Scheme Actuarial Valuation as at 30 June 2019

ReturnToWorkSA

August 2019

At ReturnToWorkSA's request we have consented to the release of this report to the public, subject to the reliances and limitations noted in the report.

Third Parties, whether authorised or not to receive this report, should recognise that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or the data contained herein which would result in the creation of any duty or liability by Finity to the Third party.

While due care has been taken in preparation of the report Finity accepts no responsibility for any action which may be taken based on its contents.

Actuarial and Insurance Consultants

26 August 2019

Mr Greg McCarthy
Chair
ReturnToWorkSA
400 King William Street
ADELAIDE SA 5000

Dear Mr McCarthy

Scheme Actuarial Valuation as at 30 June 2019

Enclosed is our final report on the 30 June 2019 scheme actuarial valuation.

With the *Mitchell* decision now having resolved favourably for ReturnToWorkSA on appeal, the valuation basis no longer has the significant potential for a 'step change' hanging over it that has been part of our valuation work since June 2017. That said, there is still considerable 'legal uncertainty' in the scheme, and the large number of open disputes and slow rate of dispute resolution still present a material risk to the valuation results. On current trends it is likely to be at least another two to three years, and perhaps longer, before the real-world operation of the Act is confidently known.

As you will also see, the economic assumptions that we are required to use under the Corporation's accounting standard have led to a material increase in the scheme's liabilities at this valuation.

We would be pleased to discuss our review and findings with your executive and Board as required.

Yours sincerely

Andrew McInerney | Tim Jeffrey | Gae Robinson

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Scheme Actuarial Valuation as at 30 June 2019

Glossary

Active Claim	A claim is regarded as 'active' in the valuation models if it had a payment in the relevant period.
Actuarial Release	A 'like with like' measure of how claims management activity has impacted on scheme financial performance since the previous valuation. See Section 11.3 for additional information.
APR	Average Premium Rate – the premium charged by ReturnToWorkSA to registered employers, on average, as a percentage of leviable wages.
BEP	Break Even Premium – the estimated cost of running the scheme for a year, including all future payments for claims incurred in the year after allowing for investment earnings, expressed as a percentage of leviable wages.
Development Quarter or DQ	The number of quarters between the injury date of a claim and the relevant activity (whether a claim report or claim payment).
ER	Incentives for early reporting of claims, introduced in 2008.
IBNER	Incurred But Not Enough Reported – an allowance for cost growth on known claims in addition to the reported cost.
IBNR	Incurred But Not Reported – claims where the accident has occurred, but ReturnToWorkSA is yet to be notified.
IS	Income Support (also known as weekly benefits) payments.
NWE	Notional Weekly Earnings.
OSC	Outstanding claims liability.
PPAC	Payments per active claim.
PPCI	Payments per claim incurred.
RTW	Return to work.
RTW Act	The Return to Work Act 2014, which governs the scheme.
Serious Injury or Serious Injury claim	A claim that meets the definition of a "Serious Injury" under the RTW Act.
Short Term claim	A claim that does not meet the Serious Injury threshold.
WRCA ('old Act')	Workers Rehabilitation and Compensation Act 1986, the previous Act which governed the scheme.
WPI	Whole Person Impairment.

Part I Executive Summary

1 Introduction

Finity Consulting Pty Limited ("Finity") has been engaged by ReturnToWorkSA to undertake an actuarial review of the Return to Work Scheme ("the scheme") as at 30 June 2019.

Our previous actuarial review was as at 31 December 2018, and was documented in a report dated 6 March 2019.

2 Scope of the Review

The scope of the review is specified in our contract with ReturnToWorkSA.

The primary purpose of the June review is to provide ReturnToWorkSA with an independent estimate of the liability for outstanding claims and projected claim costs for registered (non self-insured) employers. ReturnToWorkSA uses this estimate in determining the provision for outstanding claims in its annual financial accounts.

The actuarial review also aims to provide analysis of the major features of the recent scheme claims experience, and a projection baseline against which ReturnToWorkSA can manage outcomes and monitor emerging experience in the coming year.

3 Valuation Approach

Our estimate of the outstanding claims liability is a central estimate of the liabilities. This means that the valuation assumptions have been selected such that our estimates contain no deliberate bias towards either overstatement or understatement.

Our estimates of the outstanding claims liabilities project future benefits separately for Serious Injury claims and for Short Term claims, reflecting the differences in benefits available between the two groups under the RTW Act.

We have also provided a recommended provision for outstanding claims which increases the central estimate to a level intended to achieve 75% probability of sufficiency.

With the *Mitchell* decision now having resolved favourably for ReturnToWorkSA on appeal, the valuation basis no longer has the significant potential for a 'step change' hanging over it that has been part of our valuation work since June 2017. That said, there is still considerable 'legal uncertainty' in the scheme, and the large number of open disputes and slow rate of dispute resolution still present a material risk to the valuation results.

4 Scheme Environment

Recent developments which affect the scheme's operating environment and/or the liability estimate include:

- **Legal precedent**: the RTW Act continues to be tested through the scheme's dispute resolution processes, and legal precedent on a number of key issues is yet to emerge. The result is that there is still a range of circumstances where there is uncertainty about how and where the scheme's legislative boundaries will apply; as such, the real-world operation of the Act is still yet to be confidently known. Of particular importance to our assessment are the provisions about how and when a claim is determined to be a Serious Injury.

  While the *Mitchell* appeal decision was favourable for ReturnToWorkSA, we have not yet observed any notable reduction in the number of open disputes following its resolution. Given the number of cases that have been described to us over the last two years as 'awaiting Mitchell', it appears there are still many claims with similar issues remaining in the dispute resolution system. As such, while the outcome in *Mitchell* was positive, the risk relating to the liabilities continues to be higher than it otherwise would be due to the high number of open disputes and slow rate of resolution.

- **Dispute resolution and appeals**: related to the above point, the number of open disputes has remained high, and the delay to resolution is increasing. Further, rates of appeal continue to be high by historical standards, following changes in the RTW Act that mean legal costs are no longer at risk on an appeal. This is lengthening disputes and increasing legal costs, and has led to higher non-claimant related costs (e.g. medico-legal costs).

- **Exposure and claim number growth**: claim numbers are currently around 10% higher than they were two years ago, due to a combination of higher than anticipated wages growth (growth in the underlying workforce exposure) and deterioration in claims frequency. Much, but not all, of this growth has been covered by higher premiums, as premiums also increase with the growing exposure.

- **Evolution of the claims management model**: changes to the claims management model have led to the earlier identification of Serious Injury claims, and further work is also underway to speed up the WPI assessment process (both as a project on transitional claims and also for business as usual claims management). These are positive steps in terms of managing the largest financial risk areas for the scheme, and should help with our understanding of likely future outcomes.

5 Recent Claim Experience

The key features of the claims experience in the six months to 30 June 2019 were:

- For claims managed entirely under the RTW Act:
  - The claim frequency has essentially been flat over the last four years, which is unfavourable for the scheme in the context of a long term trend of a consistently reducing claims frequency. Our analysis suggests this is the result of deterioration in claim frequencies for some industries, including construction and manufacturing, as well as increases in claims for particular injury types such as hearing loss and musculoskeletal claims.
  - Following a deterioration in the RTW experience in the six months to December 2018, newer Income Support claim numbers have stabilised and perhaps even begun to improve; for the cohort where RTW performance had slipped, we have observed generally slightly higher numbers of claims remaining on benefits over the last six months.
  - Lump sum payments continue to be at low levels, with most of the claims reaching two years on Income Support benefits yet to have had a WPI assessment.
  - The number of disputes per month is running about 35% lower than pre-reform levels, which is even better than our assessment six months ago (25% better than pre-reform levels).

This has favourable implications if maintained. That said, we expect dispute numbers will increase, at least to some extent, as the number of WPI assessments increases.

- For transitional claims, there continues to be a much higher than anticipated level of disputation, with some 1,200 disputes still open on the transitional cohort – and with only a 122 claim net reduction in the open dispute count since December 2018, it looks like being years before the transitional cohort is finalised. As previously noted, there are relatively few transitional claims still on direct benefits following implementation of the final time-cap boundary under the RTW Act (cessation of medical benefits at June 2018 for claims whose Income Support ceased at June 2017).
- The level of Serious Injury activity (applications, disputes and additional numbers) continues to be higher than expected.
  - For transitional periods, there continues to be a 'tail' of late emerging new Serious Injury claims; this experience is quite different from our expectation that most applications from these transitional claims would have been made shortly after the cessation of Income Support in June 2017.
  - For fully RTW Act claims, ReturnToWorkSA has changed the claims management approach to identify 'likely' Serious Injury claims much earlier, which is a positive step. There is still uncertainty, however, about how many more Serious Injury claims will emerge for these cohorts given the slowdown in WPI assessments and slow resolution of disputes. Our current assessment is that RTW Act Serious Injury numbers will be higher than previously estimated.
  - Medical and treatment costs for Serious Injury claims have continued to reduce in the periods after initial treatment is completed. We have not identified any particular explanation for these consistent reductions, other than the qualitative observations from ReturnToWorkSA and its claim managers that claimants 'no longer need to look sick' to remain on benefits.

Total net claim payments in the six months were $8.7 million (5%) lower than expected. Payments were: $5 million higher for Income Support , $6 million lower due to lump sums taking longer to be paid than anticipated, and $5 million lower on medical and treatment costs. Legal costs were also $2 million lower than expected, which we attribute to the slow rate of resolution on old disputes; legal costs are generally paid upon completion of the dispute.

6 Liability Valuation Results

Summary of Results

Our central estimate of the scheme's outstanding claims liability for registered employers as at 30 June 2019 is $2,722 million. This is a discounted (present value) estimate, net of recoveries and including allowance for future expenses. Adding a risk margin of 14% (previously 15%) to produce a provision with a 75% probability of sufficiency, consistent with ReturnToWorkSA's reserving policy, gives an outstanding claims provision of $3,103 million, as shown in Table 1. The provision includes an allowance for future claims handling expenses equivalent to 10% of gross claim costs.

Table 1 – Recommended Balance Sheet Provision

	Central Estimate	Risk Margin	Recommended Provision
	$m	$m	$m
Gross Claims Cost - Serious Injuries	1,844		
Gross Claims Cost - Short Term Claims	691		
Claims Handling Expenses	243		
Gross Outstanding Claims Liability	2,778	389	3,167
Recoveries	-56	-8	-64
Net Outstanding Claims Liability	2,722	381	3,103

Table 1 demonstrates that the majority of the OSC liability relates to Serious Injuries. The balance will continue moving toward Serious Injury liabilities over time, particularly if lump sums speed up.

The lowering of the risk margin from 15% to 14% of the central estimate follows a full review of the risk margin scorecards at this valuation, with the main reason for the reduction being reductions in the legal uncertainty risk. That said, the risk margin is still higher than would be the case if the system was operating with less 'frictional costs' than it does currently; that is, the risk margin would reduce further if there were fewer disputes, faster resolution of disputes, lower rates of appeal, and fewer key legal questions being challenged.

Movement in Liability

Our central estimate is $209 million higher than projected at the previous valuation. We have attributed the change in central estimate to two components:

- Movement in liability due to claims performance – this covers the components that are due to claim outcomes (such as changes in the number and mix of claims), as well as the impact of revisions to our valuation assumptions. This step also includes the impact of changes in the timing of lump sum payments; slower than expected lump sums lead to an increase in the remaining liability.
- Impact of changes in economic assumptions – this component is mandated by accounting standards, and therefore outside ReturnToWorkSA's control.

This split also allows calculation of the 'actuarial release', where we add the difference between actual and expected payments to the movement in the liability due to claims experience, to give a measure of the 'profit' impact of claims management performance relative to the previous valuation, as shown in Table 2 below.

Table 2 – June 2019 Central Estimate and Determination of Actuarial Release/(Strengthening)

	Central Estimate		
	Liability Estimate[1]	AvE Payments in 6 mths to Jun-19	Actuarial Release [2]
	$m	$m	$m
Liability at Dec-18 Valuation	2,430		
Projected Liability at Jun-19 (from Dec-18 valuation)	2,513		
Claims Movement - Short Term Claims	14	-14	-1
Claims Movement - Serious Injury	-14	5	9
Impact of Change in economic assumptions	208		
Recommended Liability at Jun-19	2,722		
Total Actuarial Release			8

[1] Net central estimate of outstanding claims liability, including CHE

[2] Includes change in OSC and Act vs Exp payments.

There is an actuarial release of $8 million for the period, a favourable result for the scheme. Changes to economic assumptions, however, increase the central estimate by $208 million. Each of these items is discussed briefly below.

Components of the Actuarial Release/(Strengthening)

Table 3 shows the actuarial release by entitlement group, and split between Short Term claims and Serious Injuries. As this shows, the overall $8 million actuarial release is the net result of a number of larger offsetting movements.

Table 3 – Actuarial Release/(Strengthening) by Entitlement Group

Entitlement Group	Short Term Claims[3]	Serious Injury Claims[3]	Total Actuarial Release [3]	Release as %
			$m	
Income & Related	-11	-28	-39	-8%
Lump Sums	9	-18	-9	-3%
Legals	-5	-1	-6	-6%
Treatment Related [1]	5	53	57	4%
Rehabilitation	0	1	2	6%
Other Costs [2]	1	0	1	11%
Recoveries	2	0	2	4%
Total Claim Costs	1	8	9	0%
Expenses	-2	1	-1	0%
Net Central Estimate	-1	9	8	0%

[1] Medical, hospital, physical therapy, travel, other

[2] Investigation, common law , commutation, LOEC

[3] Includes change in OSC and Act vs Exp payments.

The movements which contribute to the $8 million actuarial release are:

- For **Short Term claims**, the actuarial strengthening (negative release) of just $1 million is the net result of:
  - An increase of $11 million on Income Support claims. This is partly due to higher new claim numbers, with an increase in the proportion of claims that commence Income Support. Our

analysis suggests that the recent mix of claims on Income Support is slightly more adverse, with increases in the numbers of mental injury and musculoskeletal claims; these claims tend to remain on Income Support longer than other claims. There have also been more claims continuing through to 6-12 months after injury.

  - A release of $9 million on lump sums, although the main reason for this is a transfer of the liability for these claims into the Serious Injury segment, as likely serious injury claims are now being identified much earlier than in the past; this is therefore not a genuine release, but a change in where the cost is being recognised. There was also a $6 million strengthening for hearing loss lump sums, where claim numbers have been increasing quickly.

    As previously mentioned, we continued to treat the low level of lump sum payments as a slowdown in their payment, rather than a reduction. If this is not the case, then future savings in lump sums are likely.

  - An increase of $5 million for legals, as disputes continue to move into the later (and more expensive) stages of the dispute resolution process.
  - A release of $5 million on treatment and related costs, where experience has tracked better than projected despite the increases in Income Support claims.

- For **Serious Injury claims**, there was an overall release of $9 million, due to:
  - Higher Income Support costs ($28 million increase), due to a combination of increases in the expected number of Serious Injury claims and a higher average size of income payments.

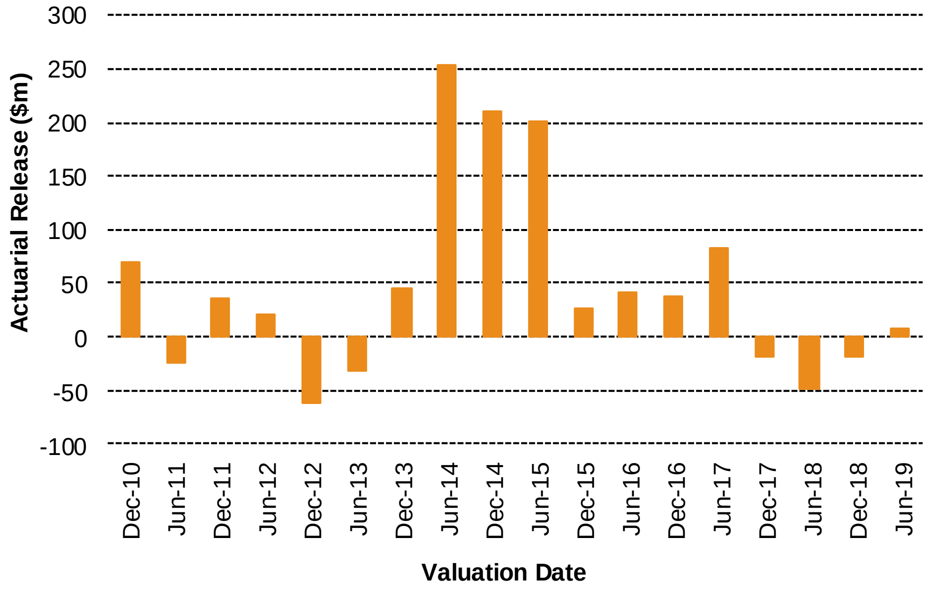
    Even with the higher allowance for Serious Injury claim numbers, we are still only allowing for a very small percentage of ongoing claims to ultimately reach the Serious Injury boundary (around 2% of pre-2016 claims that are still open), so there is still a risk of further increases.

  - A $53 million saving on treatment related costs. As mentioned earlier we have continued to see reductions in the medical and related spend once claims have moved beyond the initial treatment period, which we are increasingly recognising via reductions in the valuation basis. If recent experience is maintained, further savings are likely; however, given the very long term nature of these projections we want to ensure these reductions are sustainable before the basis is fully reduced.
  - An $18 million increase due to lump sums – as mentioned above for Short Term Claims, this is a change in where the cost is being recognised, and not a change in the underlying cost of these claims.

Our projections for the remaining entitlement types were also reviewed and updated, although none of the movements are significant in relation to the overall scheme liability.

Figure 1 shows the actuarial release/(strengthening) at each valuation over the last nine years. The modest release at this valuation follows three strengthenings in the preceding 18 months; a common feature over this period has been increases in the number of new Serious Injury claims, which again occurred at this valuation.

Figure 1 – History of Actuarial Releases/(Strengthenings)



Impacts of Economic Assumption Changes

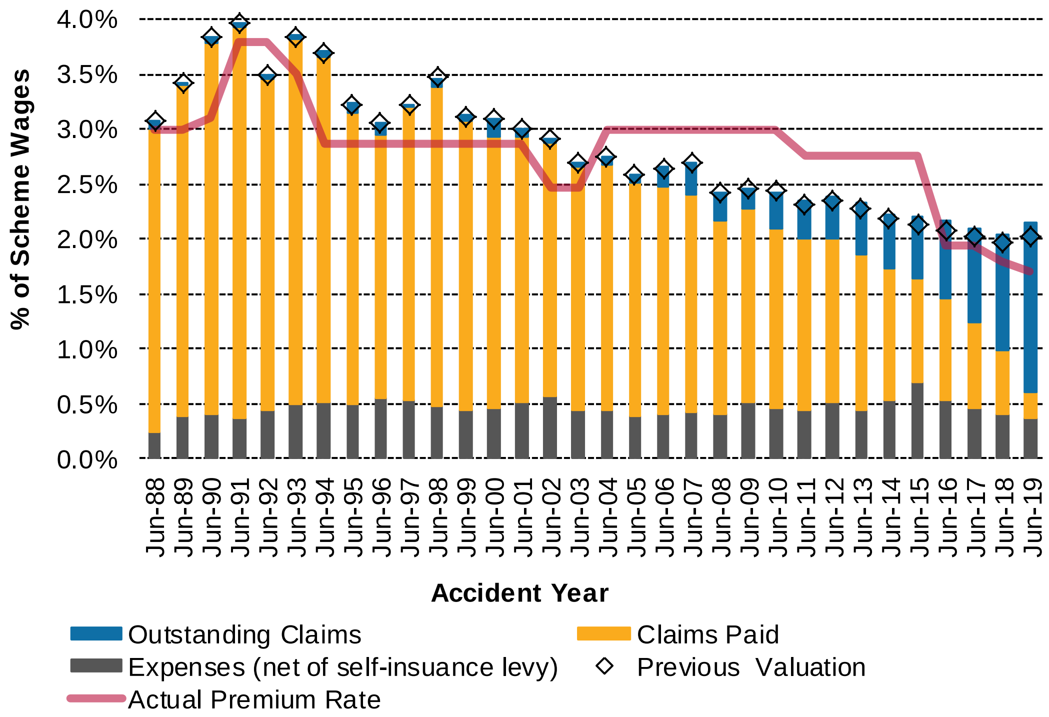
Changes to inflation and discount rate assumptions increased the central estimate by $208 million. As discussed in Section 10.1, significant decreases in discount rates at all durations, which are outside ReturnToWorkSA's control, have driven this increase. These decreases were partly offset by reductions in projected wage inflation, but there is still a negative real yield (i.e. projected wage inflation exceeds the discount rate) out to nearly 15 years into the future.

