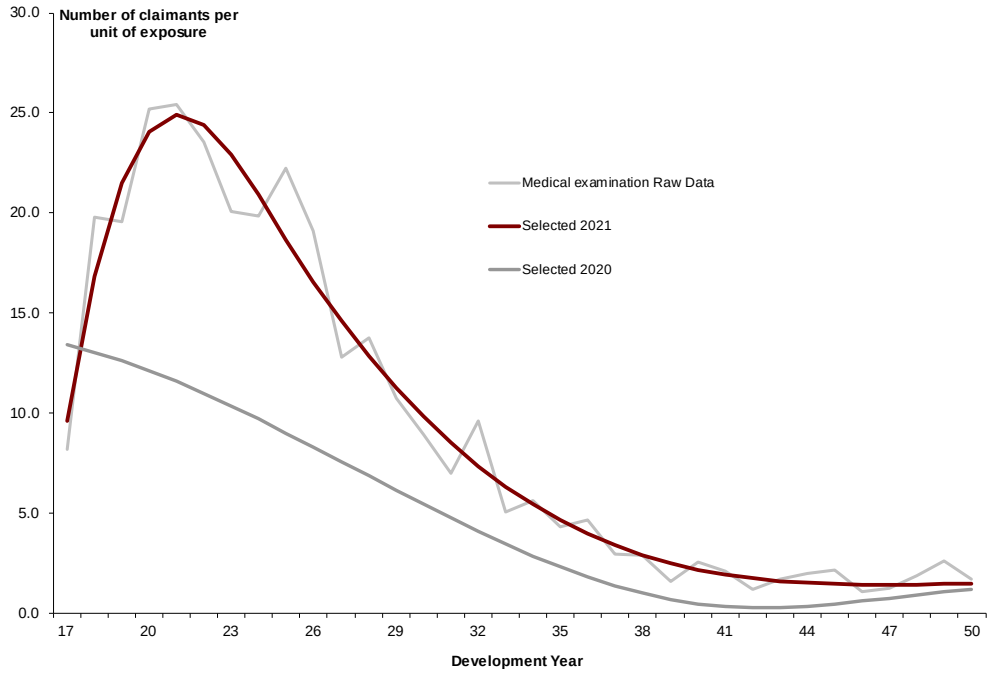
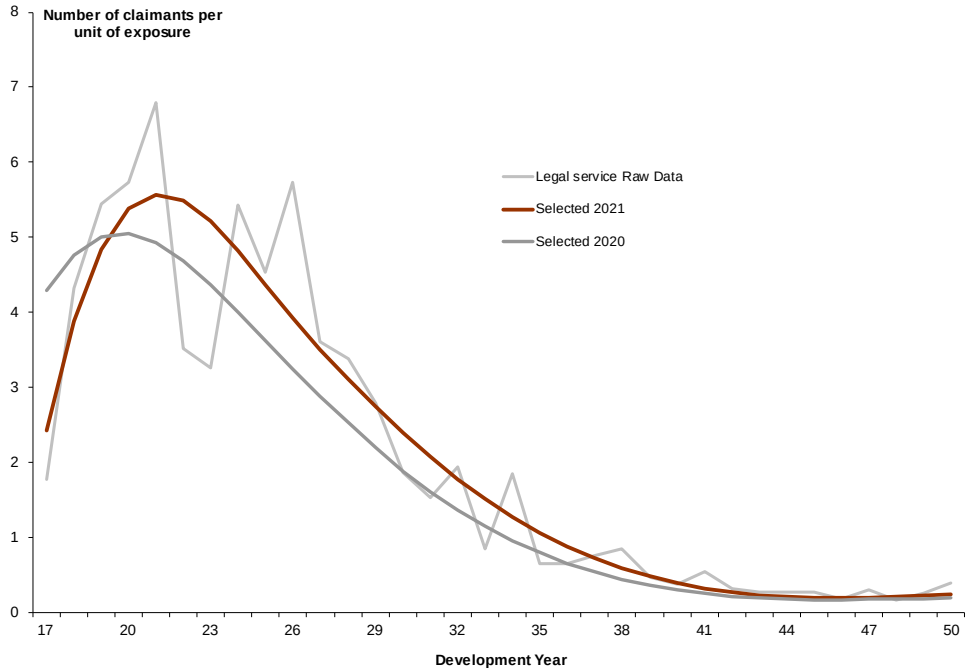


Figure 16.3: Number of claimants per unit of exposure – category 1, legal expenses (DRCA)



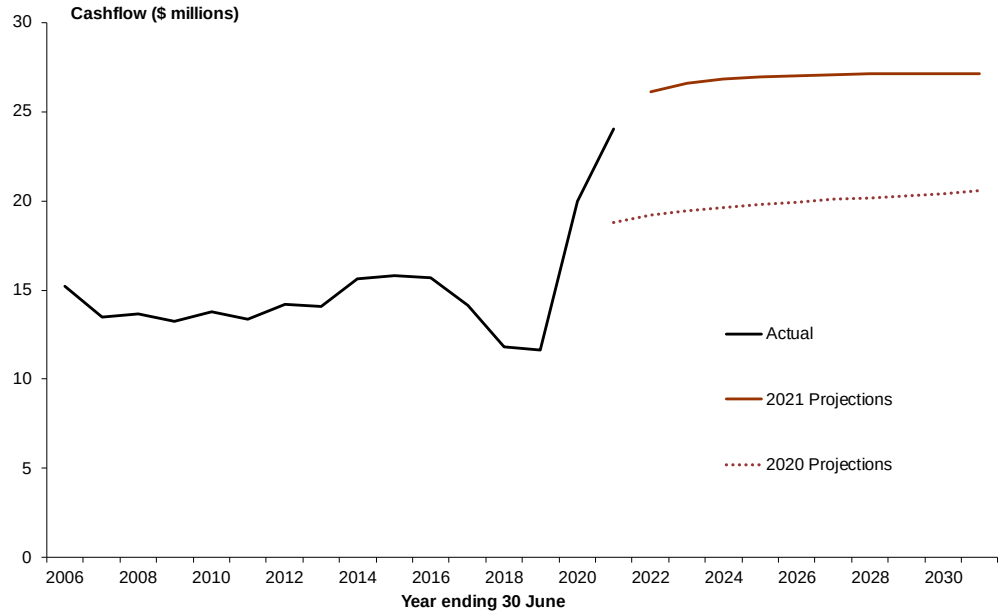
16.2.1 Medical examinations experienced a significant increase in utilisation rates, whereas legal examinations remained relatively stable, with only slight increases. The increase in medical examinations may be a result of both higher rates of examinations and more accurate classification of medico-legal transactions. In the past, DVA did not have a reliable classifier for medico-legal claims. From 2018, a new classifier was created solely for medico-legal claims which may have resulted in better capture of expenditure in recent years.

16.2.2 The adopted average sizes are $925 per claim for medical examinations and $6,750 per claim for legal expenses. This compares to the respective assumptions of $710 and $3,160 in the 2020 valuation. The significant difference in the average size for legal expenses is largely due to better quality data, allowing us a better picture of payments and claimants. We have opted to increase the inflation assumptions to 4% for both medical and legal payments, in order to better reflect the growing cost of services.

16.2.3 As noted above, for the Other 2 category we used the same payment per active claim approach as was used for medical benefits, allowing for the active population to decline using the same attrition rates, including the age-based mortality rates from ages 75 and above. The average cost per claim was set at $5,500, a small increase from the previous year's assumed average cost of $5,100.

16.2.4 Figure 16.4 shows actual outlays over the last decade together with projected cashflows for the next ten years. The increase in the projected cashflows in the first few years is primarily driven by increases in average size for DRCA Other 1 payments. This is in addition to the increase in expected claimants from DRCA Other 2 in later years as the DRCA cohort ages.