7 Historical Scheme Costs

We have estimated the 'historical premium rate', otherwise known as the Break Even Premium rate (BEP), for each past accident year; this is the amount that would have been sufficient to fully cover claim costs, expenses and recoveries, assuming the scheme achieved risk free investment returns each year and that the current actuarial valuation is an accurate forecast of future payments. The BEP is calculated by dividing the total projected costs for the accident year (discounted to the start of that year at risk free rates) by the total scheme leviable remuneration in that year. We present the costs on this basis, using risk free discount rates, so that a like with like comparison can be made over the history of the scheme, allowing current scheme performance to be assessed in a long term context.

Figure 2 shows a summary of the estimated BEPs, including a comparison with the estimates at our previous valuation and the scheme's actual average premium rate charged for each year.

Figure 2 – Break Even Premium Rate* and Actual Premium Rate Charged



* The Break Even Premium Rate in this Figure is calculated using the risk free rate, so that a like with like comparison can be made over the history of the scheme. For clarity, this is not the same as the scheme's pricing basis, as the scheme targets a higher than risk free rate of return when premiums are set.

The main points to note are:

- The introduction of the RTW Act reduced the BEP for accident years between 2008 and 2010 to just under 2.5% of wages
- For accident years since 2011 the costs are progressively lower again, as claims have had less opportunity to remain on long term benefits
- The current estimate of the BEP for the 2019 accident year is 2.16% of wages, up from 2.02% at the December 2018 valuation. Of this increase, 0.09% is attributable to changes in the economic assumptions, and 0.05% is due to changes in the underlying claims performance. In relation to claims costs:
  - Serious Injury costs are projected to be 0.05% higher than at our previous valuation
  - Short Term claim costs are projected to be 0.01% higher
  - Scheme expenses are forecast to be 0.01% lower.
- Scheme expenses have reduced year-on-year since 2015 when they were particularly high as a result of additional transition related requirements. Expenses for the 2019 year are around 0.36% of wages (unaudited), which is below the target post-reform rate of 0.40% of wages.

We note that these calculations assume past and future investment earnings at risk free rates. All else being equal, any above risk free earnings or additional sources of income would act to reduce the required premium rate.

We emphasise that (as seen in the graph) the BEP estimates for recent accident years include a significant outstanding claims estimate and are therefore likely to change as experience emerges. We also note that the adopted wages figure for 2019 still involves some estimation.

8 Key Uncertainties

There is considerable uncertainty in the projected future claim costs, in particular around how and when claims are determined to be Serious Injuries. Section 12 details some of the uncertainties and sensitivities of our advice, in order to place our estimates in their appropriate context.

The main areas of uncertainty in our current estimates of the liabilities are:

- **Legal precedent risk** – risks here relate to the possibility of decisions which are unfavourable to the scheme or the culture and behaviour of its participants. In particular, a number of decisions have gone against ReturnToWorkSA's interpretation of the WPI assessment rules, and there are still many claims in dispute seeking to access higher levels of benefits than ReturnToWorkSA has determined. On current timing, this risk is likely to remain for at least another two to three years, and perhaps longer.
- **WPI assessments** – under the RTW Act, there are significant differences between the compensation available to claims above the 30% WPI threshold and those below. This factor, combined with the new lump sum for future economic loss payable to Short Term claims, means there is pressure on WPI assessments. The scheme will face significant financial consequences if this leads to either extra claims getting over the 30% WPI threshold or 'WPI creep'. The robustness of the 'once and for all' WPI assessment rules under the RTW Act is an important area of risk.
- **Serious Injury claim costs** – these claims are entitled to benefits for life, and the risks for this group relate to factors that are common across most claims, and deviations from our assumptions that compound across multiple years. For the current valuation the key uncertainties are:
  - **Ultimate numbers of claims** – there are several areas of uncertainty in relation to claim numbers. These include the impact of claimants delaying their WPI assessments, as well as the number of outstanding Serious Injury application disputes and other WPI disputes that could see claims ultimately meet the 30% WPI threshold.
  - **Life expectancy** – the future life expectancy of Serious Injury claimants has a significant impact on future cost projections.
  - **Cost escalation** – the potential for future cost escalation in a number of medical, care and treatment related items poses a risk. One example is the extent to which care costs that are currently not compensated by the scheme may become compensable in future, as family-based carers age and claimants increasingly require paid attendant care and/or residential care facilities. Another example is the potential increase in costs for care related specialists and facilities, due to wage pressures and/or market demand pressures for these specialists as the National Disability Insurance Scheme continues to scale up.
- **Claim number increases and return to work rates** – over the last 12-18 months there has been an increase in claim numbers and slippage in return to work outcomes (relative to the much improved RTW rates seen over the preceding few years) for claims managed entirely under the RTW Act. While legal involvement on RTW Act claims is currently tracking better than pre-reform levels, if the higher level of legal involvement on transitional claims transfers into the RTW Act

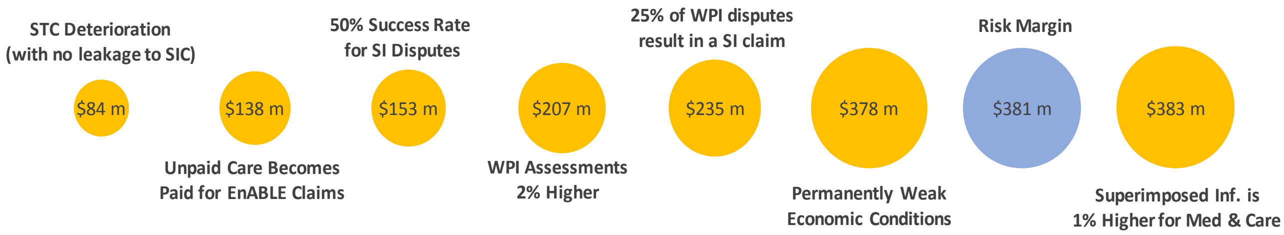
cohort then the sustainability of RTW improvements made over the last four to five years could be at risk.

- **Outcomes for claims with current disputes** – risks here include the possibility of decisions which are unfavourable to the scheme, as well as the behavioural consequences of so many disputes remaining. Open dispute numbers remain high and more claims are moving into the later stages of the dispute resolution process.

Even though the RTW Act provisions commenced four years ago, there are still key areas of the Act being tested in the courts, and there is as yet only limited information on the number of Serious Injury claims which will emerge from these cohorts. The current valuation basis reflects our best estimate of how this experience will eventuate, based on our and ReturnToWorkSA's interpretation of the intent of the Act. Over time, our basis will further reflect the developing post-reform experience, and it is possible that the experience will differ materially from our current expectations.

To place these uncertainties and risk in context, Figure 3 shows some of the key risks and uncertainties in the projections, as summarised in Section 12 of the report, relative to the risk margin adopted in the liability reserves (in blue). The risk areas below are largely independent of each other, and so it is possible that a number of these changes could occur at the same time.

Figure 3 – Comparison of Reserving Risk Margin to Key Risks and Uncertainties



As this shows, there is a range of plausible scenarios that could see the liability move by multiple hundreds of millions of dollars. The larger scenarios all depend primarily on Serious Injury claims numbers and/or costs. We observe that most of the larger uncertainties would emerge over the long term, but there is still the possibility of a significant increase in the liability reserves if for any reason there is an increase in the number of claims who meet the criteria for Serious Injury benefits.

9 Reliances and Limitations

Our results and advice are subject to a number of important limitations, reliances and assumptions. This executive summary must be read in conjunction with the full report and with reference to the reliances and limitations set out in Section 13 thereof.

This report has been prepared for the sole use of ReturnToWorkSA's board and management for the purpose stated in Section 1. At ReturnToWorkSA's request, we consent to the release of our report to the public, subject to the reliances and limitations noted in the report.

Third parties, whether authorised or not to receive this report, should recognise that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or the data contained herein which would result in the creation of any duty or liability by Finity to the third party.

While due care has been taken in preparation of the report Finity accepts no responsibility for any action which may be taken based on its contents.

This report, including all appendices, should be considered as a whole. Finity staff are available to answer any queries, and the reader should seek that advice before drawing conclusions on any issue in doubt.

Part II Detailed Findings

1 Introduction and Scope

1.1 Introduction

Finity Consulting Pty Limited ("Finity") has been requested by ReturnToWorkSA to undertake an actuarial review of the Return to Work scheme as at 30 June 2019.

We have carried out half-yearly actuarial reviews since June 2003; the most recent was as at 31 December 2018, and was documented in a report dated 6 March 2019.

1.2 Scope of the Review

The scope of the review is specified in our contract with ReturnToWorkSA.

The primary purpose of the June review is to provide ReturnToWorkSA with an independent estimate of the liability for outstanding claims and projected claim costs for registered (non self-insured) employers. ReturnToWorkSA uses this estimate in determining the provision for outstanding claims in its annual financial accounts.

The actuarial review also aims to provide analysis of the major features of the recent scheme claims experience, and a projection baseline against which ReturnToWorkSA can manage outcomes and monitor emerging experience in the coming year.

1.3 Compliance with Standards

Professional Standard 302 issued by the Institute of Actuaries of Australia sets out the expectations of actuaries preparing estimates of the liability for outstanding claims of statutory authorities involved in general insurance activities; PS 302 replaced the previous standard PS 300 with effect 1 July 2019. Our valuation, and this valuation report, have been prepared in accordance with PS 302's requirements (refer to Appendix L).

We understand that Australian Accounting Standard 1023 (AASB1023) is adopted by ReturnToWorkSA in preparing its financial statements, and we have prepared our estimate of the outstanding claims to be consistent with our understanding of AASB1023's requirements.

1.4 Control Processes and Review

Our valuation and this report have been subject to Technical and Peer Review as part of Finity's standard internal control process:

- Technical review focuses on the technical work involved in the project. The technical reviewer reviews the data, models, calculations and results, and also reviews our written advice from a technical perspective.
- Peer review is the professional review of a piece of work. The peer reviewer reviews the approach, assumptions and judgements, results and advice.

1.5 Structure of this Report

Section 2	Describes the approach we have taken to the valuation, and provides a brief overview of the information provided to us.
Section 3	Summarises the current operational landscape impacting on the scheme.
Section 4	Summarises high level recent claims experience.
Sections 5 to 9	Detail our analysis of scheme experience and valuation assumptions.
Section 10	Sets out other valuation assumptions, including the economic assumptions of inflation and discount rates, and the risk margins and claim handling expenses adopted in setting accounting provisions.
Section 11	Shows detailed tabulations of the outstanding claims valuation results.
Section 12	Provides sensitivity analysis of the valuation to key assumptions and highlights some of the key uncertainties in our projections.
Section 13	Sets out important reliances and limitations.
Section 14	Summarises the key events and changes in the South Australian scheme over time.

The appendices include detailed specifications of the valuation models and results.

Figures in the tables in this report have been rounded. There may be instances where the rounded information does not calculate directly to the total shown.

In this report, we use the current titles “ReturnToWorkSA” and “RTW scheme” to include the previous authority (WorkCoverSA) and scheme (WorkCover scheme), where relevant.

2 Approach and Information

2.1 Approach

The Return to Work Act 2014 ("RTW Act") made significant changes to entitlements and to the scheme operations, with all of the new features having commenced on or before 1 July 2015. Our estimates of the outstanding claims liabilities allow fully for the expected impacts of the RTW Act.

Under the RTW Act, Serious Injury claims have very different entitlements from other claims. We have modelled these claims separately, with the remaining claims modelled as 'Short Term claims'. Serious Injury claims are valued using an individual claim based approach by payment type, and Short Term claims are valued using aggregate methods, by payment type.

Table 2.1 summarises where the entitlement and claim cohorts are documented in this report.

Table 2.1 - Report Structure by Claim Cohort

	Short Term Claims	Serious Injury Claims	Other Assumptions	Overall Results
Valuation Basis and Results	Sections 5 to 8	Section 9	Section 10	Section 11
Economic Impacts	Section 10 (basis) and Section 11 (results)			

2.1.1 Basis of the Valuation

Our estimate of outstanding claims is a central estimate of the liabilities. This means that the valuation assumptions have been selected such that our estimates contain no deliberate bias towards either overstatement or understatement. The estimates are shown discounted to allow for the time value of money using a risk free discount rate, consistent with accounting standards.

With the *Mitchell* decision now having resolved favourably for ReturnToWorkSA on appeal, the valuation basis no longer has the significant potential for a 'step change' hanging over it that has been part of our valuation work since June 2017. That said, there is still considerable 'legal uncertainty' in the scheme, and the large number of open disputes and slow rate of dispute resolution still present a material risk to the valuation results.

We have also provided information on the recommended provision for outstanding claims which increases the central estimate to a 75% probability of sufficiency, in accordance with ReturnToWorkSA's reserving policy.

2.2 Information

2.2.1 Standard Data Extracts

Claims data was provided in the form of a transaction file with complete scheme history to 30 June 2019. We have not independently verified or audited the data, but we have reviewed it for general reasonableness and consistency, including reconciliations to the previous actuarial review information and to information from ReturnToWorkSA's financial statements. The claims data appears to be of high quality and contains extensive detail.

As for previous valuations, our experience analysis excludes all claims related to employers who have become self-insurers (including claims before they became self-insured).

Appendix B shows summaries of the claims data, including data reconciliations.

2.2.2 Qualitative and Additional Information

In addition to the standard data extracts, we obtained additional information from ReturnToWorkSA and its claims agents EML and Gallagher Bassett. This included briefing sessions on 25 June 2019 and operational information that was provided separately.

The additional information we received included:

- Tableau-based monthly monitoring reports showing:
  - Claim reports
  - Payments by benefit type
  - Open, closed and lodged disputes by month
  - Income Support continuance rates and numbers
- Serious Injury claim list containing:
  - All claims that are currently included in our ultimate claims, with the information as to why they have been included
  - Flags to indicate whether they should be valued for Income Support and medical benefits
  - General information pertinent to Serious Injury claims such as determination status and WPI
  - Information on any disputes relating to Serious Injury applications
- EnABLE case estimates covering:
  - Estimated half-yearly costs by payment type
  - The level of care that is currently unpaid (that is, where there is gratuitous care that is generally provided by a family member)
  - Description of the injury and current condition
- Information on WPI assessments including:
  - Completed and in-progress assessments by claim number
  - Disputed assessments by claim number
  - Lump sum payment status of completed disputes
- Information on disputes including:
  - List of open and finalised disputes by accident year and latest disputation phase
- Additional information including:
  - List of Transitional Regulation 5 applications and their current status
  - List of pre-approved surgeries and current status
  - List of joint replacement and surgery payment codes

- Remuneration projection for 2018/19 and onwards

3 Scheme Environment

This section summarises changes in the scheme's legislative and operational landscape which are considered in our valuation.

3.1 Legislation

There have been no changes to the scheme's legislation or Regulations which impact on our valuation since the December 2018 valuation.

3.2 Legal Precedent under the RTW Act

Key sections of the RTW Act continue to be tested through the scheme's dispute resolution processes. In the last six months a number of these key cases have completed the various appeal processes, including the case that presented the greatest immediate financial risk to the scheme, *Mitchell.*

As has been the case for a number of years, there remains a large number of open disputes, including a higher than usual number of cases on appeal to the Full Bench of SAET and to the Supreme Court, and until these are resolved there will be uncertainty as to the financial costs which eventuate under the RTW Act benefit package.

Mitchell

In April 2019 the Supreme Court found for ReturnToWorkSA, overturning the original *Mitchell*[1] decision which allowed for the 'combining' of secondary injuries that arise from medication use into the WPI assessment of an injury. This re-establishes the approach that ReturnToWorkSA has been adopting as the correct way of treating these impacts.

As explained in our previous few reports, if the original decision had been maintained then the scheme's liabilities would have been materially higher than was provisioned, as more claims would have been able to access Serious Injury benefits. Given the original *Mitchell* decision was <u>not</u> built into our previous valuation basis whilst the decision was subject to appeal, there is essentially no impact of this favourable result on the central estimate projection of the claims liability.

While this decision reduces the risk of our liability estimate ultimately proving to be inadequate, we have not yet observed any notable reduction in the number of open disputes following the resolution of *Mitchell* – given the number of cases that have been described to us over the last two years as 'awaiting Mitchell', it appears there are still many claims with similar issues that remain in the dispute resolution system. As such, whilst the outcome in *Mitchell* was positive for ReturnToWorkSA, given the dispute resolution system is continuing to keep claimants in the system for extended periods of time and the continuing high numbers of open disputes it does not yet appear that the risk of an adverse combining precedent has been totally removed. The risk in the liabilities therefore continues to be higher than it otherwise would be.

Onody

The case of *Onody*[2] relates to how lump sums are determined for claims that are an aggravation of a previous work injury where a lump sum had been paid.

[1] Return To Work Corporation of South Australia v Mitchell [2019] SASCFC 34
[2] Onody v Return To Work Corporation of South Australia [2019] SASCFC 56

Prior to the *Onody* decision an aggravation claim was first subject to the 5% threshold before any further lump sum payment was made, and then if a lump sum was payable it was determined based on the net increase in the WPI assessment. The *Onody* decision changes this, so that aggravation claims will have their lump sum determined based on the post-aggravation WPI less any lump sum amount that has already been paid.

This change will see aggravation claims paid more in their lump sums due to both the removal of the threshold on an aggravation claim (i.e. any increase in the WPI will lead to an additional lump sum) and because the aggravation is assessed using the gross WPI rather than the change in WPI (because the conversion of a WPI score to a lump sum amount is not linear, this leads to a higher average payment size).

The main area where *Onody* is expected to impact is for Noise Induced Hearing Loss claims, although it is possible there will be other claims where an aggravation injury can occur.

Other Cases

There are other cases that are key to the long term operation of the Return To Work scheme and are still to be resolved. These cover a wide range of areas including:

- Combining of injuries for WPI assessment and lump sum purposes
- Whether employment is the significant cause of secondary injuries or injuries away from the workplace
- The reviewability of decisions and past agreements.

Given the slow rate of dispute resolution, it is likely that it will still be at least another two years, but probably longer, until there is confidence about how the various RTW Act legislative provisions apply in practice. In some areas it may take years before all areas of outstanding issues are resolved.

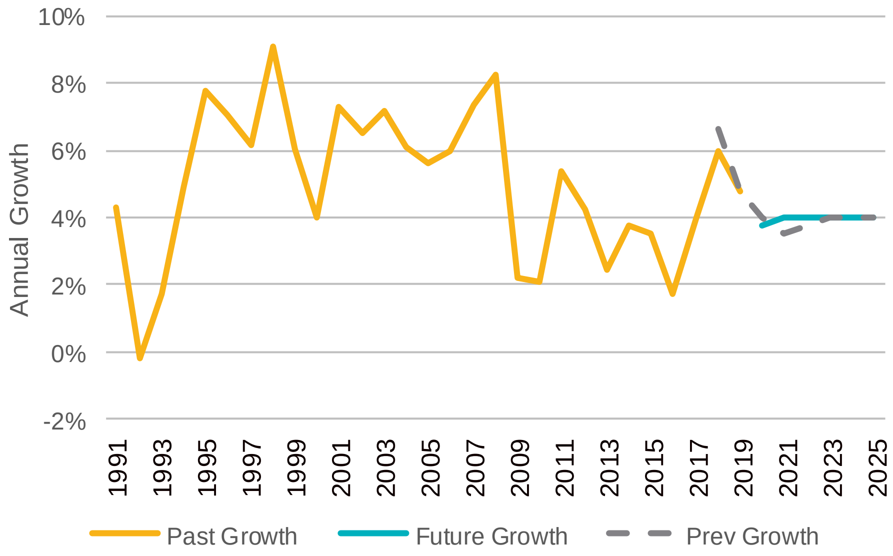
3.3 Operational and Environmental Changes

This section describes recent trends in the scheme environment. Section 14 provides an overview of earlier operational and legislative changes which are useful in understanding the scheme's historical experience.

3.3.1 Increasing Exposure and Claim Numbers

After an extended period of low wages growth, the South Australian economy has had higher growth in 2018 and 2019. Figure 3.1 shows the actual and projected annual remuneration growth, which shows that 2018 and 2019 are both in the three highest growth years seen in the last decade.

Figure 3.1 - Annual Remuneration Growth



As described in our previous report, this growth was not uniform across the economy with some higher risk segments, such as the construction industry, growing by well more than the overall average.

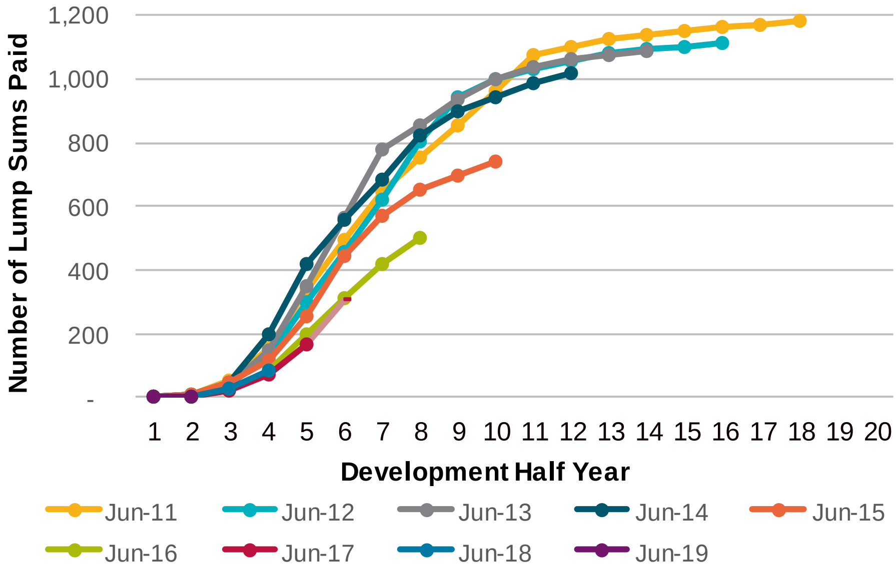
At the same time as this exposure growth, the scheme has experienced a flattening in its claim frequency trends, with the frequency essentially stable over the last four years; the long term history has been for a consistently reducing claims frequency due to influences such as improved WHS and a general societal shift toward less risky work, and so a stable claims frequency is unfavourable when measured against this long term trend. Claim numbers are discussed further in Section 4.1.

The end result is that claim numbers are currently around 10% higher than they were two years ago. Most, but not all, of this growth has been covered by higher premiums.

3.3.2 Slow Lump Sum Activity

Lump sum payments continue to occur much later than was historically the case prior to the RTW Act commencing; while we expected lump sum payments to speed up under the RTW Act due to the introduction of the two year Income Support cap, the contrary has been observed with the numbers of claims receiving lump sum payments reducing. Figure 3.2 shows the cumulative numbers of claims getting a first lump sum payment by accident year cohort (this excludes death benefits and deafness lump sums, as these were not impacted by the reforms).

Figure 3.2 – Cumulative Number of Lump Sum Claims (Short Term Claims only, excluding death and deafness payments)



As this shows, the number of claims who have received a lump sum reduced for the 2015 year, with the 2016 and later years being lower again. The two main reasons we have identified for the slow lump sum payments are: (1) high levels of disputation and delays in key legal precedent emerging, which have slowed the WPI assessment process, and (2) anecdotally, we are advised that some claimants are seeking to delay their WPI assessment due to concerns that they could 'deteriorate' in future, and the 'once and for all' assessment rules would preclude them from having a further assessment.

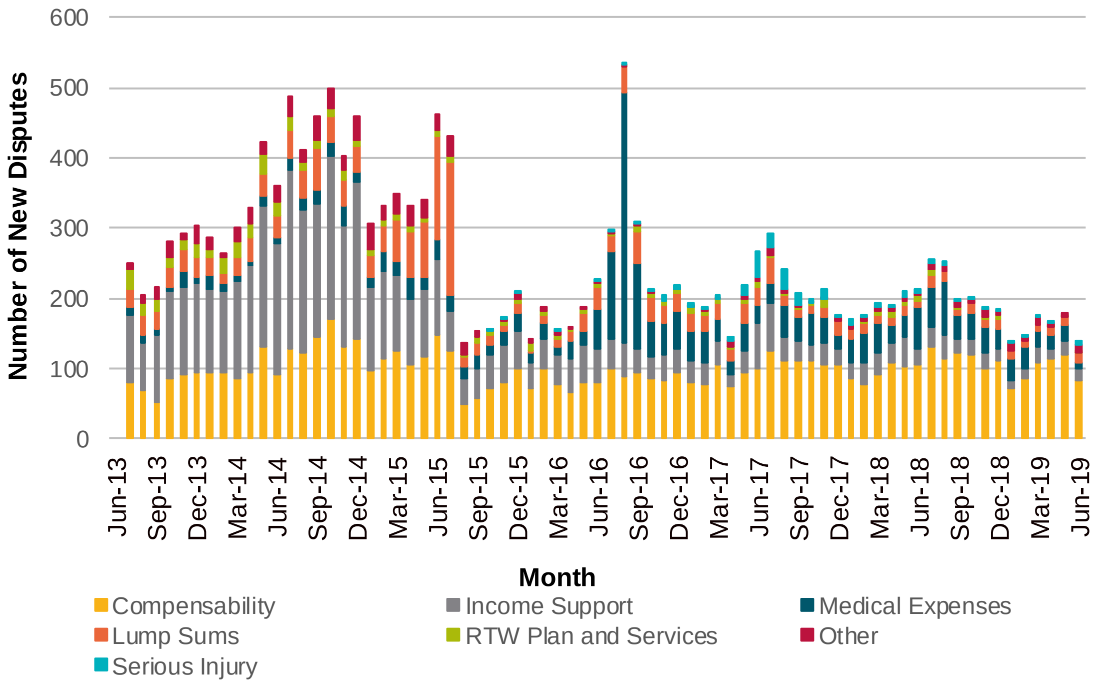
We are still essentially interpreting these reductions as being due to delays in completing WPI assessments, rather than a reduction in the number of claims eligible for lump sums. We also note that any delay in the completion of WPI assessments also has implications for Serious Injury claim numbers, as these also run off the WPI assessment. The lump sum valuation basis is discussed further in Section 6 and Serious Injury claim numbers are discussed in Section 4.2.

A major program of work has recently been commenced by ReturnToWorkSA, where they and their claims agents are proactively working with claimants to try and complete as many outstanding WPI assessments as possible (subject to the claimant being ready to proceed with the WPI assessment). This should help to crystallise the number of lump sum claims that remain from past injury periods.

3.3.3 Dispute Numbers and Dispute Resolution

Dispute numbers were high during 2013, 2014, and the first part of 2015, due to greater numbers of claim rejections and Work Capacity decisions (under the old Act; these provisions no longer exist under the RTW Act). Dispute numbers then fell dramatically after 1 July 2015 under the RTW Act, although there have been a number of 'spikes' as key boundaries commenced: medical expenses disputes spiked after June 2016, due to a significant number of disputes around future surgery applications, and Serious Injury disputes increased around June 2017, as shown in Figure 3.3.

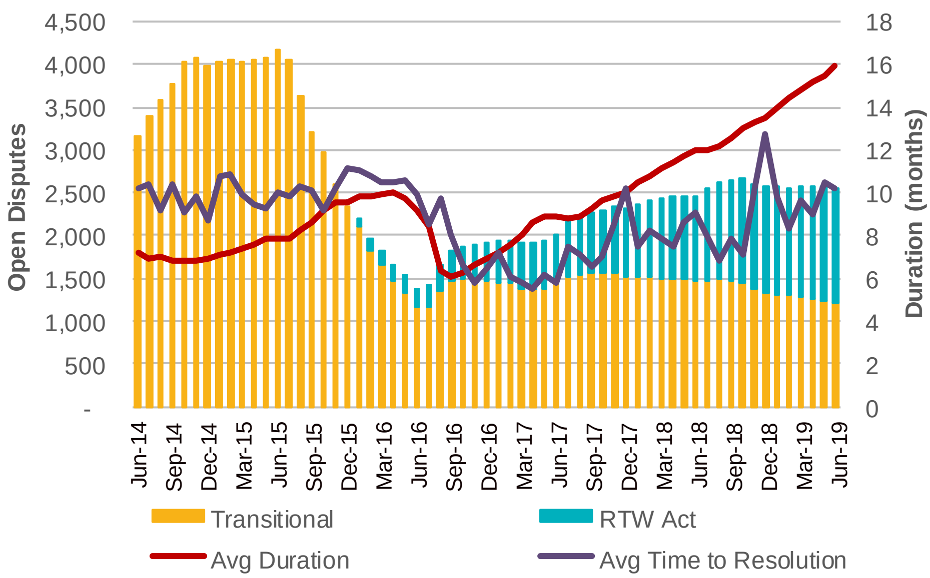
Figure 3.3 – New Disputes by Dispute Type (monthly)



Since October 2016, dispute numbers have averaged around 200 per month, which is similar to the 'Old Act' experience prior to 2013. While it appears that current dispute numbers are similar to the earlier historical levels in aggregate, there continue to be favourable signs that disputes have reduced for claims managed entirely under the RTW Act – we do caution, however, that with the recent slowdown in WPI assessments as noted above, it is likely that RTW Act dispute numbers will increase somewhat as WPI assessments are completed.

Compounding this continuation in new disputes is the timeframe to resolve disputes, which has lengthened considerably. The result is that the number of open disputes remains high. Figure 3.4 shows the number of open disputes over time, split between RTW Act claims and transitional claims, and the duration of open and finalised disputes.

Figure 3.4 – Open Dispute and Duration



Our observations are:

- The level of open disputes has stabilised at around 2,500 disputes, with growing RTW Act claims replacing finalised transitional claims. This indicates the new scheme is not yet at a 'steady state' for disputes. There is still uncertainty as to the ongoing level of disputes under the RTW Act and the impact of these disputes on claim outcomes.
- There are still around 1,200 disputes open for transitional claims, and four years after the RTW Act commenced we are starting to see this number reducing. There are however still new disputes commencing from transitional claims, and this group continues to represent a material risk to our liability estimate (as context, the IBNR allowance for future Serious Injury claims from the transitional claim cohort is only 46 claims).
- The duration for open disputes has more than doubled since July 2016, from around seven months to close to 16 months. The duration for finalised disputes has grown at a more modest pace, suggesting the more complex and costlier disputes have yet to settle.
- Since Income Support benefits for most claims are capped under the RTW Act, even a 10 month dispute resolution timeframe is considered slow.

3.3.4 Potential for New Silicosis Claims

Following high numbers of new silicosis claims from the benchtop industry, where silica is a key component in the new range of 'engineered stone' benchtops, a project is underway in conjunction with SafeWork SA to assess the potential for these types of claims to occur in South Australia.

At this stage there are three potential silicosis claims that have been identified by the project, only one of which is confirmed as being related to engineered stone. This is much lower than the numbers of impacted workers that have been identified in the Eastern states. We are advised that the project group believe this is a genuine difference, which is being attributed to a lower use of engineered stone in South Australia along with a correspondingly smaller workforce (for example, some suppliers will order in the benchtops from interstate).

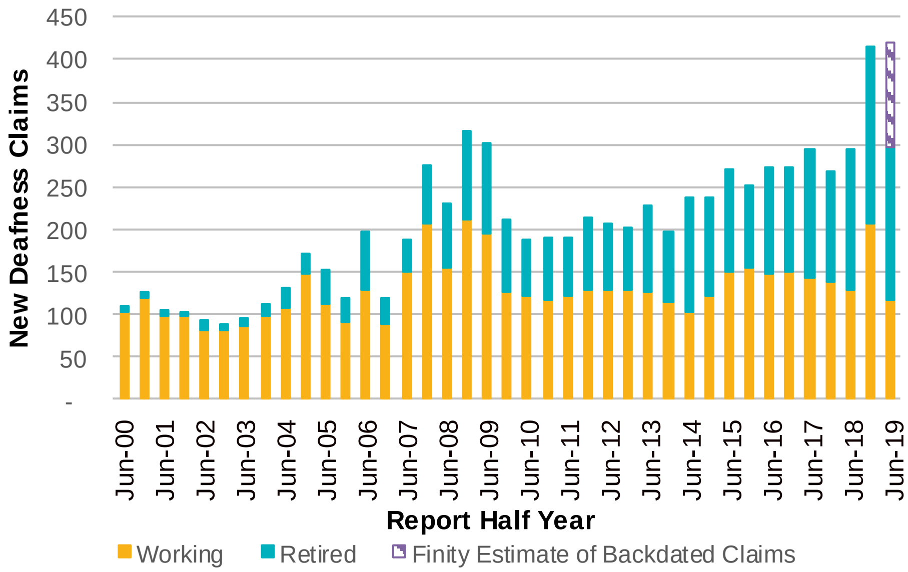
Given the information to date is not suggesting there will be any large spike in silicosis claims that is yet to be recognised in the claims data, we have not made any allowance for potential new sources of silicosis claims at this time.

3.3.5 Increasing Numbers of Hearing Loss Claims

Noise induced hearing loss claims are only a small proportion of total claim numbers (around 4% of total claims), but they have been growing – partly this has been a long term trend, but more recently this appears to be the result of targeted provider activity. Figure 3.5 below shows the number of new Noise Induced Hearing Loss claims by report half year, which we have split into pre- and post- retirement age at the time of report[3]. It is important to point out that the latest half-year is likely to be understated by around 130 claims, as there are delays in getting injury codes assigned that mean some claims that are currently 'unknown' injuries will in time be recognised as a hearing loss claim.

[3] Age 65 was used as the proxy for retirement age on all claims.

Figure 3.5 – Hearing Loss Claims by Report Period



The key features we note are:

- There has been a long term upward trend in hearing loss claims. As indicated by the age split, it appears that most of this growth is due to claimants who are past age 65 at the time of claim.
- The December 2018 half year experienced a dramatic spike above this trend, with over 400 new hearing loss claims reported. Based on current information, and the historical patterns of injury code backdating, we expect that the June 2019 half year will get to a similar level when it is measured again at December 2019.

We understand that most of the recent growth relates to a new legal provider who specialises in noise induced hearing loss claims that has set up operations in South Australia.

Based on the above information, and following more detailed discussions with ReturnToWorkSA and its claims agents, we have further increased the projections relating to hearing loss claims as discussed in Section 4.1.2 and Section 6.3.

4 Recent Claims Experience

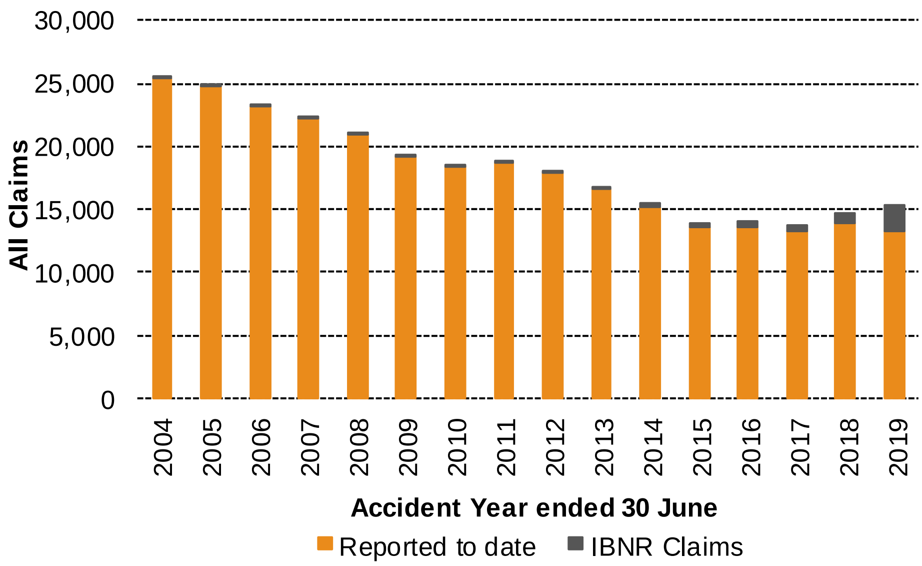
This section provides a high level analysis of scheme experience, including the numbers of new claims and overall payment trends.

4.1 Claim Incidence

4.1.1 All Claims

Figure 4.1 shows the estimated numbers of claims incurred in recent accident years (excluding reports which are determined as 'incidents'). The graph separates the actual numbers reported to date and our projection of claims incurred but not yet reported (IBNR).

Figure 4.1 – Ultimate Number of Claims (All Claims)



The key feature of the recent experience is an increasing trend in claim numbers since 2017 after a long term general downward trend. As noted at our previous valuation, there are two primary factors driving the recent higher claim numbers:

- Exposure growth: after an extended period of reasonably flat employee numbers, the SA economy experienced higher growth in wages in 2018 and 2019
- Claim frequency deterioration: the construction and manufacturing industries, in particular, have experienced an increasing claim frequency in recent periods.

Our estimate of ultimate numbers for 2018 has increased by 2% since the previous valuation. Our current estimate for 2018 is 6% higher than the estimate for 2017, and the estimate for 2019 is 4% higher again.

4.1.2 Income Support Claims

Income Support (IS) claims are those who receive more than 10 days of lost time benefits.

Figure 4.2 shows our projected ultimate numbers of IS claims, split into those who have already received an IS payment and those who are expected to receive their first IS payment in future (IBNR).

Figure 4.2 - Ultimate IS Claim Numbers

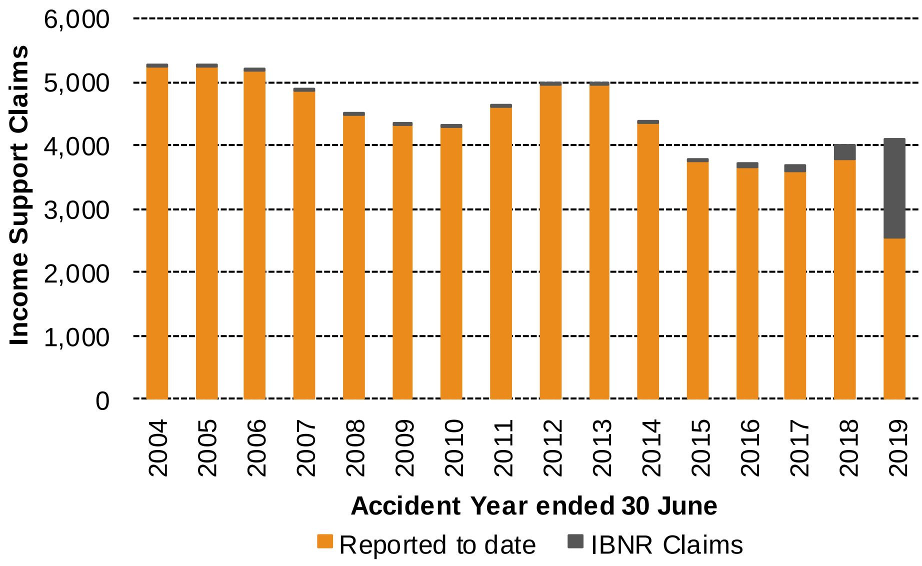


Figure 4.2 shows:

- IS claim numbers dropped by 17% between 2006 and 2010, and then rose again over the next two years to sit at about 5,000 claims per annum in 2012 and 2013.
- IS claim numbers reduced again in 2014 and in 2015, and were then stable at around 3,750 per annum for three years; this experience represents the lowest level since the scheme commenced.
- The wages growth and frequency deterioration in total claim numbers in 2018 and 2019 flows through to IS claim numbers. The estimate of IS claim numbers for 2018 is 9% higher than 2017, and the 2019 estimate is 2% higher again.