Figure 16.4: Historical and projected other payments



16.3 Liability Estimate

16.3.1 Table 16.1 shows the estimate of the liability in relation to other payments broken down by year of accident. The expected liability as at 30 June 2021 from the 2020 valuation was $342.2m. The liability at this valuation is $451.1m, an increase of approximately $110m.

Table 16.1: Outstanding claims liability for other payments by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
1979 and before	22.2
1980 – 1984	21.4
1985 – 1989	49.2
1990 – 1994	144.2
1995 – 1999	119.2
2000 – 2004	95.0
Total	**451.1**
Expected at 30/06/2021	*342.2*
Total (30/06/2020)	**344.2**

16.3.2 Table 16.2 reconciles the liability estimate with the corresponding estimate at the previous valuation.

Table 16.2: Reconciliation of liability for other payments

	$m
Liability estimate at 30/06/20 (previous report)	344.2
Assumed Interest	16.7
Projected Payments	(18.8)
Notional Premium	0.0
Projected liability as at 30 June 2020 (previous valuation)	342.2
Experience effects and Assumption changes	
difference between actual and projected payments	(5.2)
change in experience	76.1
change in average cost	55.7
change in loading factor	(21.9)
change in inflation	4.2
Current Estimate	**451.1**

17 Valuing non-incapacity payments – MRCA Other Payments

17.1 Modelling Approach

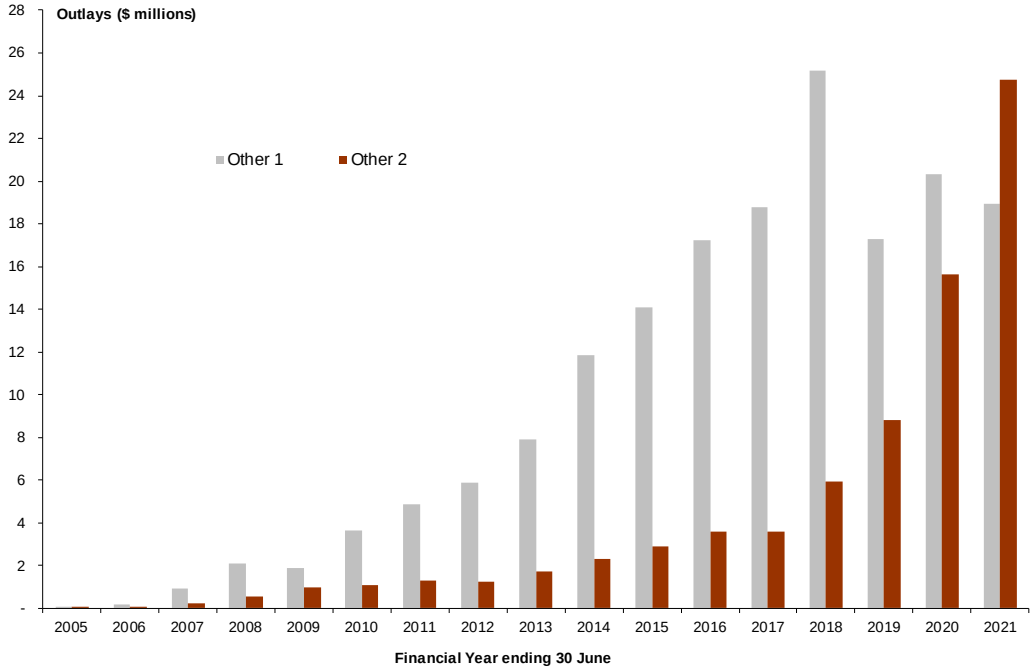
17.1.1 As with DRCA, we have separately modelled the expenditure under the Other 1 and Other 2 categories. For the Other 1 category, which relates primarily to medical exams, we modelled claimants per unit exposure based on MRCA experience for the development years for which data is available. For the later development years, we used an average of pre-closure and current DRCA experience adjusted to take account of the fact that recent DRCA experience may not be representative of future MRCA experience. A cubic spline was then fitted to the adjusted data.

17.1.2 For the Other 2 category, we applied the same payment per active claimant approach as was used for DRCA medical and DRCA Other 2. With the change to the approach to modelling MRCA medical expenses, this may need to be revisited in the future. We have included explicit mortality adjustments at this valuation to recipients aged 75 or older where previously, only the decay assumption has been adopted. The MRCA Other 2 category also includes a proportion of payments which are not related to household and attendant care services. For this proportion of expenditure, we have applied a margin. We note that death related expenses are growing as a proportion of the total expenditure and may need to be modelled for separately should it continue to grow in future.

17.2 Recent Experience and Valuation Assumptions

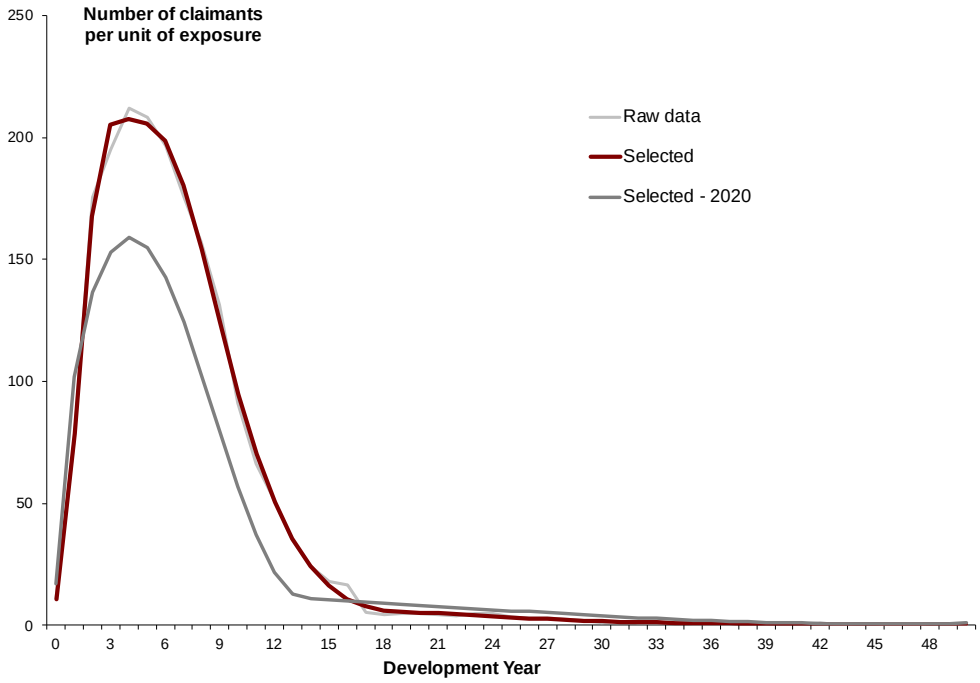
17.2.1 Figure 17.1 shows the expenditure on other payments since the introduction of MRCA. It can be seen that Other 1 payments have grown very rapidly over recent years, reflecting the fact that much of this expenditure is associated with medical exams at the time of claims for initial liability and when assessments of permanent impairment are being made. There was a significant decrease in the Other 1 category in 2019, potentially as a result of DVA moving towards fewer specialist examinations for claims. Over 2020 and 2021 the expenditure has remained relatively stable. Other 2 payments have historically grown much more slowly but have seen more rapid growth over the last four years.

Figure 17.1: Expenditure on other payments by category (MRCA data)



17.2.2 Figure 17.2 shows ultimate assumptions adopted for MRCA Other 1 on numbers of claimants per unit of exposure against the raw data from which these assumptions were derived.

Figure 17.2: Number of claimants per unit of exposure – category 1 other payments (MRCA)



17.2.3 Based on more recent experience, we have reduced the average cost for Other 1 to $1,950 from $2,400 per claimant selected at the previous valuation. The reduction in average size in recent years reflects the change of moving from specialist examinations to assessments by GPs. Since the 2018 calendar year, we have seen very little expenditure for legal claims at the unit record level with only one claimant in 2021 and as such, have removed the legal expense loading previously used. We have changed the assumed growth rate from 3% to 4% to reflect the long-term view on salary inflation and cost of services as this is more consistent with long-term trends.