As seen in the graph, considerable development of claim numbers is still expected for the latest accident year, and there is significant uncertainty around the ultimate outcomes for this year.

In order to better understand the trends in IS claim numbers, we separately model claim numbers by type of injury. Figure 4.3 shows, by injury type, the total numbers of claims as well as IS claim numbers. We note that it can take up to two quarters for injury coding to be locked in, and it is possible that the last two data points of these graphs will be revised.

Figure 4.3 – All Claims and IS Claims by Type of Injury

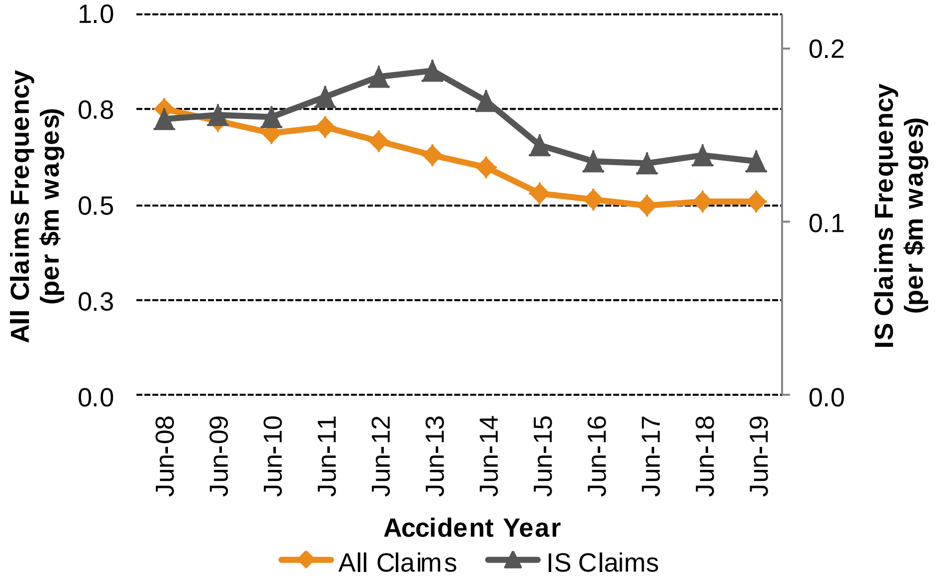
The notable trend in IS claim numbers over the last three years is the gradual upward trend in musculoskeletal and mental injury claims. The mix of claims by injury type has important implications for long term IS claim costs, as claims of these types have longer average durations than IS claims overall. This suggests that the higher IS claim numbers are not coming from lower cost claim cohorts.

Figure 4.3 also shows the upward trend in deafness claims in recent years, as discussed in Section 3.3.5, with the number doubling between 2010 and 2019. Much of the increase in deafness claim numbers in recent years can be attributed to retired employees; RTWSA has indicated that this increase coincides with the emergence of a new provider in the hearing loss market in SA. Our assessment is that this represents a new 'source' of deafness claims, and that a result the numbers can be expected to remain at these sorts of levels in future.

4.1.3 Claim Frequency – All Claims and IS Claims

Figure 4.4 compares the trends in (1) total claim frequency ('all claims' numbers from Section 4.1.1) and (2) IS claim frequency (IS numbers; Section 4.1.2). The frequencies are expressed relative to covered scheme wages (in current values). The two series are shown on different scales so the trends can be directly compared.

Figure 4.4 – Claim Frequency (Claims per $m wages)



The IS claim frequency was on a similar trend to the all claims frequency between 2007 and 2010, before diverging between 2010 and 2013. After the improvement in the IS claim frequency between 2013 and 2015, the trends in IS claim and all claims frequencies have again been broadly in line. Both measures have flattened off in the last four years, as shown in Table 4.1.

Table 4.1 – Projected Ultimate Claim Frequency: Comparison to Previous

Accident Year	Claim Freq (per $m of wages)	Year on Year % Change	Prev. Freq	Change from Prev
Jun-16	0.51	-3%	0.51	0.1%
Jun-17	0.50	-3%	0.50	0.2%
Jun-18	0.51	2%	0.51	0.0%
Jun-19	0.51	0%	0.51	-0.7%

There have been only minor movements in our frequency estimates since the previous valuation (last column of the table).

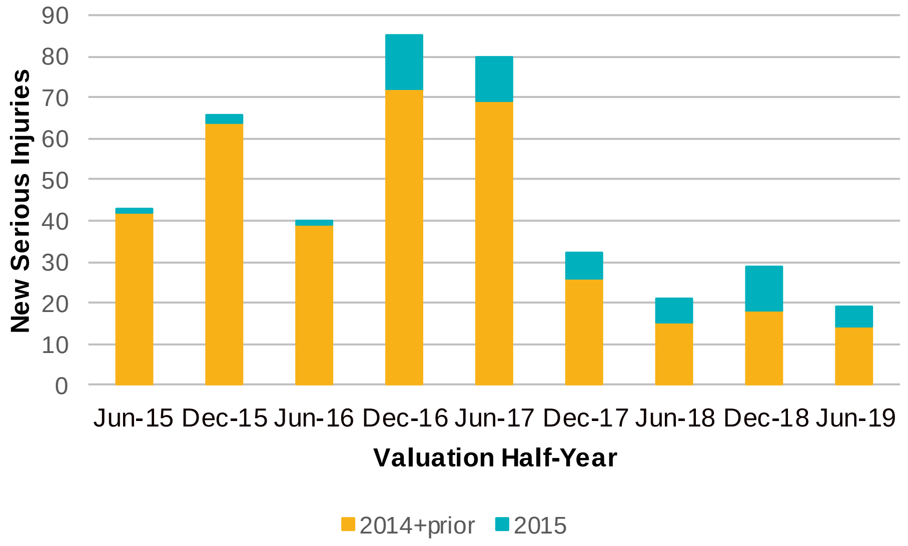
4.2 Serious Injury Claims

Serious Injury claims, which require an assessment of 30% WPI, is the most material scheme boundary from a financial perspective.

The formal process for recognising a claim as being a Serious Injury is a determination by ReturnToWorkSA once a claim is assessed as having a WPI of 30% or more. For our valuation work we also consider claims that are not yet formally determined as being a Serious Injury but who are expected to become so in future. We do this by using information on claims identified as ‘potential’ to be a Serious Injury, based on profiling and review work by ReturnToWorkSA which uses the medical and claims file evidence (for example any need for future surgeries) on a claim by claim basis. The list of likely Serious Injury claims is updated over time as claims are re-reviewed, such as when there is a change in the claim situation that suggests a claim will or won't meet the 30% WPI threshold; all claims are ultimately confirmed as either meeting or not meeting the requirements to be considered a Serious Injury.

We are now four years into the RTW Act, and the emergence of Serious Injury claims from the transitional cohort has continued for longer than expected, which is primarily due to the degree of disputation in relation to decisions and the slowness of key legal precedent to emerge. Even though very few pre-RTW Act claims are still in receipt of Income Support payments, Serious Injury claims continue to emerge and the number of open Serious Injury application disputes and/or unresolved WPI disputes remains high. We are now also seeing similar types of behaviour from RTW Act claims, meaning that there continues to be uncertainty around Serious Injury claim numbers well beyond when claims hit the two year Income Support boundary. Figure 4.5 shows the emergence of the current cohort of Serious Injury claims for transitional periods (excluding Severe Traumatic injuries as these tend to be identified quickly).

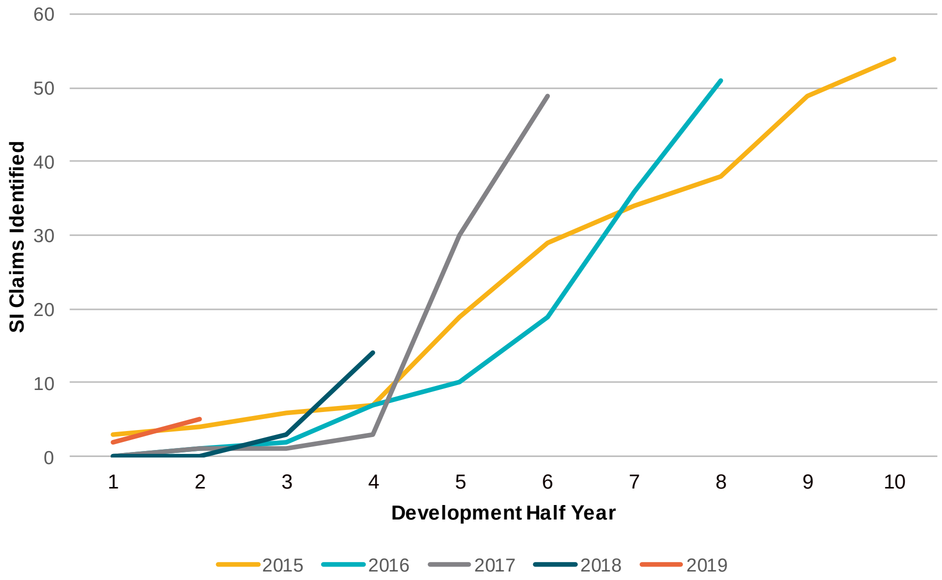
Figure 4.5 – Newly Identified Serious Injury Claims, by Accident Period Cohort (Transitional claims only)



Although new Serious Injury claims for transitional periods have reduced since 30 June 2017, the run-off since this point has been very slow, with an additional 19 claims in the last six months identified as a Serious Injury claim. In recent valuations the number of newly identified Serious Injury claims has been partially (but not fully) offset by the removal of some claims from the 'potential' group as additional information becomes available. The proportion of 'potential' claims continues to reduce, and so it is likely that any continued late identifications will result in a net increase for transitional periods.

For RTW Act periods the emergence of Serious Injury claims continues to quicken, following changes ReturnToWorkSA has made the claims management model to aid early identification. This is shown in Figure 4.6 below.

Figure 4.6 – Serious Injury Emergence for Recent Accident Years

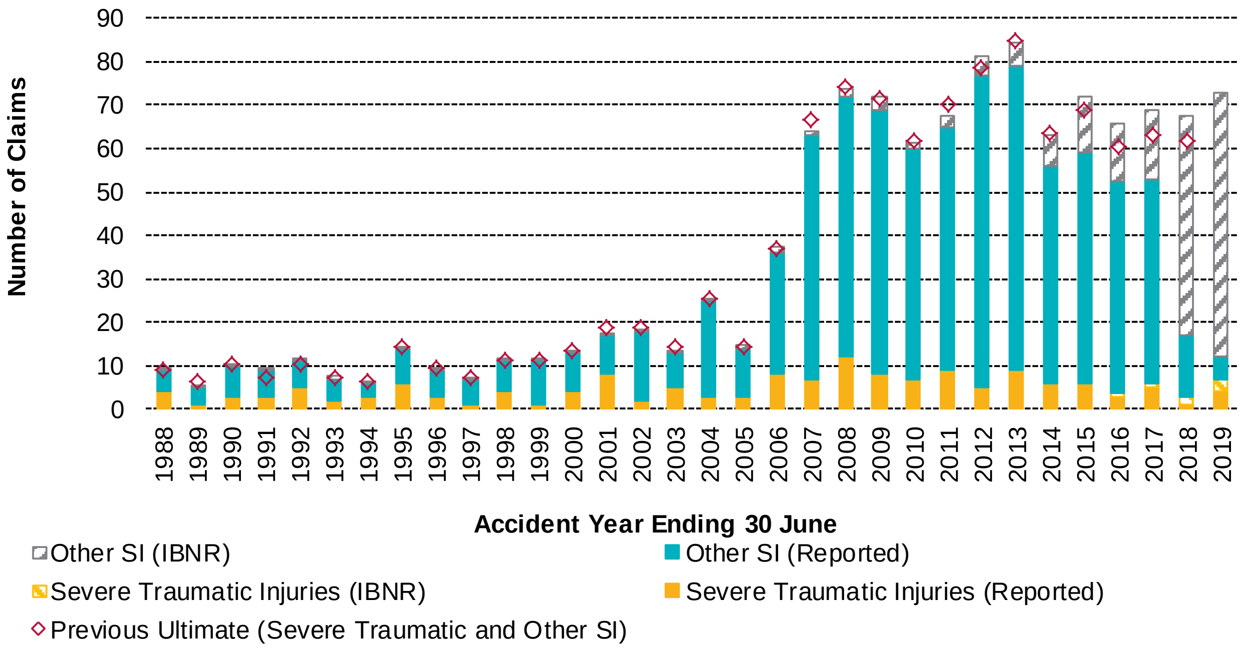


The combination of continued late Serious Injury identification (well beyond the two year Income Support cap) and the change in the speed of emergence for more recent accident years means it is challenging to estimate ultimate numbers based on historical patterns. Given this, our approach to setting ultimate Serious Injury numbers uses the following framework:

1. For 2016 and prior accident periods the IBNR is an explicit allowance, based on the number of claims with either a Serious Injury application or WPI activity initiated (which we then add to the identified Serious Injury claims to give the ultimate). The approach for these periods is largely unchanged from the previous valuation, although we have continued to refine the way different segments are allowed for; the main refinement this valuation was to identify potential future surgery claims as this has been a consistent source of late identification in recent valuations.
2. For 2017 and later accident periods, we have set the ultimate number of claims equal to 2016 (the only RTW Act period that is estimated using the ground-up approach) with an allowance for exposure growth and the impact of safety initiatives. This is essentially interpreting the increase in numbers for 2017 and later accident years at the same point of development as a speed-up in identification rather than an indication that these periods will end up materially higher.

Figure 4.7 shows our resulting estimated numbers of Serious Injury claims by accident year.

Figure 4.7 – Serious Injury Claim Numbers by Accident Year



The key features we note from this are:

- The number of recognised Serious Injury claims prior to 2007 is low, which is a result of past redemption activity removing such claims from the scheme.
- For 2014 and prior accident years there has been little change to the ultimate number of claims, although as mentioned above this is partially due to the removal of some of the 'potential' cohort offsetting newly identified claims for these periods. This is not expected to continue at the same rate in the future.
- For the 2015 and 2016 accident years the estimate of ultimate Serious Injury claims has increased as the number of newly identified claims has not been matched by a commensurate reduction in claims in the IBNR pools. In particular, the pool of claims with an outstanding WPI assessment has increased materially in response to the transitional claims WPI project.
- 2017 and later accident years are pegged to the 2016 year with an allowance for growth and the impact of safety initiatives. The exception is Severe Traumatic Injuries which tend to be identified quickly, and so estimates for each accident year in respect of these claims generally give credibility to experience to date (the 2018 year looks like being a very low year for Severe Traumatic Injuries, whereas the 2019 year is already above average).

Overall we have allowed for 193 IBNR claims in our projections, which equates to 2.6 injury years' worth of claims.

To put our allowances for Serious Injury claim numbers into context, we compare the IBNR allowance with the number of claims sitting in each IBNR pool and other remaining open claims in Table 4.2 below.

Table 4.2 – Serious Injury IBNR vs Remaining Open Claims (pre-2016 accident years)

Accident Period	SI Application[1]	WPI Activity[2]	Other Open	Total Open Claims	IBNR	IBNR %
Prior	9	225	180	414	6	1.4%
2007	2	30	15	47	1	2.2%
2008	5	22	8	35	2	5.7%
2009	12	27	4	43	3	7.2%
2010	6	36	17	59	1	2.3%
2011	10	46	32	88	3	3.1%
2012	9	53	15	77	4	5.5%
2013	10	78	68	156	5	3.4%
2014	16	151	101	268	7	2.6%
2015	28	203	118	349	13	3.8%
2016	32	304	671	1007	13	1.3%
Total	139	1,175	1,229	2,543	59	2.3%

[1]Either in SI application dispute, or recent application w ithout decision

[2]WPI assessment not completed, or WPI/s7 dispute

While we continue to believe that the approach to setting Serious Injury ultimate numbers for 2016 and prior periods is appropriate given the information available, Table 4.2 highlights the implication of our results; that is, that only a very low proportion of remaining open claims are anticipated to reach the Serious Injury threshold. In particular, 2016 (which is used as the baseline for all RTW Act periods) only has an allowance of 13 IBNR claims, which equates to 1.3% of all currently open claims reaching the Serious Injury threshold. It would only take small deviations from this to have large consequences on the outstanding claims liability (and average premium rate). Given the reducing proportion of ‘potential’ claims from these periods, that have to date provided some offset to newly determined Serious Injury claims, there is more risk that our IBNR could be too low rather than too high on transitional claims.

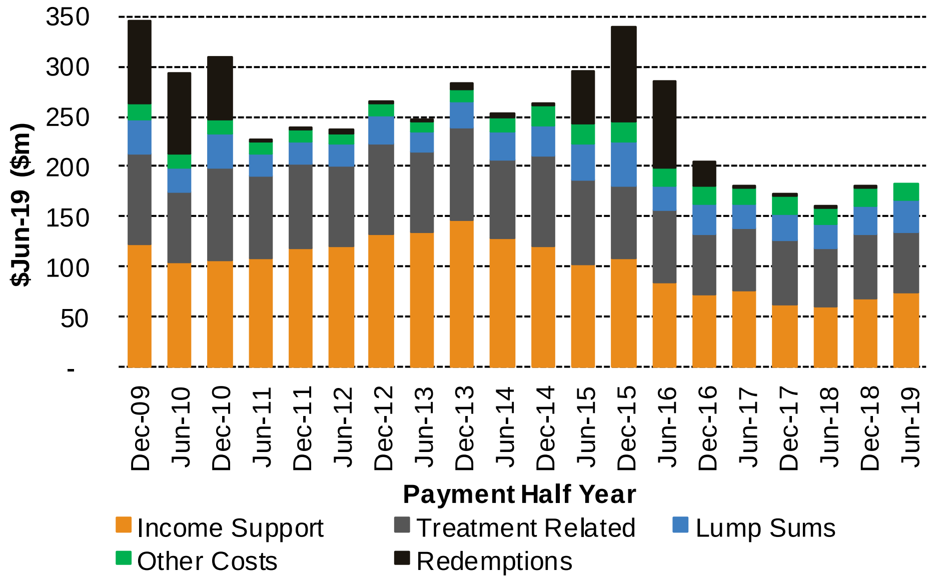
For accident years after 2016 ultimate Serious Injury numbers are set in line with 2016, with an allowance for some exposure growth. While we assess that this is the best approach we can take for now given the limited information to date, it places a high level of reliance on the 2016 accident year and does not take into account any differences in the profile or management of claims from different periods (for example, RTW rates improved considerably from 2015 to 2017).

As discussed earlier, any adverse legal decisions that lead to more claims getting higher WPI scores would be likely to materially increase Serious Injury claim numbers. Given the high value of Serious Injury benefits, higher than expected Serious Injury claims would materially increase the liability.

4.3 Overall Payment Experience

Figure 4.8 shows gross claim payments (before recoveries) in half-yearly periods over the last ten years, inflated to current values.

Figure 4.8 – Gross Claim Payments ($Jun19)



Gross payments of $184 million in the last six months were up 2.5% from the previous period. There was mixed experience by payment type:

- IS payments have increased by 9% in the last six months, after a 12% increase in the previous six months. These increases follow a series of steady reductions between 2013 and 2018.
- Treatment related costs reduced by 6%, after a 13% increase in the previous period where there was higher hospital and medical spend.
- Lump sum payments have seen a second consecutive increase (11% in this six months, after a 26% increase in the previous six months), after being relatively low for 2.5 years. As discussed in Section 3.3.2, we expect lump sums to increase under the RTW Act provisions at some point
- Redemption activity has now ceased under the RTW Act.

After allowing for recoveries of $6.6 million in the last six months, net claim payments of $177 million were $8.7 million (5%) lower than projected at the previous valuation. Table 4.3 shows the breakdown.

Table 4.3 – Payments: Actual vs Expected

Entitlement Group	Six Months to Jun-19 Actual	Expected	Act - Exp	% A - E	Split by Category Short Term	Serious Inj
	$m	$m	$m		$m	$m
Income support	74.0	69.1	4.9	7%	3.4	1.5
Lump sums	32.7	38.7	-6.0	-16%	-9.8	3.8
Worker legal	5.7	7.0	-1.2	-18%	-1.1	-0.1
Corporation legal	9.7	9.9	-0.2	-2%	0.2	-0.4
Medical	32.0	34.5	-2.5	-7%	-1.3	-1.2
Hospital	8.7	9.6	-0.9	-9%	-0.8	-0.1
Travel	2.6	2.8	-0.2	-6%	-0.1	-0.1
Rehabilitation	5.5	5.9	-0.4	-7%	-0.3	-0.1
Physical therapy	4.4	4.9	-0.5	-10%	-0.4	-0.1
Investigation	0.9	1.3	-0.4	-28%	-0.3	-0.1
Other	6.6	7.3	-0.7	-10%	-1.0	0.3
Common law	0.0	0.2	-0.2	-100%	-0.2	0.0
LOEC	0.1	0.1	0.0	0%	0.0	0.0
Commutation	0.0	0.2	-0.2	-98%	-0.2	0.0
Gross Payments	183.1	191.5	-8.4	-4%	-11.9	3.5
Recoveries	-6.6	-6.3	-0.3	5%	-1.7	1.4
Net Payments	176.5	185.2	-8.7	-5%	-13.5	4.9

The key features of the last six months' payment experience are:

- Lump sum payments were 16% lower than expected; once this slowdown is adjusted for, remaining payments were similar to expected.
- Income Support payments were $5 million (7%) higher than expected; payments were above expectations for most accident periods
- Treatment costs were lower than expected.

Our valuation basis for Short Term claims is discussed in the following sections: Income Support and related expenditure in Section 5; Lump sums in Section 6; treatment related expenditure in Section 7 and all other entitlements in Section 8. Section 9 discusses our valuation of Serious Injury claims.

5 Income Support – Short Term Claims

This section describes our valuation of Income Support (IS) payments for Short Term Claims (STC) only.

5.1 Summary of Results

Table 5.1 summarises the movements in our liability estimates for IS payments since the December 2018 valuation.

Table 5.1 – Valuation Results: Income Support

Dec-18 Valuation	$m	$m	$m
Estimated Liab at Dec-18	133.6		
Projected Liab at Jun-19	133.1		
Jun-19 Valuation		AvE pmts	Actl Release
Impact of experience/OSC - valuation release	7.8	3.4	(11.2)
Estimated Liab at Jun-19 (Dec-18 eco assumptions)	**140.9**		
Impact of change in eco assumptions	1.4		
Estimated Liab at Jun-19 (Jun-19 eco assumptions)	**142.3**		

At June 2019 there is an actuarial strengthening of $11.2 million, reflecting the claims experience since December 2018 and our valuation response. The actuarial strengthening comprises an increase of $7.8 million from the liability estimate and higher than expected claim payments in the six months ($3.4 million).

The impact of economic assumptions is minor for the Short Term claim IS payments; economic assumptions are discussed in Section 11.3.2.

5.2 Experience vs Expectations

5.2.1 Payments

Table 5.2 compares the IS payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 5.2 – Actual vs Expected Payments: IS

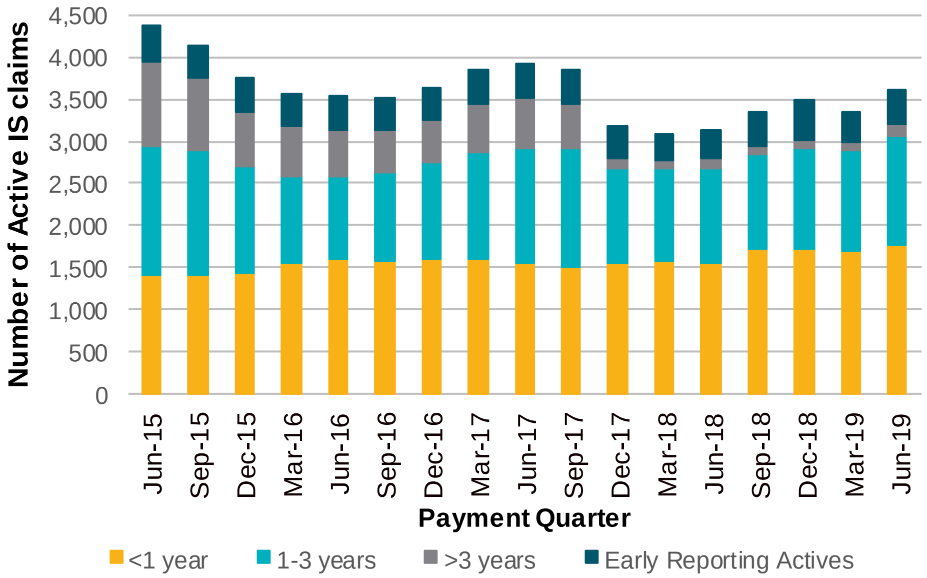
Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	Difference
	$m	$m	$m	
To 30 Jun 05	0.3	0.3	(0.0)	-8%
2005/06 - 2013/14	1.6	1.2	0.4	33%
2014/15 - 2015/16	2.6	1.0	1.6	164%
2016/17 - 2017/18	29.8	30.4	(0.6)	-2%
2018/19	27.0	24.9	2.1	8%
Total	61.2	57.7	3.4	6%

IS payments were around 6% higher than expected across the accident periods from 2005/06. This unfavourable experience follows an unusually high period in the previous six months (13% above expectations).

5.2.2 Active Claims and Exits

Figure 5.1 shows the numbers of (quarterly) active IS claims, by duration, over the last three years.

Figure 5.1 – Numbers of Active IS Claims



Active claim numbers reduced over 2015 after the RTW Act and ReturnToWorkSA's claim management strategies. During calendar year 2016, medium-duration actives (1-3 years) were low, as many transitional claims had exited via redemption in the lead-up to the RTW Act. With IS redemptions no longer being used, the numbers of 1-3 year actives increased up to June 2017; active claim numbers then declined notably in December 2017 (and similarly for >3 years claims) as a result of claims exiting due to the 104 week boundary on IS payments. Since September 2018, active claim numbers have trended upwards, driven by higher exposure as well as deteriorating claim frequency and claim durations, with most of the increase in the claims of less than one year duration.

In Table 5.3 we compare the numbers of active IS claims at June 2019 with our December 2018 valuation projection. This has been done only for periods where we projected future active claims at the December 2018 valuation (accident quarter September 2016 and later).

Table 5.3 – AvE Active Claims

Accident Quarter	Proj from Dec-18 Val	Actual Actives	Act *less* Proj	Diff as % Proj
Sep-16	11	15	4	32%
Dec-16	24	18	-6	-23%
Mar-17	57	51	-6	-10%
Jun-17	213	174	-39	-18%
Sep-17	215	198	-17	-8%
Dec-17	221	218	-3	-2%
Mar-18	262	262	0	0%
Jun-18	335	373	38	11%
Sep-18	365	383	18	5%
Dec-18	488	517	29	6%
Mar-19	620	650	30	5%
Jun-19	200	166	-34	-17%
Total	3,010	3,025	15	1%

Overall, active claim numbers at June 2019 for these periods were close to expectations. However, actives were generally higher than projected for accident quarters June 2018 and later; the exception was the latest quarter, with active numbers 17% below projection, but its experience is very immature.

5.3 Modelling of STC IS Payments

Our modelling approach for IS payments includes:

- **For all IS payments in the first three years after injury (development years 1 to 3) – a PPAC model** which models all IS entitlements at these durations; this includes IS payments to dependants, and IS payments made following surgery where the claimant would not otherwise have been entitled to IS.
- **For all IS payments more than three years after injury (development years 4 and later) – a PPCI model**, once again valuing all IS entitlements together. This PPCI model uses total claim numbers (not just IS claims) as the base.

This approach is unchanged from our December 2018 valuation.

5.4 Valuation Basis

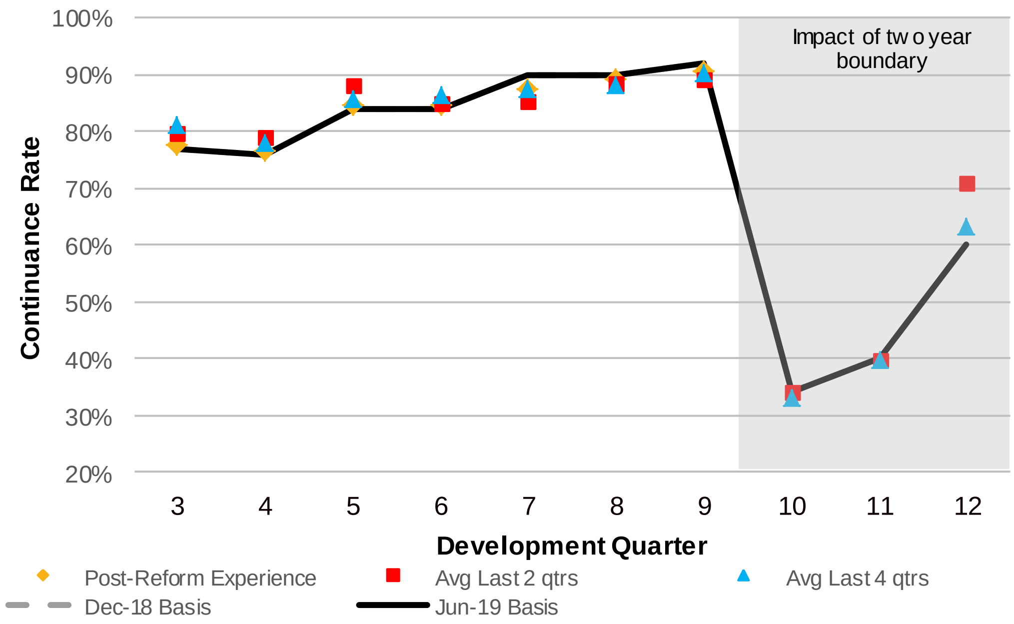
5.4.1 IS Payments in Years 1-3: PPAC Model

Claims from post-30 June 2015 accidents have been managed under the RTW Act since their inception. The PPAC basis for these claims is being updated at each valuation as further post-RTW Act experience emerges.

Projection of Active Claims

Figure 5.2 below shows the recent continuance experience relating to post-reform claims, and our adopted bases at the previous and current valuations.

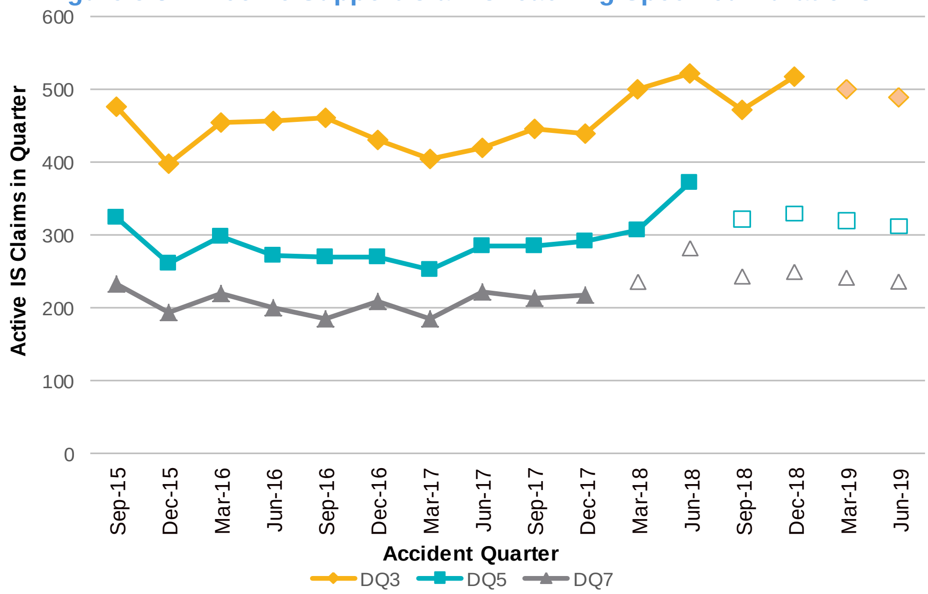
Figure 5.2 – Continuance Rates



We have made no adjustments to continuance rates for this valuation; this was also the case at the previous valuation.

Figure 5.3 below shows the outworking of our projection of active claims at development quarters 3, 5 and 7. The solid lines show the actual number of active claims and the dots show our projection.

Figure 5.3 – Income Support Claims reaching Specified Durations



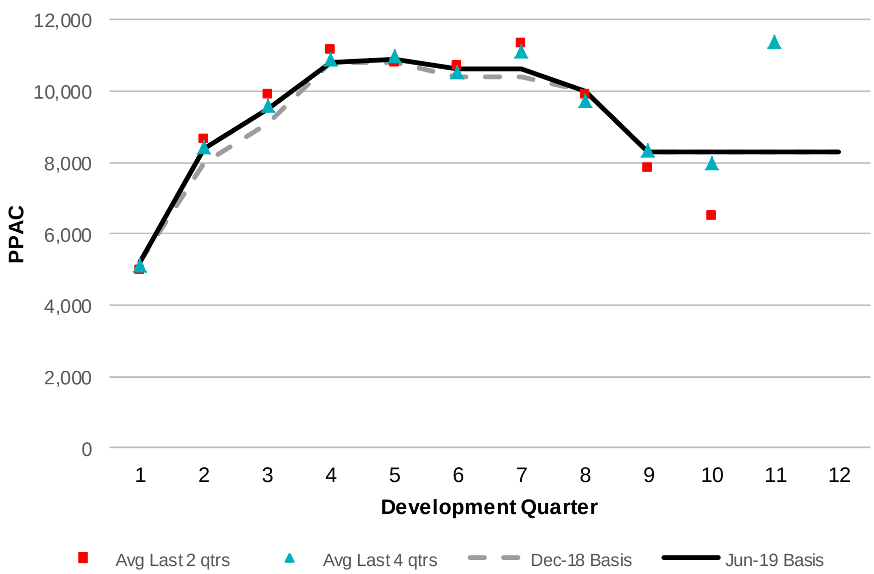
The recent higher active claim numbers at development quarter 3 are projected to flow through to higher active claims at development quarters 5 and 7 for the March 2018 and June 2018 accident quarters. However, as at the last valuation, we anticipate more favourable experience for the 2018/19 year; this recognises the fact that ReturnToWorkSA and its agents have undertaken a project to address the causes of active claim deterioration, and there are emerging signs that this is having a positive impact.

Our projection implies that the future active claims for the June 2019 accident quarter will be broadly consistent with other recent quarters, despite its active numbers at this very early stage being quite low. Its experience after only one quarter is not considered to be a reliable indicator of future outcomes.

Payments per Active Claim

Figure 5.4 below shows the recent PPAC experience relating to post-reform claims, and our adopted bases at the previous and current valuations.

Figure 5.4 – Payments per Active Claim



The most recent PPAC experience is emerging higher than our December 2018 basis. We have responded with modest increases in our adopted PPACs. The impact of these changes is an increase in the estimated liability.

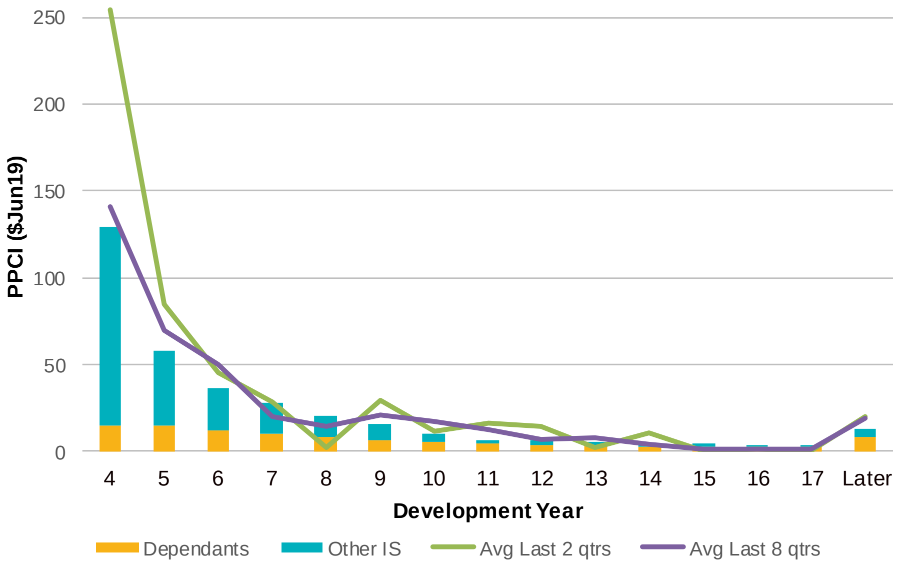
5.4.2 IS Payments after Year 3: PPCI Model

The overall adopted average PPCI size of about $350 per reported claim is made up of two components:

- The allowance for ongoing dependant claim benefits, which remains unchanged at about $105 per reported claim
- An allowance for both post-surgery IS payments and claims with 'late starting incapacity' of about $245 per reported claim, up from $190 last valuation. This allowance has increased due to payments emerging higher than previously expected; there was previously very little actual post-RTW Act experience on which to base our assumptions.

Figure 5.5 shows the adopted PPCI basis and its components.

Figure 5.5 – Adopted IS PPCI Basis (Average IS Cost per Reported Claim)



5.5 Valuation Results and Actuarial Release

Table 5.4 sets out the components of the actuarial release for IS payments.

Table 5.4 – Components of Actuarial Release: IS and Medical Redemptions

Release (strengthening) due to		
	$m	$m
AvE payments in six months		(3.4)
Difference from projected liability		
Experience	0.8	
IS Numbers	(4.5)	
IS PPAC	(1.3)	
IS PPCI	(2.7)	
		(7.8)
Total		(11.2)

The actuarial strengthening of $11.2 million is made up of payments in the six months being $3.4 million higher than expected, and a $7.8 million increase in the projected liability from December 2018, composed of the following changes:

- A $3.8 million net increase due to the actual active claim numbers ("Experience") and our valuation response ("IS Numbers"; this relates mostly to the June 2019 accident quarter)
- A $1.3 million increase due to the slippage in return to work experience being reflected in the adopted average payments.
- A $2.7 million increase due to higher allowance for post-surgery IS payments and claims with 'late starting incapacity'.

Table 5.5 summarises these movements by accident period.

Table 5.5 – Actuarial Release for Income Support

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumps	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	2.2	2.2	(0.0)	(0.0)	0.0	1%
2005/06 - 2014/15	10.1	10.0	(0.0)	0.4	(0.3)	-3%
2015/16 - 2016/17	5.7	6.0	0.3	1.6	(1.8)	-32%
2016/17 - 2017/18	34.0	36.5	2.4	(0.6)	(1.8)	-5%
2018/19	81.0	86.2	5.1	2.1	(7.2)	-9%
Total	133.1	140.9	7.8	3.4	(11.2)	-8%

6 Lump Sums – Short Term Claims

This section describes our valuation of lump sum payments for Short Term claims, including payments for claims which were not identified as a Serious Injury claim prior to the payment of the lump sum. A lump sum is payable to a worker who suffers a compensable disability that results in at least 5% whole person impairment (WPI). Separate Lump Sums compensate claimants for non-economic loss and future economic loss, although compensation for future economic loss is only available to claims with injuries from 1 July 2015.

Introduction

We value lump sums in five segments:

- “Death” and funeral claims
- “Deafness” (hearing loss) claims
- “First Paid” lump sums – where a claimant receives their first lump sum payment for the relevant claim (excluding Death and Deafness claims); this is for non-economic loss only
- “Economic Loss” lump sums – Short Term claims may receive an additional payment for loss of future earning capacity. This is a new benefit under the RTW Act and is available to new injuries from 1 July 2015
- “Top Up” lump sums – where a claimant receives an additional payment in a half-year after they received their first lump sum payment (excluding Death and Deafness claims). These are now only allowable for claimants with injury dates prior to 1 July 2015 who lodged an application prior to 30 June 2016.

Appendix A specifies the complete definitions for the lump sum valuation.

6.1 Summary of Results

Table 6.1 summarises the movements in our liability estimates for lump sum payments since the December 2018 valuation.