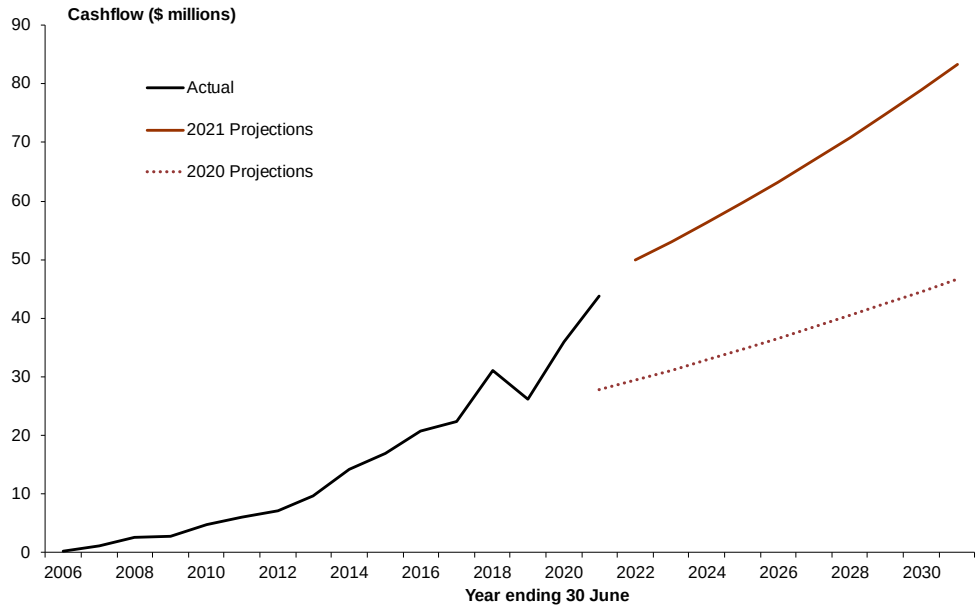
17.2.4 For Other 2 we have assumed inflation of 4% per annum. The initial cost per claimant is $4,000, up from $3,500 in 2020.

17.2.5 The Other 2 projection includes an average claimant per unit exposure across all development years. We have updated this assumption based on the most recent experience which has increased the previous assumption of 6.8 to 31.0. This has driven some of the increases seen in the projected liability for Other 2.

17.2.6 When these various components are combined, we can estimate the total projected payments for future years and compare them against the historical

experience as shown in Figure 17.3. The cashflows are significantly higher than those estimated in 2020 due to higher numbers of claimants for both Other 1 and Other 2 and higher costs for Other 2.

Figure 17.3: Historical and projected other payments



17.3 Liability Estimate

17.3.1 Table 17.1 shows the estimate of the liability in relation to other payments broken down by year of accident. The liability as at 30 June 2021 is $730.7m. This compares to an expected projected liability of $357.7m from the 2020 valuation and is driven by an increase in both the number of expected claims in both Other 1 and Other 2 and initial cost per claimant for Other 2.

Table 17.1: Outstanding claims liability for MRCA other payments by year of accident

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
2005 - 2009	172.9
2010	34.0
2011	35.9
2012	36.9
2013	37.8
2014	40.1
2015	43.1
2016	46.5

Year of accident - year ending 30 June	Liability (inflated and discounted) ($'m)
2017	50.1
2018	53.2
2019	56.5
2020	60.2
2021	63.4
Total	**730.7**
Expected at 30/06/2021	*357.7*
Total (30/06/2020)	**332.9**

17.3.2 Table 17.2 reconciles the liability estimate with the corresponding estimate at the previous valuation.

Table 17.2: Reconciliation of liability for other payments

	$m
Liability estimate at 30/06/20 (previous report)	**332.9**
Assumed Interest	16.8
Projected Payments	(27.9)
Notional Premium	35.8
Projected liability as at 30 June 2021 (previous valuation)	357.7
Experience effects and Assumption changes	
difference between actual and projected payments	(15.8)
change in experience	53.6
change in average cost	(4.2)
change in inflation	10.1
change in claims rate	855.3
change in decay rate	(320.8)
addition of mortality to Other 2	(261.6)
change in other assumptions	56.6
Current Estimate	**730.7**

18 Summary of results for non-incapacity payments

18.1 Liability as at 30 June 2021

18.1.1 The following tables combine the results reported in the previous sections to give a total liability for all non-incapacity payments across both schemes. Table 18.1 summarises the liability estimates described in the previous sections.

Table 18.1: Outstanding claims liability for non-incapacity payments as at 30 June 2021

Payment Type	Liability (inflated and discounted)	
Permanent Impairment[7]	9,155.2	41%
Medical Expenses	11,293.2	50%
Rehabilitation Costs	580.7	3%
Benefits Payable on Death[8]	272.6	1%
Other[9]	1,181.7	5%
Total	**22,483.4**	**100%**

18.1.2 The projected liability at the previous valuation for 30 June 2021 is $20,928.7. The liability at this valuation is $22,483.4m. This is approximately $1.6bn higher than was projected at the previous valuation with the majority of the increase attributable to the increase in medical liabilities.

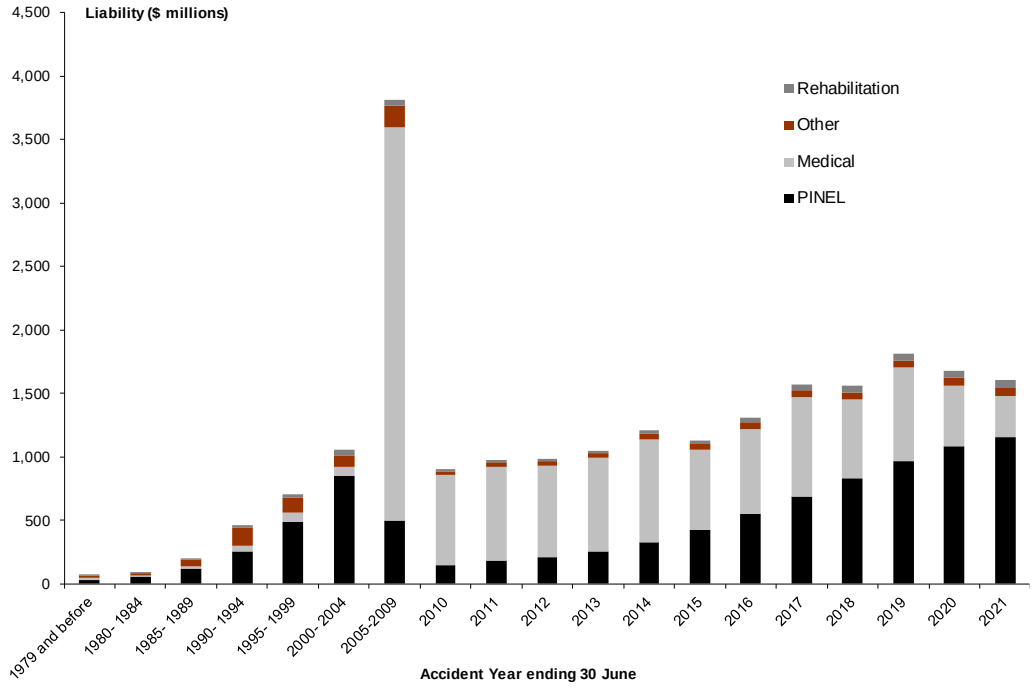
18.1.3 Figure 18.1 shows the estimates of the non-incapacity liability broken down by year of accident. Note that the liability for death payments is not included as the liability is not allocated to a year of accident. It can be seen that substantial liabilities are estimated in respect of the early accident years, particularly for medical costs.

[7] Includes non-economic loss payments.

[8] Includes lump sums and fortnightly payments to dependent children.

[9] Household services, attendant care, travel, legal costs, general services/medical examinations, surveillance, damage to property and funeral expenses.

Figure 18.1: Outstanding claims liability for non-incapacity payments as at 30 June 2021 - by head of damage and year of accident



18.1.4 The liability estimates were attributed to Service Arm in proportion to payments made during the last three financial years.

Table 18.2: Outstanding claims liability for non-incapacity payments as at 30 June 2021- by head of damage and service arm

	Liability (Inflated and Discounted) $'m			
Payment Type	**Army**	**Navy**	**RAAF**	**Total**
PI and NEL	6,198.8	1,611.9	1,344.4	9,155.2
Medical Expenses	7,995.5	1,686.8	1,610.9	11,293.2
Rehabilitation Costs	409.1	98.9	72.7	580.7
Death Benefits	75.9	115.6	81.1	272.6
Other	762.6	245.0	174.1	1,181.7
Total	**15,442.0**	**3,758.2**	**3,283.2**	**22,483.4**

18.1.5 Approximately 69 per cent of the liability is estimated to arise from injuries to Army personnel, while the Navy and RAAF contribute around 17 per cent and 14 per cent respectively.

18.2 Projected Cashflows

18.2.1 Cashflows have been projected for the following decade allowing for future injuries. Table 18.3 shows the projected cashflows in respect of injuries sustained before the valuation date under DRCA, while Table 18.4 shows the cashflows arising from injuries sustained before the valuation date under MRCA.

18.2.2 Table 18.5 shows the projected cashflows for injuries occurring after 30 June 2021. Note that all figures are in nominal dollars, that is, they have not been discounted to 2021 dollars.

Table 18.3: Projected non-incapacity payments for DRCA claims incurred as at 30 June 2021

	Payments (future dollars) $'m					
Year ending 30 June	PI and NEL	Medical Expenses	Rehab	Death	Other[10]	All[11]
2022	236.8	10.6	13.0	31.1	26.2	317.7
2023	225.9	10.2	12.3	28.5	26.6	303.5
2024	213.0	9.7	11.6	26.5	26.8	287.6
2025	198.6	9.3	10.8	23.9	26.9	269.5
2026	183.3	8.9	10.0	21.7	27.0	250.9
2027	167.7	8.4	9.2	19.5	27.1	231.9
2028	152.2	8.0	8.4	17.3	27.1	213.0
2029	137.4	7.6	7.6	15.1	27.1	194.7
2030	123.4	7.2	6.9	13.0	27.1	177.6
2031	110.4	6.7	6.3	11.0	27.2	161.7

[10] Household services, attendant care, travel, legal costs, general services/medical examinations, surveillance, damage to property and funeral expenses.

[11] Excludes incapacity payments.

Table 18.4: Projected non-incapacity payments for MRCA claims incurred before 30 June 2021

	Payments (future dollars) $'m					
Year ending 30 June	PI	Medical Expenses	Rehab	Death	Other	All
2022	917.5	170.7	58.5	10.1	48.5	1,205.1
2023	1,100.9	201.0	59.2	4.2	48.6	1,414.0
2024	1,307.4	236.7	57.7	4.2	47.3	1,653.4
2025	1,148.1	271.0	54.5	4.1	45.4	1,523.1
2026	971.8	303.1	50.0	4.1	43.3	1,372.3
2027	616.7	334.7	44.7	4.1	41.1	1,041.3
2028	495.4	366.0	39.1	4.1	38.8	943.3
2029	393.5	396.4	33.5	4.0	36.7	864.1
2030	315.0	427.6	28.3	4.0	34.9	809.8
2031	258.3	456.6	23.7	3.9	33.5	776.1

Table 18.5: Projected non-incapacity payments for MRCA claims incurred after 30 June 2021

	Payments (future dollars) $'m					
Year ending 30 June	PI	Medical Expenses	Rehab	Death	Other	All
2022	8.2	1.0	0.2	6.1	1.0	16.6
2023	95.3	5.6	2.8	12.9	3.9	120.6
2024	233.0	15.7	7.9	14.0	8.2	278.9
2025	402.4	29.7	15.0	15.1	13.5	475.7
2026	586.1	46.1	23.8	16.2	19.2	691.3
2027	770.0	66.1	33.6	17.3	25.3	912.2
2028	940.6	89.6	44.0	18.4	31.7	1,124.4
2029	1,088.4	116.4	54.7	19.6	38.2	1,317.3
2030	1,209.9	146.4	65.1	20.8	44.7	1,486.9
2031	1,304.4	179.8	74.9	22.1	51.0	1,632.1

18.2.3 Figure 18.2 shows this information graphically and Figure 18.3 puts the projection of total non-incapacity payments in the context of historical expenditure.

Figure 18.2: Projected non-incapacity payments

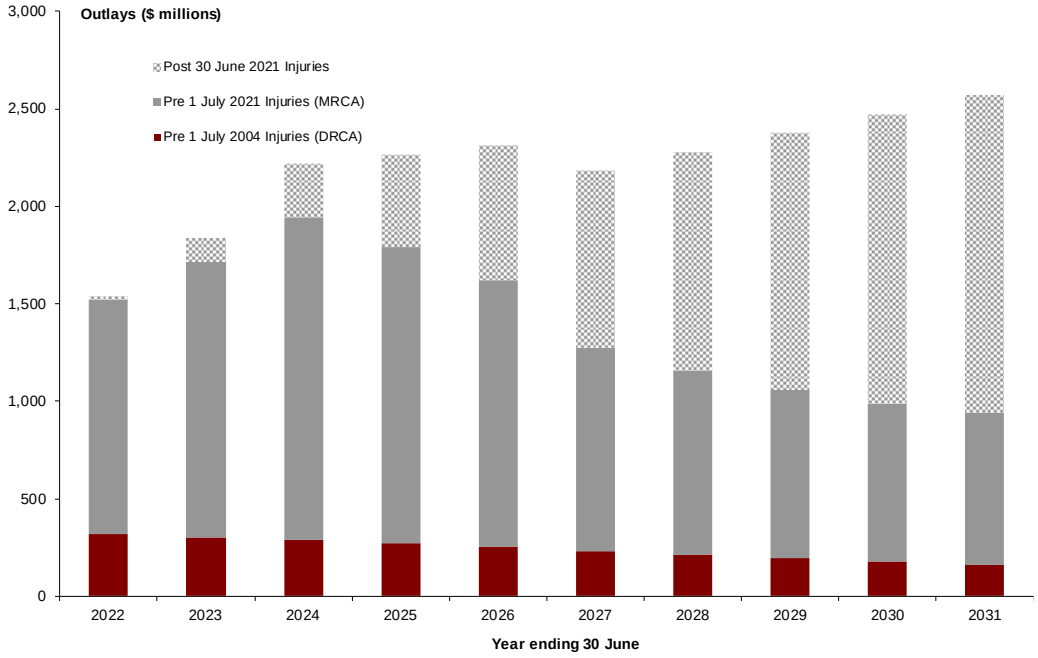
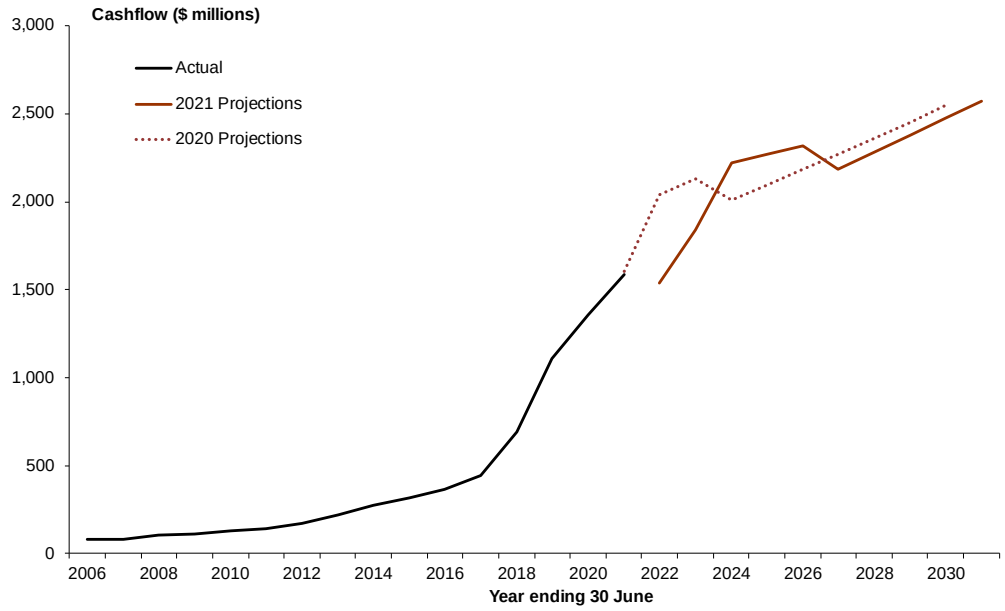