Table 6.1 – Valuation Results: Lump Sums

Dec18 Valuation	$m	$m	$m
Estimated Liab at Dec-18	270.9		
Projected Liab at Jun-19	279.0		
Jun-19 Valuation		AvE pmts	Release
Impact of experience/OSC - Movement in liab	0.6	(9.8)	9.1
Estimated Liab at Jun-19 (Dec-18 eco assumptions)	**279.7**		
Impact of change in eco assumptions	7.3		
Estimated Liab at Jun-19 (Jun-19 eco assumptions)	**286.9**		

The June 2019 liability shows an actuarial release of $9.1 million since December 2018, reflecting an increase of $0.6 million in the liability, and $9.8 million of lower claims payments – this ‘release’ is more correctly interpreted as being a transfer of the cost into the Serious Injury cohort, as the Serious Injury claims are now being recognised much earlier than in the past. The remainder of this section deals with this impact while the impact of the change in economic assumptions is discussed in Section 11.3.2.

6.2 Payment Experience

Table 6.2 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 6.2 – Actual vs Expected Payments: Lump Sums

Accident Period	Payments in Six Months to Jun 19			
	Actual	Expected	Act - Exp	% Difference
	$m	$m	$m	
To 30 Jun 05	0.9	0.5	0.4	73%
2005/06 - 2012/13	2.9	3.3	(0.4)	-12%
2013/14 - 2014/15	3.4	6.3	(2.9)	-45%
2015/16 - 2018/19	19.9	26.8	(6.9)	-26%
Total	27.1	36.9	(9.8)	-27%

Payments were 27% lower than expected in the six months to 30 June 2019. This was due to lower than expected payments for nearly all years. The recent payment experience reflects the slowdown in the WPI assessment process over the last three and a half years and the current high number of WPI disputes, although recent projects to wrap up WPI assessments on transitional claims should see payments increase.

6.3 Valuation Basis

Valuation Basis for First Paid Lump Sums

Our valuation basis adopts a combination of the chain ladder approach for more mature accident periods and a frequency based approach for more recent accident periods where there is less experience and there have been changes in the pattern of payments Table 6.3 below compares the actual and expected number of First Paid lump sums paid in the six months to June 2019.

Table 6.3 – Actual vs Expected Payments: First Paid Lump Sums

Accident Period	Number of Payments in Six Months to Jun 19			
	Actual	Expected	Act - Exp	% Difference
To 30 Jun 05	14	3	11	418%
2005/06 - 2012/13	46	51	-5	-9%
2013/14 - 2014/15	65	197	-132	-67%
2015/16 - 2018/19	276	357	-81	-23%
Total	401	608	-207	-34%

The number of First Paid lump sums paid in the last six months was around 35% lower than expected. This was due to a combination of lower than expected payments in 2005/06 and later accident periods being slightly offset by higher number of payments for accidents older than 15 years. In addition to the slowdown in the WPI assessment process, fewer Serious Injury claims are being paid a lump sum prior to being identified as a Serious Injury claim, which effectively shifts the lump sum costs for these claims from the Short Term claims group into the Serious Injury claims segment.

To test the reasonableness of our basis for older accident years, Figure 6.1 below compares the most likely sources of future lump sum payments (left-side bar) with the IBNR allowance for First Paid lump sums (right-side bar) for each accident year up to 2016.

Figure 6.1 – Comparison of Identified Potential Future Lump Sum Claims and Model IBNR Allowance (for accident periods up to June 2016)

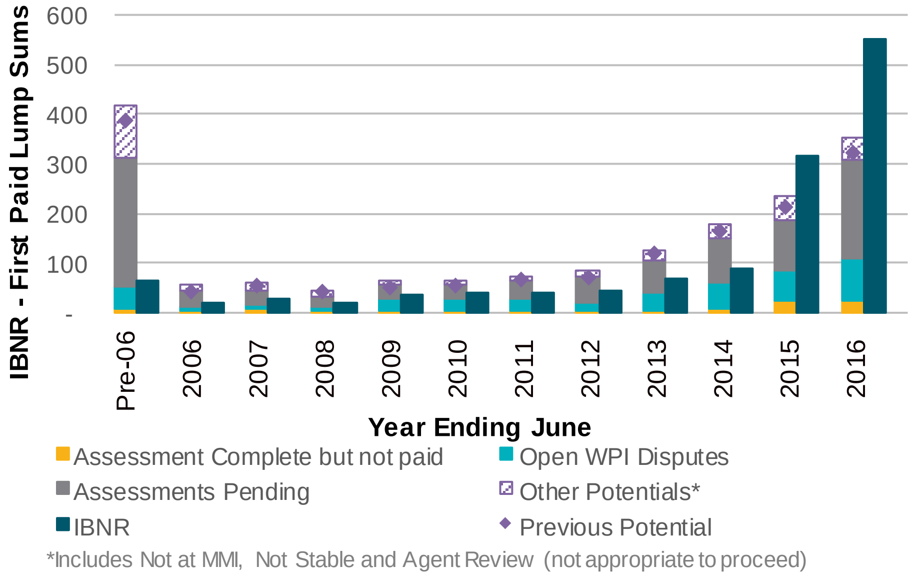


Figure 6.1 shows that:

- The number of identified potential lump sum claims has increased marginally for most accident years due to additional claims identified for WPI assessment as part of ReturnToWorkSA's initiative to finalise open transitional claims as discussed in Section 3.3.2.
- Pre-2006 accident periods have a high number of WPI assessments in progress. We understand this is linked to activity by ReturnToWorkSA to undertake WPI assessments for all 'prior claims' on workers currently having a WPI assessment. Most of these assessments are expected to end up with a WPI lower than 5% and therefore not be entitled to a lump sum payment. Our adopted IBNR allowance is unchanged for these accident periods and allows for around 50% of open disputes and 10% of pending assessments to be successful.
- For accident years 2006 to 2014 which are initially based on the chain ladder approach, there are a large number of claims with pending WPI assessments, open disputes or potential future assessments. Our previous valuation included an additional IBNR allowance in addition to the chain ladder projections to reflect the number of pending assessments and open disputes, and we have updated this allowance to reflect the number of lump sums paid during the last six months. This allows for around 50% of open disputes and 60% of pending and future assessments to receive a lump sum.
- For the 2015 and later accident years, our IBNR allowance is higher than the currently identified potential sources of lump sum payments. The remaining "gap" in our basis allows for lump sum payments from claims which have not yet been identified as having a potential lump sum entitlement; given the increasing duration from injury, it is getting hard to see where these claims could emerge from, and we expect that the current transitional claim WPI project will help to crystallise whether there are still sufficient claims to reach our lump sum IBNR allowance.

We have reduced our projection of ultimates by 20 claims per year for the 2015 and later years to reflect the lower number of Serious Injury claims receiving a lump sum payment prior to being identified. This is not a reduction in the underlying basis but rather a re-allocation of cost between Short Term claims and Serious Injury claims.

Figure 6.2 shows the projected ultimate numbers of First Paid lump sums, split into paid and IBNR claims.

Figure 6.2 – Projected Ultimate Numbers of First Paid Lump Sums

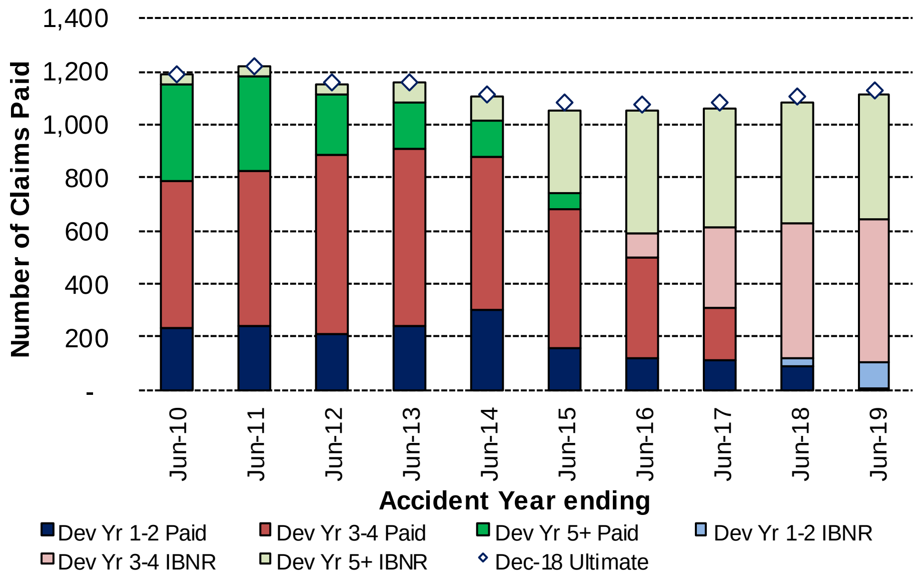
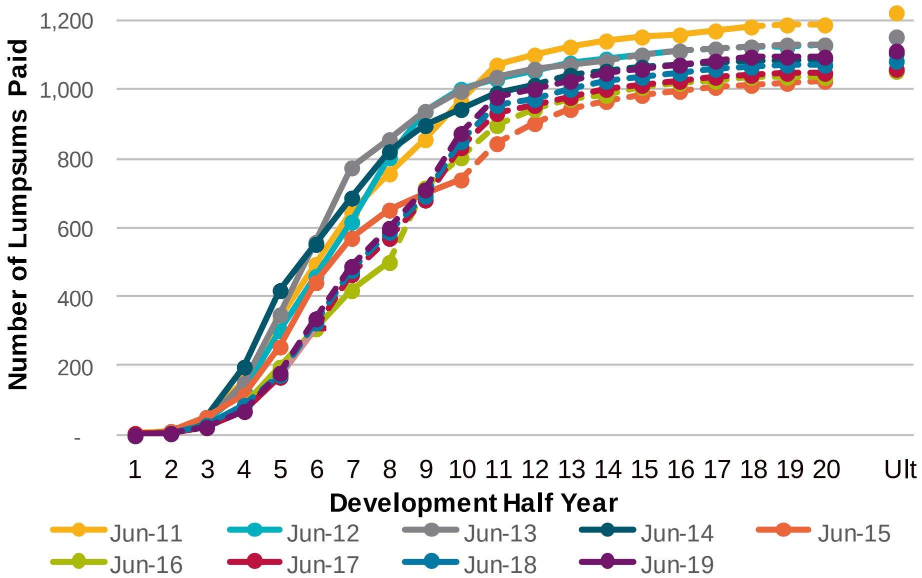


Figure 6.3 shows the cumulative number of First Paid lump sums by development year for accident years 2011 to 2019. The dotted line represents the projected development based on our selected payment pattern.

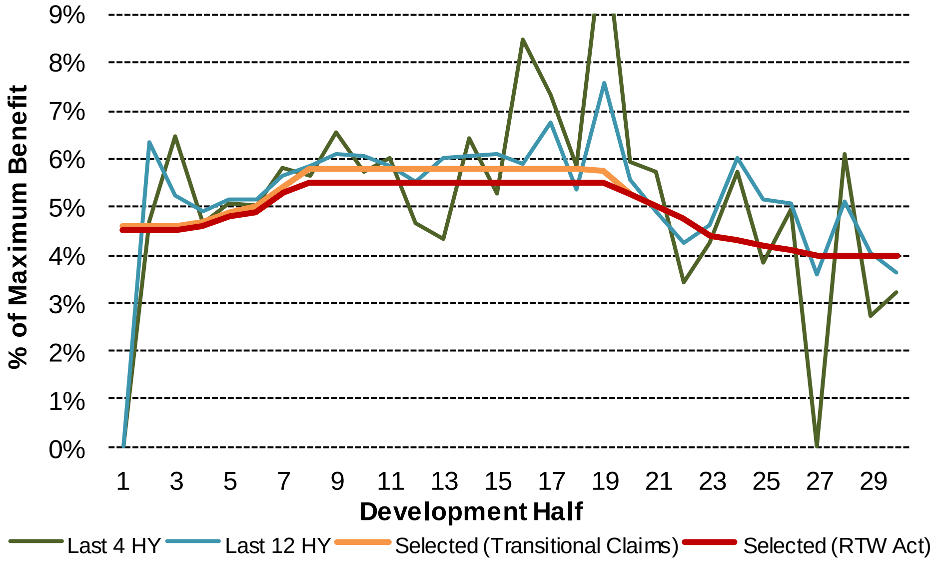
Figure 6.3 – First Paid Lump Sums Development



As Figure 6.3 shows, lump sum payments for all RTW Act accident years are currently sitting below pre-reform years. We have maintained a slower payment pattern up to development half-year 10 in line with the emerging experience, followed by a ‘kick up’ in the tail to reach the projected ultimate levels.

Figure 6.4 shows the average size of First Paid claims as a percentage of the maximum benefit available, by duration from injury.

Figure 6.4 – First Paid Lump Sums by Development Half-Year (as a percentage of the maximum benefit)



Our adopted size selections are unchanged at this valuation. While the recent averages have tended to be higher than our basis, we believe this is distorted by the slowdown in lump sum emergence. Further, the shift of Serious Injury claims will mean there is a lower overall size in this model segment in future. At an overall level, the average First Paid lump sum is expected to be 5.3% of the prescribed maximum benefit, or around $26,000.

Valuation Basis for Top Up Lump Sums

The number of Top Up lump sums is projected as a percentage of the ultimate number of First Paid lump sums. Top Up lump sum payments were initially removed under the RTW Act changes, but following a Regulation change in December 2015, they were added back in a restricted form, with a requirement that any applications for a Top Up lump sum had to be made by 30 June 2016 (although the assessments can still take place at a later date).

Top Up lump sums payments continue to be lower than expected, which we attribute to a slowdown in payments due to the slow resolution of disputes. Our Top Up lump sums allowance is for around 125 payments, up from 106 expected in our previous basis. The increase largely reflects the slower payments to date and updated information on pending and approved Top Up applications. While there is uncertainty around the success rate of the current applications and the lump sum payments, the value is not large.

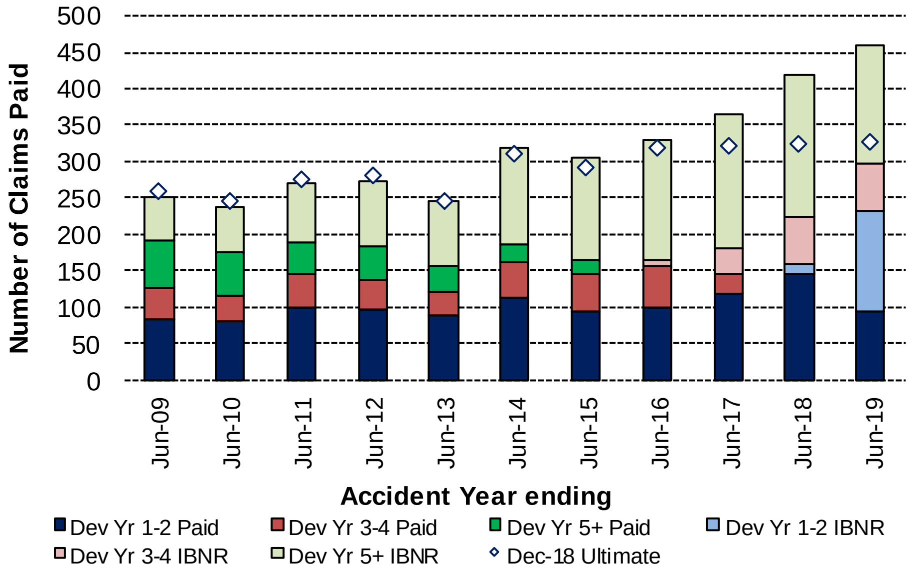
Details are included in Appendix G.

Valuation Basis for Deafness Lump Sums

When estimating the number of future Deafness lump sums, there is no differentiation between First Paid and Top Ups. In undertaking the Deafness lump sum projection we have been conscious of the recent *Onody* decision (see Section 3.2), which increases lump sizes for aggravation claims. Our analysis showed that only a small percentage (2-3%) of hearing loss claims are an aggravation, and so at an aggregate level we did not feel that it was necessary to build in an explicit change to our modelling approach to respond to this; rather, it has been a consideration when setting our assumptions in the existing model structure.

Figure 6.5 shows the projected numbers of Deafness lump sums by accident year. The tail of Deafness IBNR claims is considerably longer than for First Paid lump sums, with claims still occurring many years after the injury (as is common for Deafness claims).

Figure 6.5 – Projected Ultimate Numbers of Deafness Lump Sums



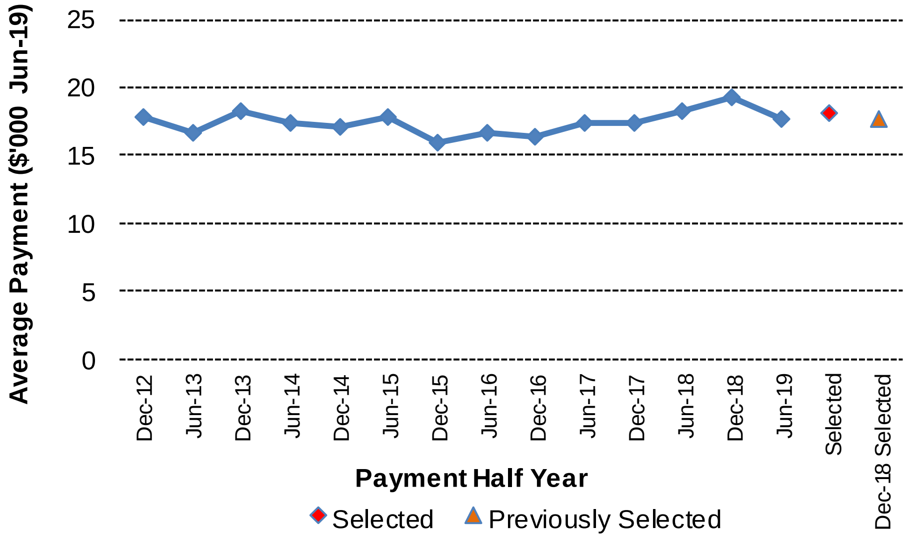
Deafness lump sum payments over the last six months were around 80% higher than expected, largely due to 2018 and later accident years. This is the second consecutive valuation where we have observed significantly higher than expected payments. As discussed in Section 3.3.5, we understand that new providers are targeting hearing loss claims, which is leading to more claims. There also appears to be a speeding up of payments in the recent experience with more lump sums completed in the first two years (as per the blue bars above).

We adopt a frequency approach relative to hearing loss claims for accident periods after June 2017 to allow for changes in payment speeds, given the somewhat “lumpy” nature of deafness lump sum payments. We have increased our selected ultimates for these periods by around 120 claims per annum consistent with the emerging experience of new deafness reports.

Periods prior to June 2016 adopt a chain ladder approach. We have reshaped our development factors to reflect a speeding up of payments in the recent experience.

Figure 6.6 shows the overall average benefit paid for a Deafness lump sum claim. The selected average Deafness benefit at this valuation is around $18,000 per claim which is unchanged after allowing for (CPI) inflation.

Figure 6.6 – Average Lump Sum Deafness Payment ($Jun-19)



Valuation Basis for Death Lump Sums

Experience for Death (and funeral) lump sums were favourable over the last six months with the number and amount of payments being 43% and 41% lower than expected respectively. Death lump sums experience tends to be volatile, and at this valuation we have maintained our underlying projection basis consistent with the longer term experience.

In addition to the underlying projection, our previous basis allowed for one-off ex-gratia dependant benefit payments to occur in line with changes introduced with the RTW Act; these ex-gratia payments were available only to a small number of past part-death benefit recipients, but to date there has been very little activity. At this valuation we have removed this allowance given the long period of inactivity.

Figure 6.7 shows the projected numbers of Death lump sums by accident year.