Figure 18.3: Historical and projected non-incapacity payments



18.2.4 The projected cashflows differ in shape as a result of adjustments made to account for expected processing capacity changes over the short to medium term. Beyond the ten years of cashflows shown in the above graph, the

expected cashflows are higher than those projected at the last valuation as a result of increasing expected medical costs.

19 Summary of overall outstanding liability, cashflows and notional premium estimate

19.1 Summary of Outstanding Claims Liability

19.1.1 Table 19.1 shows the overall outstanding claims liability split between incapacity and non-incapacity payments and by Service Arm.

Table 19.1: Outstanding claims liability as at 30 June 2021 by service arm

Service	Incapacity Payments ($m)	Non-Incapacity Payments ($m)	Total ($m)
Army	5,548.0	15,442.0	20,990.0
Navy	1,274.1	3,758.2	5,032.3
RAAF	930.8	3,283.2	4,214.1
Total	**7,753.0**	**22,483.4**	**30,236.4**
Total (30/06/2020)	7,095.5	19,467.6	26,563.1

19.1.2 Table 19.2 shows the outstanding claims liability for 2021, and projected for 10 years, split between DRCA and MRCA claims. The proportion of MRCA claim related liabilities are projected to increase from about 87 per cent of the total as at the valuation date to almost 96 per cent by the end of the projection period.

Table 19.2: Outstanding claims liability split between DRCA and MRCA

As at 30 June	DRCA ($m)	MRCA ($m)	Total ($m)
2021	4,065.6	26,170.8	30,236.4
2022	3,853.7	28,705.9	32,559.6
2023	3,637.1	31,130.2	34,767.3
2024	3,418.2	33,327.4	36,745.5
2025	3,201.0	35,619.3	38,820.3
2026	2,986.3	38,031.9	41,018.1
2027	2,771.1	40,687.4	43,458.5
2028	2,564.9	43,399.8	45,964.7
2029	2,363.5	46,170.1	48,533.6
2030	2,169.9	48,987.0	51,157.0

19.1.3 Table 19.3 reconciles the overall liability estimate given in our 2021 report with the current estimate of the outstanding claims liability. In total, the

various adjustments made to assumptions have increased the liability by approximately $1.7bn compared with that projected in the 2020 valuation. The increased liability has primarily been driven by growth medical benefits.

Table 19.3: Reconciliation of overall liability estimate

	$m
Liability estimate at 30/06/20 (previous report)	**26,563.1**
Assumed Interest	1,344
Projected Payments	(1,983.6)
Notional Premium	2,625
Projected liability as at 30 June 2021 (previous valuation)	28,548.5
Experience effects and assumption changes	
difference between actual and projected payments	(0.9)
change in MRCA Medical average cost	1,199.2
change in MRCA Medical transition probabilities	651.3
change in MRCA Other claims rate and usage	272.96
change in MRCA PI claims rate	(506.1)
other adjustments	71.8
Current Estimate	**30,236.4**

19.2 Summary of Projected Cashflows

19.2.1 This section combines the projected cashflows for incapacity and non-incapacity payments for the following decade allowing for future injuries. Table 19.4 shows the projected cashflows in respect of injuries sustained before the valuation date under the DRCA, while Table 19.5 shows the cashflows arising from injuries sustained before the valuation date under the MRCA. Table 19.6 shows the projected cashflows for those injuries occurring after 30 June 2021. Note that all figures are in nominal dollars, that is, they have not been discounted to 2021 dollars.

Table 19.4: Projected payments for DRCA claims as at 30 June 2021

Year ending 30 June	Incapacity ($'m)	Non-Incapacity ($'m)	Total ($'m)
2022	87.5	317.7	405.2
2023	96.0	303.5	399.5
2024	103.5	287.6	391.1
2025	109.2	269.5	378.7
2026	114.9	250.9	365.8
2027	123.8	231.9	355.7
2028	123.5	213.0	336.5

Year ending 30 June	Incapacity ($'m)	Non-Incapacity ($'m)	Total ($'m)
2029	126.9	194.7	321.6
2030	126.7	177.6	304.3
2031	126.4	161.7	288.0

Table 19.5: Projected payments for MRCA claims incurred as at 30 June 2021

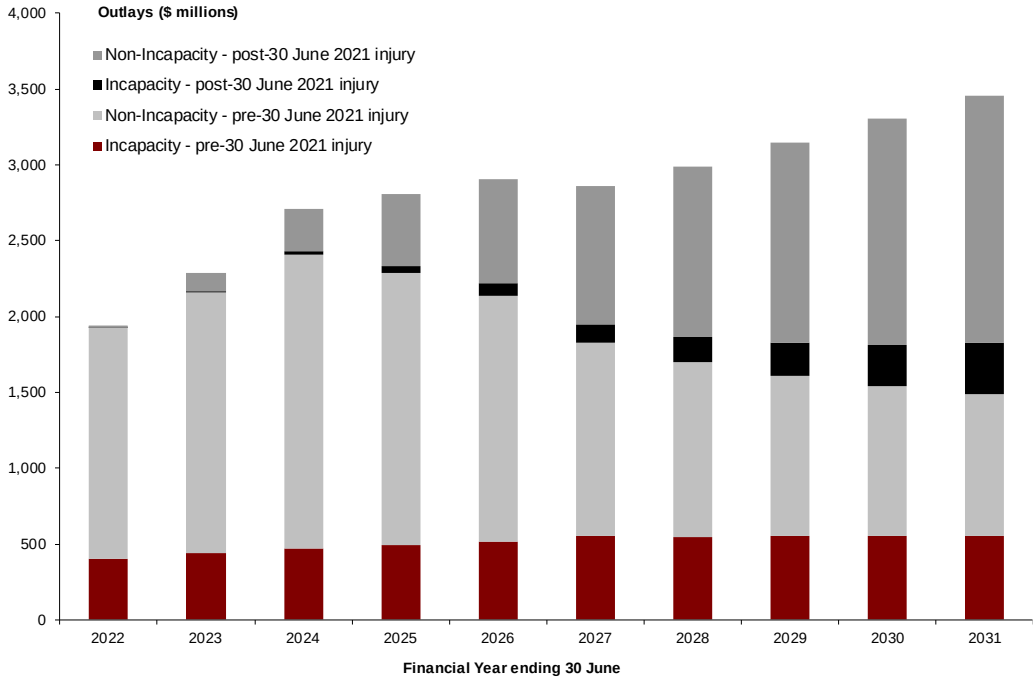
Year ending 30 June	Incapacity ($'m)	Non-Incapacity ($'m)	Total ($'m)
2022	316.4	1,205.1	1,521.5
2023	344.4	1,414.0	1,758.4
2024	366.8	1,653.4	2,020.2
2025	386.8	1,523.1	1,909.9
2026	402.1	1,372.3	1,774.4
2027	428.1	1,041.3	1,469.4
2028	422.4	943.3	1,365.7
2029	426.4	864.1	1,290.5
2030	427.0	809.8	1,236.8
2031	427.1	776.1	1,203.1

Table 19.6: Projected payments for MRCA claims incurred after 30 June 2021

Year ending 30 June	Incapacity ($'m)	Non-Incapacity ($'m)	Total ($'m)
2022	0.5	16.6	17.1
2023	6.5	120.6	127.1
2024	21.9	278.9	300.7
2025	45.6	475.7	521.2
2026	77.6	691.3	768.9
2027	121.0	912.2	1,033.2
2028	165.9	1,124.4	1,290.3
2029	217.3	1,317.3	1,534.6
2030	275.0	1,486.9	1,761.9
2031	336.6	1,632.1	1,968.6

19.2.2 Figure 19.1 shows this information graphically.

Figure 19.1: Projected payments



19.2.3 Table 19.7 shows the projected cashflows split between payments made under the DRCA and payments made under the MRCA. Note that all figures are in nominal dollars, that is, they have not been discounted to 2021 dollars.