Figure 6.7 – Projected Ultimate Numbers of Death Lump Sums

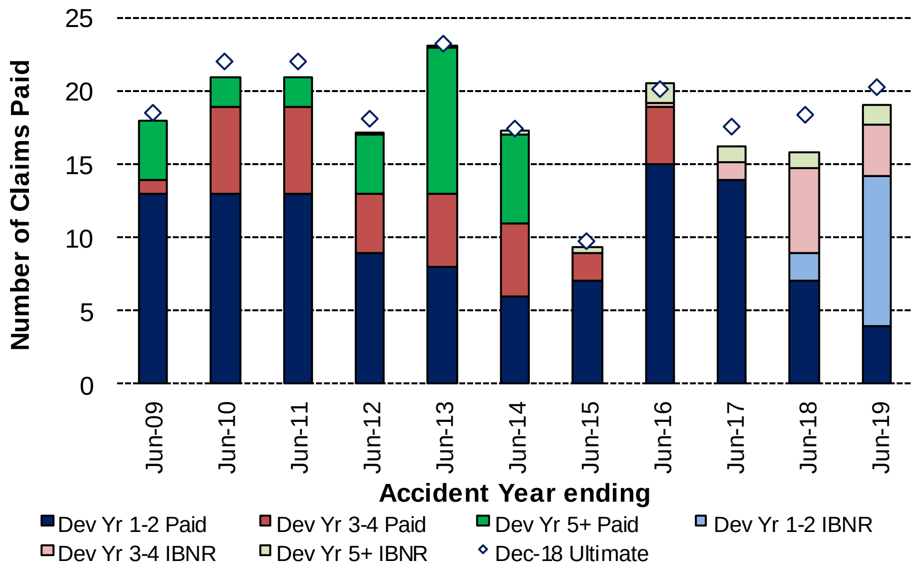
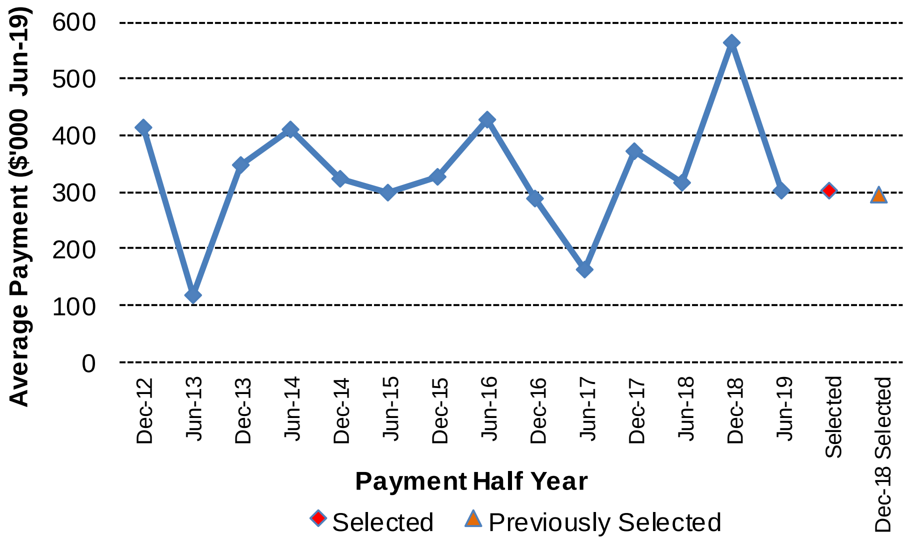


Figure 6.8 shows the average benefit paid to a Death lump sum claim, by payment half year.

Figure 6.8 – Average Lump Sum Death Payment ($Jun-19)



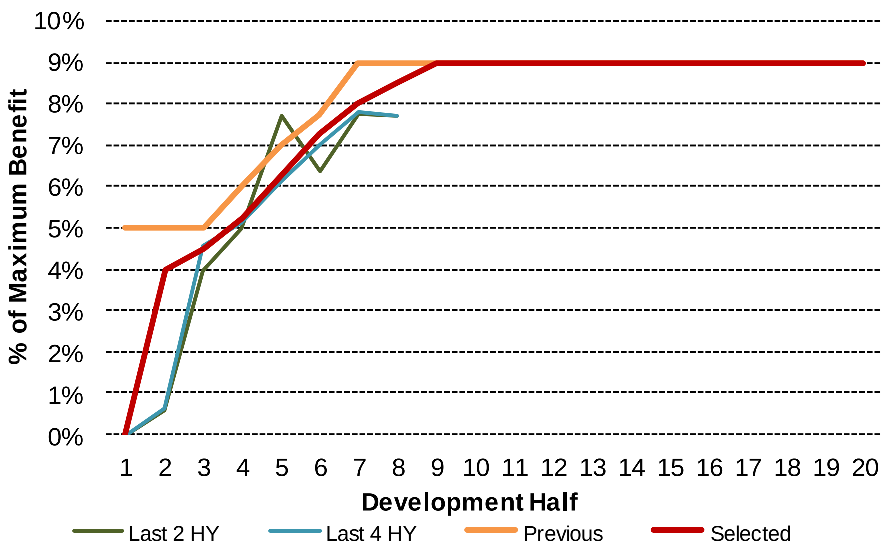
Due to the volatility of the experience, we have not responded to the most recent experience and our adopted size is unchanged after adjusting for (CPI) inflation.

Valuation Basis for Economic Loss Lump Sums

Economic Loss lump sums are paid to a worker for loss of future earning capacity. This is a new benefit under the RTW Act and is available to injuries from 1 July 2015. As expected, payments have emerged in line with First Paid lump sums. We have continued to align the ultimate number of Economic Loss lump sum payments with First Paid lump sums.

Figure 6.9 shows the average size of Economic Loss lump sum payments as a percentage of the maximum benefit available.

Figure 6.9 – Economic Loss Lump Sum Size by Development Half-Year (as a percentage of maximum benefit)



We have reduced our size selection for development halves 1 to 8 to be more consistent with the emerging experience.

6.4 Valuation Results and Actuarial Release

Table 6.4 sets out the actuarial release resulting from our valuation of lump sum payments. The first column represents our projection from the December 2018 valuation.

Table 6.4 – Actuarial Release for Lump Sums

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	4.6	4.8	0.2	0.4	(0.5)	-12%
2005/06 - 2012/13	13.8	13.3	(0.5)	(0.4)	0.9	6%
2013/14 - 2014/15	12.2	15.3	3.1	(2.9)	(0.2)	-2%
2015/16 - 2018/19	248.4	246.3	(2.1)	(6.9)	9.0	4%
Total	279.0	279.7	0.6	(9.8)	9.1	3%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $0.6 million increase in projected liability is offset by payments being $9.8 million less than expected in the six months, resulting in an actuarial release of $9.1 million. As mentioned earlier, the main driver of this 'release' is a transfer of the cost into the Serious Injury valuation segment.

Table 6.5 breaks down the actuarial release by source.

Table 6.5 – Components of Actuarial Release: Lump Sums

Release (strengthening) due to		
	$m	$m
AvE payments in six months		9.8
Changes to Valuation Basis		
First paid and eco loss numbers	(3.2)	
Aggravation numbers	(0.4)	
Deafness numbers	(3.9)	
Eco loss size	5.3	
Subtotal		(0.6)
Total		9.1

Slower than expected payments in the six months to June 2019 contribute a saving of $9.8 million. This is partly offset by changes to the First Paid and Economic Loss lump sum numbers resulting in an increase of $3.2 million, which is a result of slower payments being held back in the outstanding claims liability offset by a reduction in claim numbers from the shift in lump sum costs from Short Term claims to Serious Injury claims. Increases in the Top Up and Deafness lump sum bases add $4.3 million to the liability (payments on Deafness claims were also higher, so the total strengthening for Deafness claims is around $6 million), while lower Economic Loss sizes reduce the liability by $5.3 million.

7 Treatment and Related Costs – Short Term Claims

Workers who suffer a compensable injury are entitled to compensation for a range of medical and other treatment related costs. For the valuation we split these entitlements into the following groups: Medical, Physical Therapy, Hospital, Rehabilitation (Vocational Rehabilitation), Travel and 'Other'. Medical payments are the most significant of these entitlements.

7.1 Summary of Results

Table 7.1 summarises the movements in our liability estimates for treatment and related cost payments since the December 2018 valuation.

Table 7.1 – Valuation Results: Treatment Costs

	Medical	Hospital	Travel	Rehab	Physical Therapy	Other	Total Treatment
Dec18 Valuation	$m	$m	$m	$m	$m	$m	$m
Estimated Liab at Dec-18	116.6	20.2	4.8	13.2	7.5	9.6	171.9
Projected Liab at Jun-19	117.4	21.1	4.9	13.6	7.6	9.8	174.5
Jun-19 Valuation							
Impact of experience/OSC - Movement in liab	1.7	(1.1)	0.3	(0.1)	0.3	(2.1)	(1.1)
Estimated Liab at Jun-19 (Dec-18 eco assumptions)	**119.1**	**19.9**	**5.2**	**13.5**	**8.0**	**7.7**	**173.4**
Impact of change in eco assumptions	4.0	0.4	0.0	0.1	0.1	0.1	4.7
Estimated Liab at Jun-19 (Jun-19 eco assumptions)	**123.1**	**20.3**	**5.2**	**13.6**	**8.1**	**7.8**	**178.1**
AvE Payments - six months to Jun-19	(1.3)	(0.8)	(0.1)	(0.3)	(0.4)	(1.0)	(3.9)
Actuarial Release at Jun-19	(0.4)	1.9	(0.1)	0.4	0.1	3.1	5.0

The main movements from our December 2018 projection of the June 2019 liability are:

- An decrease of $1.1 million in the liability, reflecting the recent experience and valuation response. This produces an actuarial release of $5.0 million when combined with actual payments in the period being $3.9 million less than expected.
- Movements in economic assumptions, increasing the treatment related liabilities by $4.7 million.

The remainder of this section deals with the payment experience and valuation basis. The impact of the change in economic assumptions is discussed in Section 11.3.2.

7.2 Valuation Approach

Under the RTW Act most treatment and related costs cease 12 months after Income Support ends. The two exceptions to this are payments for medical aids and appliances, and payments related to approved surgeries. Our modelling approach captures these features using:

- Active claim model (PPAC) – this is used for the valuation of Medical liabilities (excluding Aids and Appliances) for claims that are also receiving Income Support (IS) payments; for up to three years from the date of injury.
- Long term model (PPCI) – this is a quarterly model used for the valuation of all other treatment related liabilities, namely:
  - For Medical payments (excluding Aids and Appliances): to claims that are not receiving IS payments.

- For claimants receiving Medical payments (excluding Aids and Appliances) alongside IS payments more than three years from the date of injury (generally due to long delay to first IS incapacity).
- For other treatment related costs: this is used to value the total future cost of that entitlement, without differentiating between claims receiving Income Support.

- In most cases, we have shown two sets of valuation assumptions, namely:
  - "RTW Act claims" – claims occurring after the RTW Act provisions commenced on 1 July 2015, that is where the new rules apply from day one of the claim: for these claims, it will typically take around four to five years before payments reduce to zero, due to a combination of (1) claimants who do not commence their incapacity until sometime after their injury, and (2) payment delays.
  - "Transitional claims" – those that occurred prior to 30 June 2015: for these claims, the duration boundaries will commence on 1 July 2015 and so payments will generally cease soon after 30 June 2019. The "Transitional claims" selections generally only apply for a small number of projection quarters before reverting to the "RTW Act claims" selections; the exception is certain benefit types where there is still a high level of payments related to dispute activity, in which cases we have extended the period where transitional selections are applied.

Detailed descriptions of the projection models and details of all projection assumptions are included in Appendix A and H.

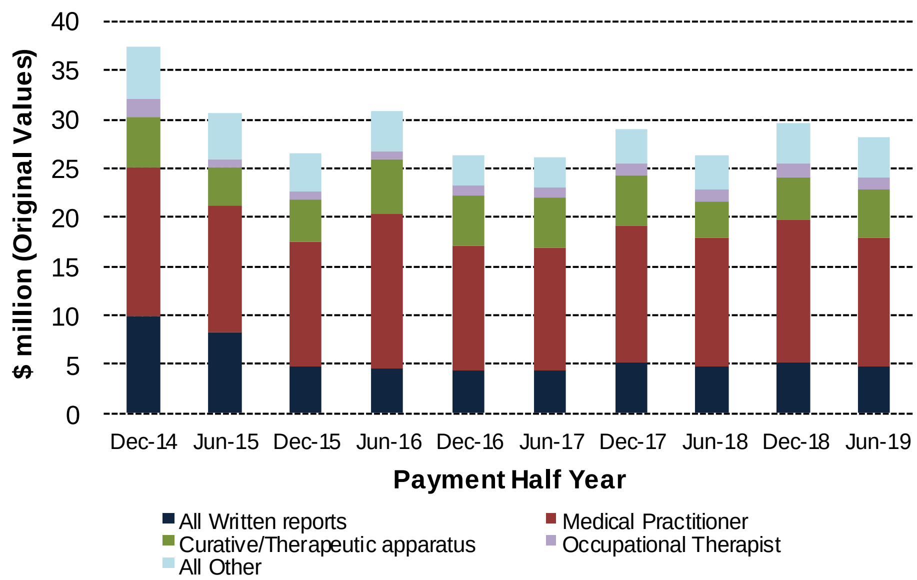
7.3 Medical

Medical payments includes payments for treating doctors, written medical reports, therapeutic devices, pharmaceuticals, psychologists, dentists and other allied health (except for physiotherapy costs which are separately modelled in Section 7.7), including medico-legal costs.

Payments vs Expectations

Figure 7.1 below shows medical payments by six month period, split by the type of service.

Figure 7.1 – Medical Half-Yearly Payments



Medical payment levels have been lower since June 2015, due to:

- Lower written report activity post-June 2015 following the removal of Work Capacity Assessments under the RTW Act.
- Lower other medical expenses including psychologist and chemist costs.
- Offset by higher medical apparatus costs.

Table 7.2 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 7.2 – Actual vs Expected Payments: Medical

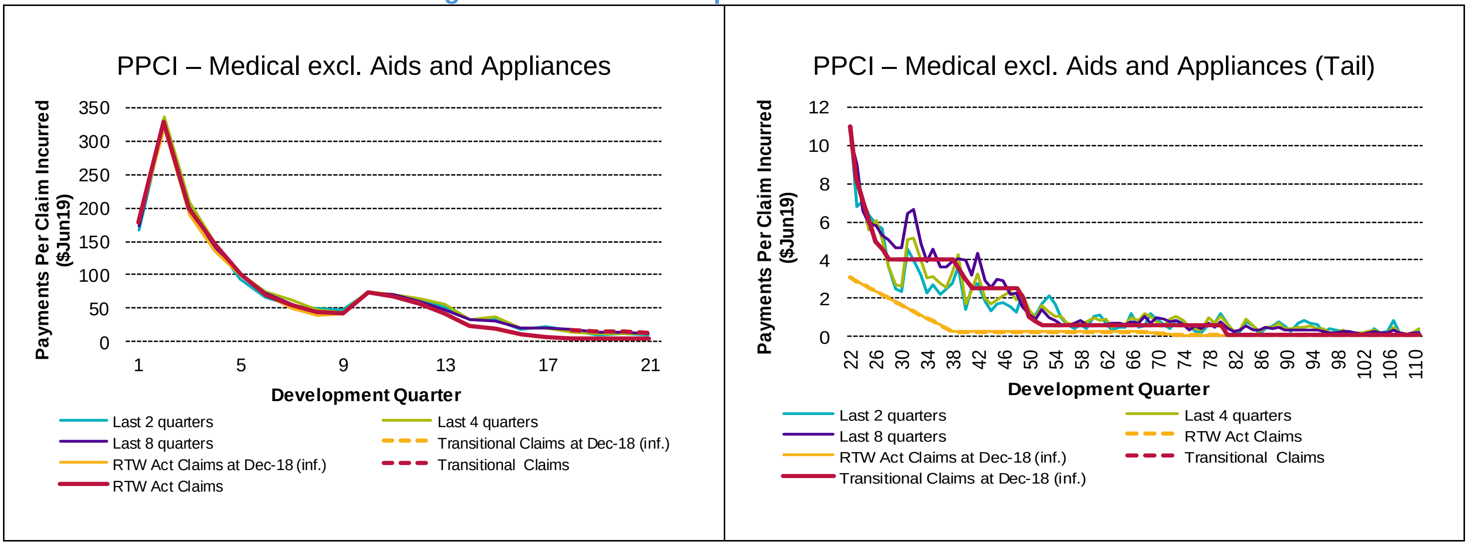
Accident Period	Payments in Six Months to Jun 19			
	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	1.3	1.2	0.0	2%
2005/06 - 2012/13	1.6	1.8	(0.2)	-10%
2013/14 - 2014/15	0.9	1.0	(0.1)	-11%
2015/16 - 2018/19	24.4	25.4	(1.0)	-4%
Total	28.1	29.4	(1.3)	-4%

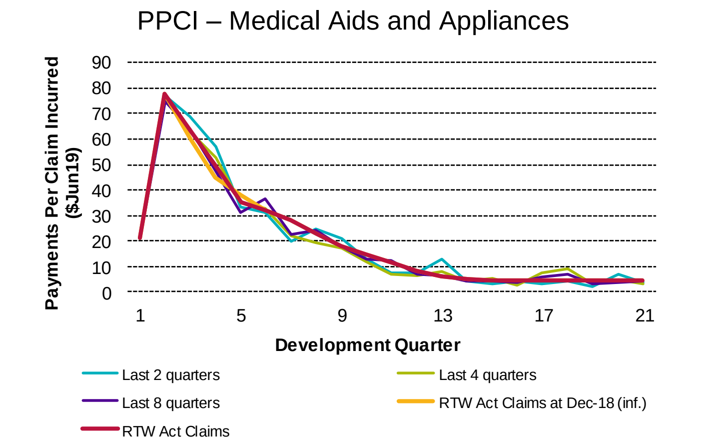
Overall, payments were 4% lower than expected in the six months to June 2019. In dollar terms, this was driven predominantly by post-reform accident periods, although payments were also proportionately lower across old accident periods.

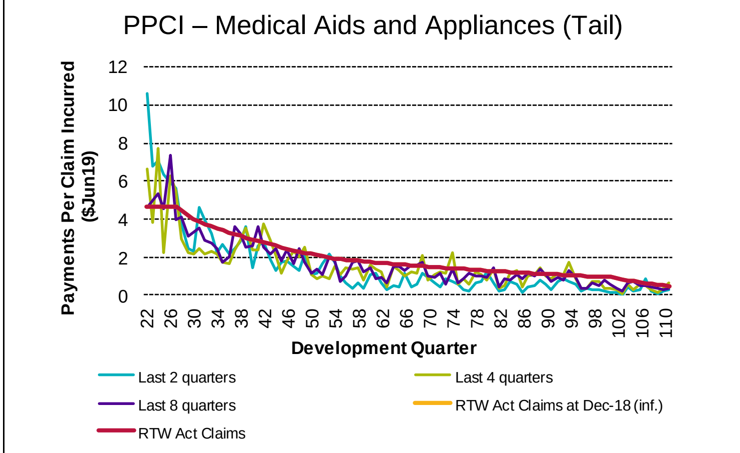
Valuation Basis

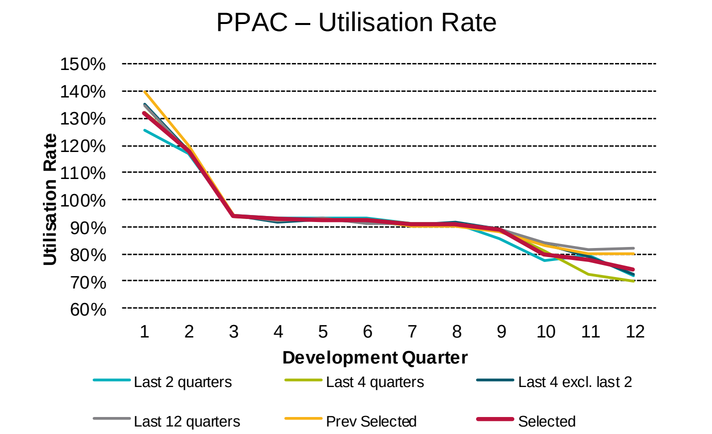
Figure 7.2 below shows the recent experience and selected basis for medical payments.