Table 19.7: Projected payments split between DRCA and MRCA injuries

Year ending 30 June	Incapacity		Non-Incapacity		Total	
	DRCA ($'m)	MRCA ($'m)	DRCA ($'m)	MRCA ($'m)	DRCA ($'m)	MRCA ($'m)
2022	87.5	316.8	317.7	1,221.8	405.2	1,538.6
2023	96.0	350.9	303.5	1,534.6	399.5	1,885.4
2024	103.5	388.7	287.6	1,932.2	391.1	2,320.9
2025	109.2	432.3	269.5	1,998.8	378.7	2,431.1
2026	114.9	479.7	250.9	2,063.7	365.8	2,543.4
2027	123.8	549.0	231.9	1,953.5	355.7	2,502.6
2028	123.5	588.3	213.0	2,067.7	336.5	2,656.0
2029	126.9	643.7	194.7	2,181.4	321.6	2,825.2
2030	126.7	702.0	177.6	2,296.7	304.3	2,998.7
2031	126.4	763.7	161.7	2,408.1	288.0	3,171.8

19.3 Estimated Notional Premium

19.3.1 The notional premium is an estimate of the lifetime compensation cost of work related injuries occurring during 2021-22. It is the amount which if paid over the course of the year, together with assumed investment income, would be sufficient to meet the eventual claim costs arising from injuries which occur during 2021-22 if experience unfolded in line with the valuation assumptions. The notional premium for 2021-22 relates entirely to MRCA claims. It is important to note the distinction between the notional premium for 2021-22 and the actual claim payments which will be made during 2021-22.

19.3.2 It is convenient to break the notional premium into the same components as the outstanding claims liability. The components of the notional premium include the cost of:

- incapacity payments;
- permanent impairment and non-economic loss lump sums;
- medical expenses;
- rehabilitation;
- death and payments to dependent children; and
- other benefits;

that is attributable to claims arising from service rendered during 2021-22.

19.3.3 The estimate of the notional premium is calculated as the present value of the cashflows arising from the 2021-22 accident year adjusted for half a year's interest to give the amount that would need to be paid over the course of 2021-22.

19.3.4 Administration costs have not been included for this review, as they are considered outside the scope of the review itself.

19.3.5 Table 19.8 sets out the estimates of the notional premium, broken down by Service Arm, and by payment type. The notional premium for 2021-22 is $2,735.7m. This compares to the estimated notional premium at the previous valuation of $2,625m.

Table 19.8: 202-22 notional premium by service and payment type

Payment Type	ARMY ($'m)	NAVY ($'m)	RAAF ($'m)	Total ($'m)
Long-Term Incapacity	361.4	83.9	61.5	506.8
Short-Term Incapacity	85.5	19.2	13.9	118.6
Permanent Impairment	731.1	190.1	158.6	1,079.8
Medical	629.3	132.8	126.8	888.8
Rehabilitation	45.8	11.1	8.1	65.0
Death	7.0	10.7	7.5	25.2
Other	33.2	10.7	7.6	51.5
Total	**1,893.3**	**458.4**	**384.0**	**2,735.7**
Total (30/06/2020)	**1,865.2**	**427.5**	**332.4**	**2,625.0**

19.3.6 Table 19.9 shows the overall notional premium estimates, expressed as percentages of the total military salary expenditure expected to be paid during 2021-22. Salary estimates for this review were provided by Defence.

Table 19.9: 2021-22 notional premium by service (percentage of salary)

	ARMY	NAVY	RAAF	Total
Notional Premium ($ m)	1,893.3	458.4	384.0	2,735.7
Forecast salaries 2021-22 ($m)	3,026.4	1,774.2	1,682.5	6,483.1
Notional Premium (%)	**62.6%**	**25.8%**	**22.8%**	**42.2%**

19.3.7 Defence advised overall estimated salaries of approximately $6.5bn for 2021-22. This was around $95m higher than the salary roll for 2020-21, an increase of 1.5%. The notional premium has increased by around 2% and this has resulted in a slight increase in the premium expressed as a percentage of salary of approximately 1 percentage point. Most of the premium is attributable to the Army, which accounts for almost 70% of the total premium.

20 Scenario Analysis

20.1 Background

20.1.1 As discussed throughout the report, there remains great uncertainty in estimating the MCS liability. The very long term over which these liabilities will be paid out makes the results very sensitive to relatively small changes in assumptions. Interpreting experience in an environment with rapidly changing experience also has significant challenges. We have included a range of sensitivity tests and scenarios to show the impact of changes in key modelling assumptions and the impact of wider scheme experience changes.

20.1.2 As noted in section 5.3, the choice of the interest rate used to discount future cashflows to determine the present value of liability has a major impact on the results. This is the result of the very long time period over which payments are projected combined with the relatively high rates of payment inflation.

20.1.3 We have taken the view that changes in the interest rate from year to year have the potential to confuse rather than clarify understanding of the trends in the experience. However, for financial statement purposes an estimate of the liability based on prevailing yields on Commonwealth securities is required. In providing advice for the 2021 DVA financial statements, therefore, we discounted the cashflows generated by the 2020 model using a yield curve for Commonwealth securities as at 30 June 2021. We have recalculated the liability based on the cashflows from the current valuation using that same yield curve.

20.1.4 There is considerable uncertainty in modelling MRCA permanent impairment payments as a result of significant changes in experience and uncertainty regarding potential increases to DVA's internal processing capacity. As a result of several administrative initiatives taking place over this period, the level of claims has changed year on year and it is too early in the process to ascertain what a stable environment might look like. There is also considerable uncertainty regarding annual administrative funding which influences the rate at which the existing and growing initial liability and PI claims backlog might be cleared. We have therefore modelled a range of scenarios around the claims rate and timing of payments to illustrate the sensitivity of outcomes to these assumptions.

20.1.5 For the modelling of incapacity payments, there are a range of assumptions required on transition rates from short-term to long-term incapacity and age

based exit rates. DVA has identified incapacity as an area where it may be possible to influence outcomes and is implementing a range of initiatives designed to improve rates of return to the workforce. We have therefore modelled a range of scenarios around exit rates to illustrate the sensitivity of outcomes to these assumptions.

20.1.6 One key assumption in arriving at an estimate of the medical liability as at 30 June 2021 was the proportion of future expenditure that might relate to claims occurring before the valuation date. The data on health care expenditure makes it impossible to model this directly and we have instead used information on distributions of claims to approximate a split. To illustrate the impact of this assumption, we have included the liability that would have been calculated if we assumed that all of the expenditure arising from those who have had at least one claim prior to the valuation date contributed to the liability.

20.1.7 As medical payments continue for a substantial length of time, there is significant uncertainty around the long term experience. The MRCA scheme currently has 17 years of data but medical payments can continue for 60 or more years. The assumptions in the valuation have been based on the experience to date but long term experience for claimants could vary from current experience. As such, we have also included a range of scenarios around the key assumptions of transition rates, new claimants, and usage rates to show the impact of these on the liability.

20.1.8 Across these benefits, we have also included a number of scenarios related to uncertainties in usage and behaviour over the long term. These are discussed under each benefit type.

20.1.9 Finally, we have included additional scenarios on the total exposure of MRCA claimants and how the liability might change based on different ultimate utilisation assumptions across the three major benefit types.

20.2 Results

Discount Rate Scenario

20.2.1 The following table shows the liabilities as at 30 June 2021 by head of damage and Act using the yield curve adopted for the 2020-21 financial statements.

Table 20.1: Estimated liability using 2021 yield curve

Payment Type	DRCA ($'m)	MRCA ($'m)	Total ($'m)
Long-Term Incapacity	1,756	8,736	10,491
Short-Term Incapacity	198	1,030	1,228
Total Incapacity	**1,954**	**9,766**	**11,720**
Permanent Impairment	2,327	9,244	11,571
Medical	148	23,301	23,450
Rehabilitation	141	631	773
Death	239	129	368
Other	705	1,205	1,910
Total Non-Incapacity	**3,560**	**34,511**	**38,071**
Total	**5,513**	**44,277**	**49,790**

20.2.2 The total liability increases by $19.6bn when the yield curve is used, relative to the results using the 5 percent discount rate. The items which are most sensitive to the change in discount rate are the medical and long-term incapacity (which includes the IBNR liability) categories. These payments have a thicker 'tail' than other heads of damage in terms of the pattern of cashflows. The least sensitive heads of damage are death claims under DRCA and short-term incapacity, where the cashflows are expected to be concentrated in the short to medium term.

20.2.3 Cashflows are not affected by the choice of discount rate but the notional premium is. Using the yield curve, the calculated notional premium increases by $2.1bn to $4.8bn.

Permanent Impairment Scenarios

20.2.4 Over the last three years, both DRCA and MRCA permanent impairment have experienced significant growth in expenditure. This has primarily been driven by an increase in the number of claimants. Although we have incorporated the most recent experience in setting the claims curve, we note that there is a considerable number of unprocessed claims in initial liability and in PI. Sections 9 and 10 of the report discuss the provisions we have made to incorporate these backlogs into the liability modelling. We have used historic

experience to set assumptions regarding the proportion of unprocessed IL claims which might eventuate in paid PI claims. As veterans can have multiple IL claims and PI claims, it is currently not possible to determine from the historic data, specific injuries that have led to the PI claims. In line with MRCA's whole person impairment model, we have attributed all injuries prior to a PI claim as contributing to the claim in our modelling. Although we believe this is not an unreasonable approach, there does remain some uncertainty around the transition rates of these IL claims into PI. We have provided some scenarios around the potential additional growth to PI in Tables 20.2 and 20.3 below. These show the impacts on the liability should the proportion transitioning into PI be lower or higher than the assumptions adopted in our modelling as well as the timing impact should there be no processing constraints.

Table 20.2: DRCA Permanent impairment liabilities under modelled scenarios

Scenario	Description	DRCA PI Liability ($'m)	Change in Liability ($m)	% Change
Base		1,803.8	-	
1	Transition rates are 25% lower	1,770.1	(33.7)	(1.9%)
2	Transition rates are 25% higher	1,820.7	16.9	0.9%

Table 20.3: MRCA Permanent impairment liabilities under modelled scenarios

Scenario	Description	MRCA PI Liability ($'m)	Change in Liability ($m)	% Change
Base		7,351.3	-	
1	Transition rates are 25% lower	7,003.5	(347.9)	(4.7%)
2	Transition rates are 25% higher	7,699.2	347.9	4.7%
3	No processing capacity limitations	7,409.3	58.0	0.8%

Incapacity Scenarios

20.2.5 It seems likely that efforts to reduce unnecessary dependence upon incapacity benefits will be focussed on the younger age demographic and the scenarios we have modelled for the most part look at changes in exit or survival rates for this group. We have modelled the results separately for existing long-term

recipients and those who might become long-term recipients in future (the short-term and IBNR liability).

20.2.6 There also remains uncertainty around the conversion of initial liability claims to incapacity benefits. We have included scenarios around this conversion rate assumption and a scenario which looks at a higher proportion of all recipients remaining on benefits for longer than 12 months. Table 20.4 describes the eleven scenarios we have modelled while Table 20.5 shows the results.

Table 20.4: Description of scenarios for incapacity

Scenario	Description
1	Exit rates increased by 10% for those aged less than 35 who have been on long-term benefits for 5 years or less
2	Exit rates increased by 10% for all long-term recipients aged less than 35
3	Exit rates increased by 20% for those aged less than 35 who have been on long-term benefits for 5 years or less
4	Transition rate from short-term to long-term benefits reduced by 10% for those aged less than 50
5	Combination of scenarios 1 and 4
6	Combination of scenarios 3 and 4
7	Exit rates reduce by 10% for all recipients
8	Transition rate from short-term to long-term benefits increased by 10% for those aged less than 35
9	Conversion rate from initial liability is 25% higher than expected
10	Conversion rate from initial liability is 25% lower than expected
11	75% of all recipients become long term recipients

Table 20.5: Incapacity liability under modelled scenarios

Scenario	Short-term recipients ($m)	Current long-term recipients ($m)	Future long-term recipients	Total ($'m)	Change in Liability ($m)	% Change
Base	950.7	2,491.1	4,311.5	6,802.6	-	
1	950.7	2,480.6	4,239.8	6,720.4	(82.2)	(1.1%)
2	950.7	2,470.6	4,223.5	6,694.1	(108.5)	(1.4%)
3	950.7	2,470.7	4,175.6	6,646.3	(156.3)	(2.0%)
4	930.6	2,491.1	3,999.3	6,490.4	(312.2)	(4.3%)
5	930.6	2,480.6	3,934.7	6,415.4	(387.3)	(5.3%)
6	930.6	2,470.7	3,877.0	6,347.7	(455.0)	(6.1%)
7	950.7	2,600.3	4,647.5	7,247.8	445.1	5.7%
8	972.8	2,491.1	4,619.1	7,110.2	307.6	4.3%
9	985.7	2,491.1	4,461.3	6,952.4	149.8	2.4%
10	910.5	2,491.1	4,139.2	6,630.2	(172.4)	(2.7%)
11	1,211.3	2,491.1	5,070.7	7,561.8	759.2	13.2%

MRCA Medical Scenarios

Table 20.6: MRCA Medical liability sensitivity analysis

Sensitivity	Description	MRCA Medical Liability ($'m)	Change in Liability ($m)	% Change
Base	-	11,187		
1	Increase in 1% on transition probabilities	11,963	776	6.9%
2	Decrease in 1% on transition probabilities	10,360	(827)	(7.4%)
3	Lag ratios increased by 10%	11,686	499	4.5%
4	Lag ratios decreased by 10%	10,635	(552)	(4.9%)
5	Increase of 10% in usage rates	12,276	1,088	9.7%
6	Decrease of 10% in usage rates	10,044	(1,144)	(10.2%)
7	Combined (1 + 3 + 5)	13,782	2,595	23.2%
8	Combined (2 + 4 + 6)	8,881	(2,306)	(20.6%)

Table 20.7: MRCA Medical liability under modelled scenarios

Scenario	Description	MRCA Medical Liability ($'m)	Change in Liability ($m)	% Change
Base	-	11,187		
1	Lower transition rates in the long term (25% reduction after 10 years, 50% reduction after 20 years)	4,614	(6,573)	(58.8%)
2	Claimants have no expenditure after 20 years	5,110	(6,078)	(54.3%)
3	All claimants receive a gold card at age 70	21,062	9,875	88.3%
4	All cashflows arising from claimants with at least one injury before the valuation date are fully accrued	13,848	2,661	23.8%
5	All claimants have usage in each year	16,637	5,450	48.7%
6	Cost per claimant increases linearly after age 75	11,725	538	4.8%
7	Defence Superannuation invalidity mortality	10,565	(623)	(5.6%)
8	IL adjustment applied in 2023 FY	11,773	586	5.2%

20.2.7 The medical liability is reasonably sensitive to transition assumptions and the analysis highlights the potential impact a 1% increase across the transition probabilities can have on the total liability. The liability increases by approximately 7% which increases the overall liability by just over 2.5%.

20.2.8 As the MRCA scheme is relatively young, there is currently no experience beyond 17 years. We have used the existing experience to project future usage rates but as medical benefits can last significantly beyond this, there is

considerable uncertainty as to whether experience will differ in the long term. As medical benefits are for injuries sustained whilst in service, it is not unreasonable to assume that medical usage could reduce in some cases as we move further away from the incident date. Scenarios 1,2, 5, 6, and 7 look at the impact of different long term usage rates and mortality outcomes amongst the medical population.

20.2.9 The estimate of the MRCA medical liability was based on assumptions around how the future cashflows can be attributed to incidents arising before and after the valuation date. If we treated all cashflows arising from those known or assumed to have at least one incident before the valuation date as contributing to the accrued liability as in scenario 4, the MRCA medical liability would increase by almost $2.7bn to $13.8bn.

20.2.10 The number of Gold Card holders in MRCA have increased year on year. Scenario 3 shows the impact should all MRCA claimants receive a gold card at age 70. Although not likely to eventuate as eligibility also requires warlike/non-warlike service, it shows the significant impact gold cards can have on the total liability.

20.2.11 The final scenario looks at the timing impact of initial liability claims that are currently sitting in the backlog. Should the backlog be fully cleared in the 2022-23 financial year, the liability could increase by approximately 5%.

20.3 MRCA exposure scenarios

20.3.1 To demonstrate the extent of the uncertainty inherent in the MCS liability valuation, we have estimated the quantum of the MRCA liability under various claimant scenarios. We have specifically focused on incapacity, permanent impairment and medical as these heads of damage comprise over 90 per cent of the MRCA liability. A similar approach is not possible for the DRCA liability due to the paucity of data on the DRCA veteran population.

20.3.2 The liability under each claim scenario for a head of damage is calculated as the sum of the liability arising from the following three claimant groups: existing MRCA claimants that have received benefits under the head of damage to date, MRCA veterans that have not received a payment under the head of damage to date and the current ADF. To have entitlements under MRCA, veterans are required to have service after 30 June 2004 and, therefore, the total MRCA veteran population can be estimated using defence historical personnel data. To estimate the current defence force exposure, we have

included 15 per cent of reservists in addition to the permanent ADF as at 30 June 2021 to be consistent with the exposure used for the valuation.

20.3.3 For those that have separated from defence, any future cashflows can be considered fully accrued. However, a proportion of future cashflows arising from current ADF personnel will relate to accidents that will occur in the future. As such, it is necessary to calculate the proportion of this liability that is accrued as at the valuation date. By considering the service years rendered to date and remaining service years for the current ADF population based on historical separation rates from defence, we estimate the accrued proportion of the liability arising from the current ADF to be 55 per cent.

20.3.4 For incapacity and permanent impairment respectively, the liability is modelling by projecting benefit episodes and benefit payments rather than by projecting claimants. Therefore, an assumption around the ultimate episodes per claimant and claims per claimant is required. Due to the high level of uncertainty around the ultimate incapacity episodes per claimant and permanent impairment claims per claimant, we treat this assumption as a parameter in the scenario analysis and consider a range of possible values based on the experience of both MRCA and DRCA cohorts.

20.3.5 To receive an incapacity payment, the claimant must be under the Age Pension age. Therefore, it is necessary to restrict the number of MRCA veterans that have not received an incapacity payment to date to only those under the Age Pension age. Based on DVA client age profiles data from MRCA claimants, we have assumed 97% of the MRCA veteran population are under the Age Pension age.

20.3.6 We calculate the liability under each claim scenario using the following methodology:

Scenario liability = Claimants to date liability + Veterans not on benefit IBNR liability + ADF IBNR liability, where

Veterans not on benefit IBNR liability = (number of veterans x scenario % – number of claimants to date) x liability per IBNR claimant (lifetime cost), and

ADF IBNR liability = number of current defence personnel x scenario % x liability per IBNR claimant (lifetime cost) x proportion accrued

20.3.7 The lifetime cost for each head of damage is calculated dividing the IBNR component from the liability valuation by the projected number of IBNR claimants. As the lifetime cost is based on the valuation IBNR liability component, it reflects all the current valuation assumptions and incorporates timing of payments and discounting consistent with the valuation IBNR component.

20.3.8 Based on this methodology, the current valuation has implicitly assumed around 50% of MRCA eligible veterans will access PI and medical benefits whilst 25% will access incapacity benefits. Should the ultimate proportions emerge to be significantly higher, the liability could reach almost $60 billion.

Table 20.7: MRCA liability under claimant scenarios

Scenario	Assumptions	Medical ($'b)	Permanent Impairment ($'b)	Incapacity ($'b)	MRCA Total $'b (% change)
Base	Valuation assumptions	11.2	7.4	6.3	26.2
1	Medical and PI claimants: 40% Incapacity claimants: 20% PI claims per claimant: 1.7 Incapacity episodes per claimant: 1.8	9.2	4.5	5.4	20.3 (-22%)
2	Medical and PI claimants: 40% Incapacity claimants: 20% PI claims per claimant: 2 Incapacity episodes per claimant: 2	9.2	6.0	6.0	22.5 (-14%)
3	Medical and PI claimants: 60% Incapacity claimants: 30% PI claims per claimant: 1.7 Incapacity episodes per claimant: 1.8	13.4	8.8	8.1	31.6 (21%)
4	Medical and PI claimants: 60% Incapacity claimants: 30% PI claims per claimant: 2 Incapacity episodes per claimant: 2	13.4	11.2	9.0	34.9 (33%)
5	Medical and PI claimants: 80% Incapacity claimants: 40% PI claims per claimant: 1.7 Incapacity episodes per claimant: 1.8	17.7	13.2	10.8	43.0 (64%)
6	Medical and PI claimants: 80% Incapacity claimants: 40% PI claims per claimant: 2 Incapacity episodes per claimant: 2	17.7	16.3	12.0	47.3 (81%)
7	Medical and PI claimants: 100% Incapacity claimants: 50% PI claims per claimant: 1.7 Incapacity episodes per claimant: 1.8	21.9	17.6	13.5	54.3 (107%)
8	Medical and PI claimants: 100% Incapacity claimants: 50% PI claims per claimant: 2 Incapacity episodes per claimant: 2	21.9	21.5	14.9	59.6 (128%)

21 Compliance with Professional Actuarial Standards

21.1.1 The Actuaries Institute issues Professional Standards to provide guidance to actuaries in carrying out their professional role. Professional Standard 302 deals with actuarial reports and advice on general insurance technical liabilities. Under section 5.1 of PS302, compliance with the detailed reporting provisions of PS302 is obligatory where the actuarial report is to be provided to a regulator such as the Australian Prudential Regulation Authority. The current report is not considered to be captured under this requirement and, as such, the obligation is to comply with the relevant documentation and reporting requirements set out in the Institute's Code of Professional Conduct. We have complied with these requirements and have also used the provisions of PS302 as a guide in preparing this report.

21.1.2 Some aspects of PS302 are outside the scope of this report. These include risk margins and claim handling expenses associated with the estimates. As discussed in section 5.4, the relevant Accounting Standard for reporting the liability (AASB137) does not explicitly require a risk margin to be included. In the context of the Commonwealth's balance sheet, the requirements set out in AASB137 would argue against the inclusion of a risk margin since it would be irrational for the Commonwealth to pay more than the central estimate to settle the liability. This view is consistent with the fact that the Commonwealth chooses to self-insure many of its risks rather than pay a premium to transfer them off the balance sheet.

Jane Miao, FIAA
Actuary

27 June 2022