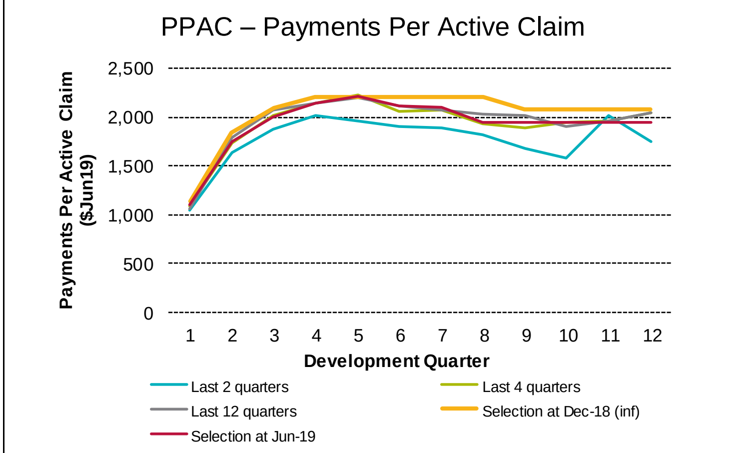
Figure 7.2 – Medical Experience and Selections

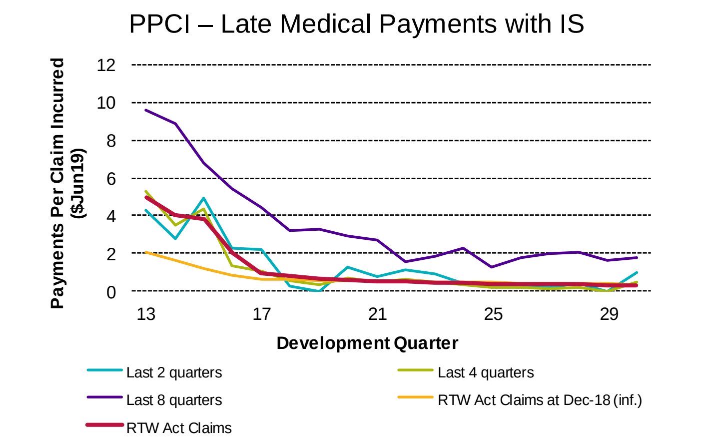


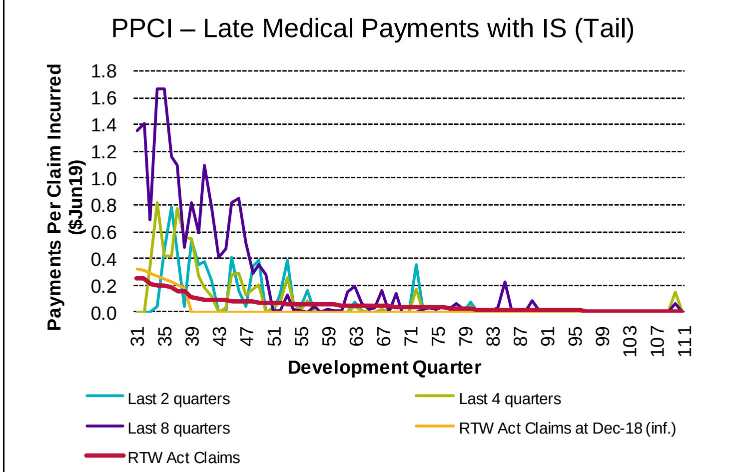












Our comments on the experience and selected assumptions are:

- PPCI (Medical, excluding aids and appliances):
  - We increased our basis marginally for the first two development years in response to the higher level of payments emerging over the last year.
  - Our valuation basis for transitional claims includes additional payments over the next 18 months and reflects the high levels of written report activity currently, which is a continuation of the experience seen since December 2017. We attribute this to the slowdown in WPI

assessments and related dispute activity, which are resulting in medical assessments being done beyond the boundary on treatment benefits.

- PPCI (Medical aids and appliances)
  - We adopt the same PPCI pattern for transitional claims and RTW Act claims.
  - We have revised our selections at development quarters three to five in line with the experience over the last year.
- PPAC:
  - While IS payments have increased over the last six months, Medical payments have not seen the same escalation, with utilisation levels reducing over the last six months for claims that are receiving a IS payment. We have reduced our selected basis for development quarters one to four and reshaped the pattern from development quarter seven onwards.
  - PPACs reduced across all durations over the last six months. We have partly responded to this experience and have lowered our PPAC selections consistent with the experience of the last four payment quarters.
- PPCI (late medical payments for claimants also receiving IS)
  - Our previous valuation basis was projected at 20% of the level of late IS payments. At this valuation, we have selected a separate PPCI consistent with the experience emerging in the last four quarters resulting in an overall increase to the valuation basis compared to last time.

Valuation Results and Actuarial Release

Table 7.3 sets out the actuarial release resulting from our valuation of medical payments. The first column represents our projection from the December 2018 valuation.

Table 7.3 – Actuarial Release for Medical

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	15.3	15.5	0.1	0.0	(0.2)	-1%
2005/06 - 2012/13	22.5	22.9	0.4	(0.2)	(0.2)	-1%
2013/14 - 2014/15	8.4	8.5	0.1	(0.1)	0.0	0%
2015/16 - 2018/19	71.2	72.3	1.1	(1.0)	(0.1)	0%
Total	117.4	119.1	1.7	(1.3)	(0.4)	0%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $1.7 million increase in the projected liability is partly offset by actual payments being $1.3 million lower than expected. This results in a minor actuarial strengthening of $0.4 million.

Table 7.4 breaks down the actuarial strengthening by source.

Table 7.4 – Components of Actuarial Release: Medical

Release (strengthening) due to	$m	$m
AvE payments in six months		1.3
Changes to Valuation Basis		
Claim numbers	(0.3)	
IS active projection changes	(0.8)	
PPACs and utilisation	1.2	
PPCIs	(1.7)	
Subtotal		(1.7)
Total		(0.4)

The main drivers of change are:

- Higher Income Support actives increase the liability by $0.8 million.
- Higher ultimate claim numbers result in an actuarial increase of $0.3 million.
- Changes to PPAC and utilisation decrease the liability by $1.2 million
- Changes to PPCI assumptions for other medical payments have resulted in a $1.7 million increase in the liability.

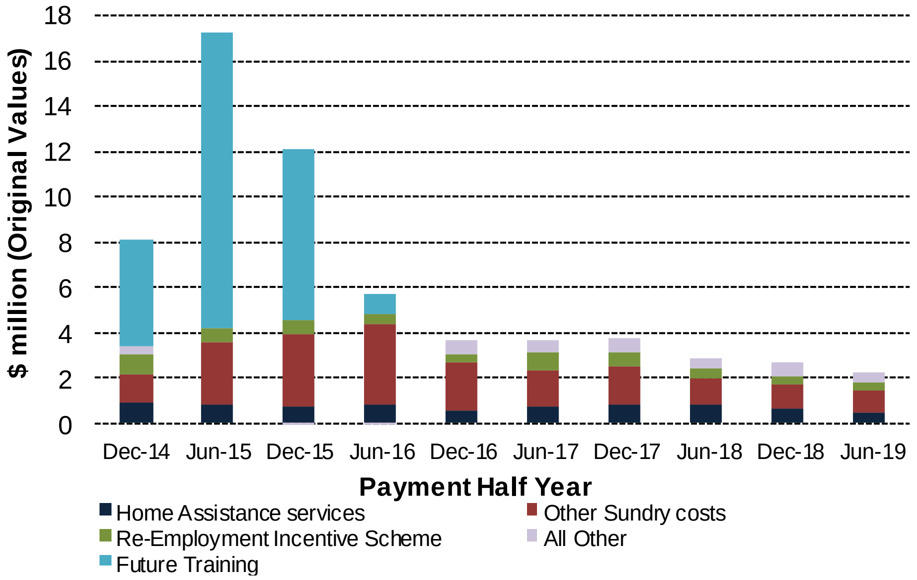
7.4 Other

The Other payment type includes payments on home assistance and modifications, Re-Employment Incentive Scheme (RISE), future retraining costs and other sundry costs.

Payments vs Expectations

Figure 7.3 below shows ‘other’ payments by six month period.

Figure 7.3 – Other Half-Yearly Payments



After a period of high payments peaking with the June 2015 half-year, Other payments have reduced in the last four years following reductions in Other Sundry Costs and re-employment incentives. ‘Future training and education' benefits are no longer paid to workers. Over the last six months, payments reduced further due to lower home assistance costs.

Table 7.5 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 7.5 – Actual vs Expected Payments: Other

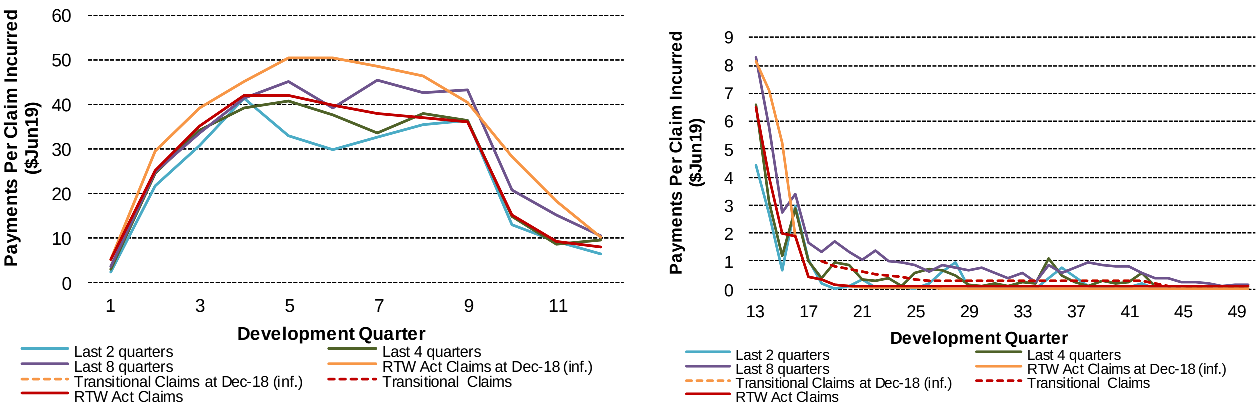
Accident Period	Payments in Six Months to Jun 19			
	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	0.0	0.0	0.0	n/a
2005/06 - 2012/13	0.0	0.1	(0.0)	-26%
2013/14 - 2014/15	0.0	0.0	(0.0)	-75%
2015/16 - 2018/19	2.2	3.1	(0.9)	-30%
Total	2.2	3.2	(1.0)	-30%

Overall, payments were 30% lower than expectations. This is largely due to the RTW Act accident periods with some smaller differences in older accident periods.

Valuation Basis

Figure 7.4 below shows the recent experience and selected basis for 'other' payments.

Figure 7.4 – PPCI Experience and Selections: Other



We have decreased our PPCI assumptions up to development quarter 15 in line with the lower level of payments observed over the last four quarters. For transitional claims we have reshaped the PPCI assumptions between development quarters 20 and 60. Our basis includes additional payments over the next 18 months for surgery and dispute related costs.

Valuation Results and Actuarial Release

Table 7.6 sets out the actuarial release resulting from our valuation of 'other' payments. The first column represents our projection from the December 2018 valuation.

Table 7.6 – Actuarial Release for Other

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	0.0	0.0	0.0	0.0	(0.0)	
2005/06 - 2012/13	0.3	0.3	0.0	(0.0)	0.0	2%
2013/14 - 2014/15	0.2	0.2	(0.1)	(0.0)	0.1	52%
2015/16 - 2018/19	9.3	7.3	(2.1)	(0.9)	3.0	32%
Total	9.8	7.7	(2.1)	(1.0)	3.1	31%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $2.1 million decrease in the projected liability combined with actual payments being $1.0 million lower than expected results in an actuarial release of $3.1 million.

Table 7.7 breaks down the actuarial release by source.

Table 7.7 – Components of Actuarial Release: Other

Release (strengthening) due to		
	$m	$m
AvE payments in six months		1.0
Changes to Valuation Basis		
Ultimate claims	(0.0)	
PPCIs	2.2	
Subtotal		2.1
Total		3.1

Reductions in our PPCI basis result in a $2.2 million release in the liability, which add to the lower payments to produce the $3.1 million actuarial release.

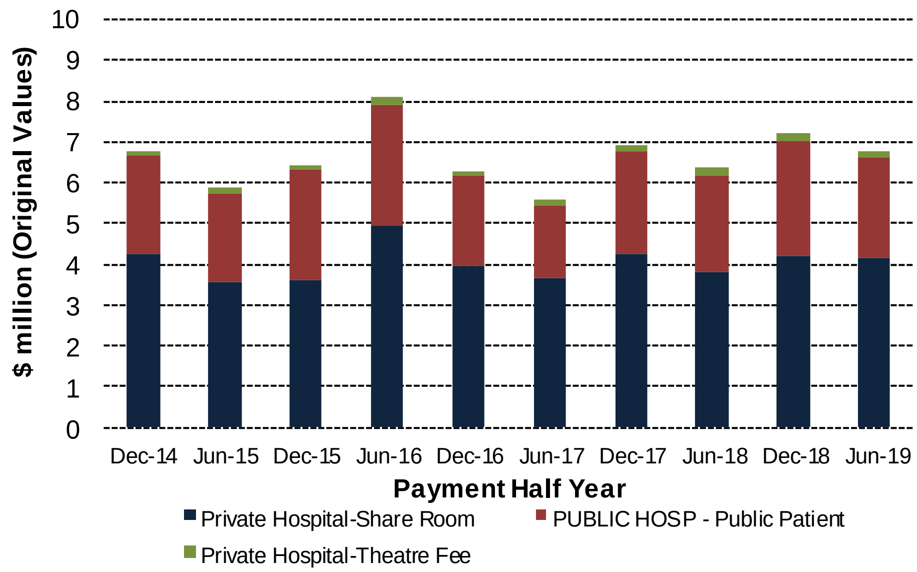
7.5 Hospital

Hospital payments include payments made to public and private hospitals.

Payments vs Expectations

Figure 7.5 below shows hospital payments in each six month period.

Figure 7.5 – Hospital Half-Yearly Payments



Hospital payments were a little lower in the last six months largely due to lower public hospital costs.

Table 7.8 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 7.8 - Actual vs Expected Payments: Hospital

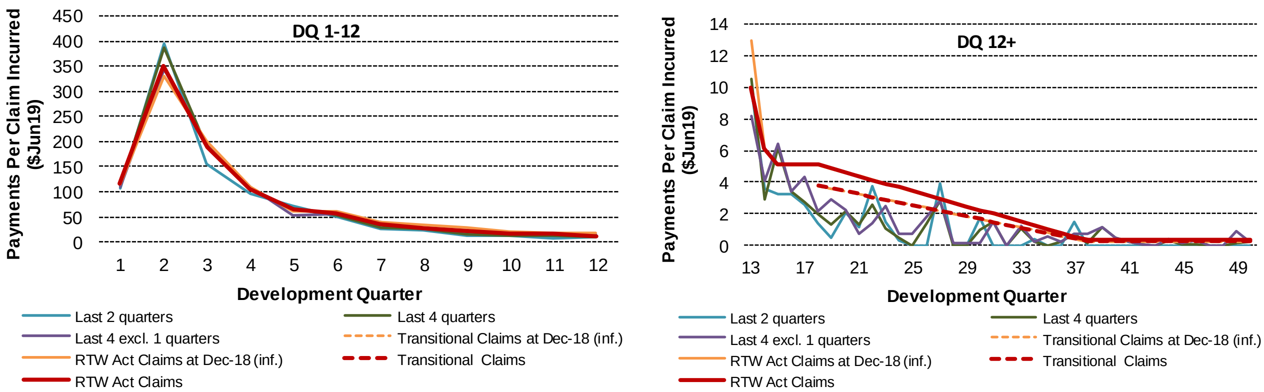
Accident Period	Payments in Six Months to Jun 19			
	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	0.0	0.1	(0.0)	-69%
2005/06 - 2012/13	0.1	0.2	(0.1)	-69%
2013/14 - 2014/15	0.1	0.2	(0.1)	-46%
2015/16 - 2018/19	7.4	7.9	(0.5)	-6%
Total	7.6	8.4	(0.8)	-9%

The bulk of hospital payments are made in the first year or two after injuries occur. Payments in the last six months were lower than expected mainly due to RTW Act accidents.

Valuation Basis

Figure 7.6 below shows the recent experience and selected basis for hospital payments.

Figure 7.6 – Hospital Experience and Selections



At our previous review, we observed an increase in hospital expenditure due to higher utilisation of non-inpatient services and responded partially to the experience. This appears to have been a one-off feature of the experience and we have reduced our basis accordingly for development quarters 3 to 13. We have also put through a small increase for development quarter two in light of the emerging experience.

The basis for transitional claims is unchanged at this valuation given there have been no material changes in the number of applications made for future surgeries and the proportions of these applications that have been accepted or rejected. Hence, we have not adjusted the allowance for future surgery costs for both transitional claims and RTW Act claims in our existing PPCI patterns; the expected surgery cost for RTW Act claims is higher, as redemptions have not removed claims from the scheme as they did for pre-reform periods.

Valuation Results and Actuarial Release

Table 7.9 sets out the actuarial release resulting from our valuation of hospital payments. The first column represents our projection from the December 2018 valuation.

Table 7.9 – Actuarial Release for Hospital

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	0.7	0.7	0.0	(0.0)	0.0	7%
2005/06 - 2012/13	1.7	1.7	0.0	(0.1)	0.1	8%
2013/14 - 2014/15	1.2	1.2	0.0	(0.1)	0.1	7%
2015/16 - 2018/19	17.5	16.3	(1.1)	(0.5)	1.7	9%
Total	21.1	19.9	(1.1)	(0.8)	1.9	9%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $1.1 million decrease in the projected liability combined with actual payments being $0.8 million lower than expected results in an actuarial release of $1.9 million.

Table 7.10 breaks down the actuarial release by source.

Table 7.10 – Components of Actuarial Release: Hospital

Release (strengthening) due to		
	$m	$m
AvE payments in six months		0.8
Changes to Valuation Basis		
Ultimate claims	(0.1)	
PPCIs	1.3	
Subtotal		1.1
Total		1.9

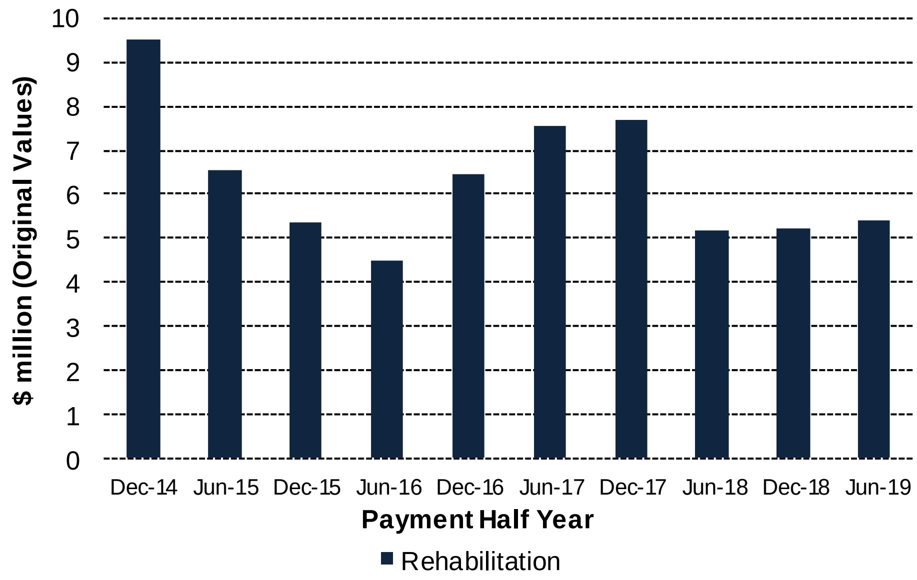
7.6 Rehabilitation

The rehabilitation payment type includes payments made to approved vocational rehabilitation providers and job search agencies.

Payments vs Expectations

Figure 7.7 below shows rehabilitation payments by six month period.

Figure 7.7 – Rehabilitation Half-Yearly Payments



Rehabilitation payments have stabilised over the last 18 months as new operational directives to reduce rehabilitation spending were implemented. This followed a period of increased spending by agents as part of strategies to achieve better return to work outcomes between June 2016 and December 2017.

Table 7.11 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 7.11 – Actual vs Expected Payments: Rehabilitation

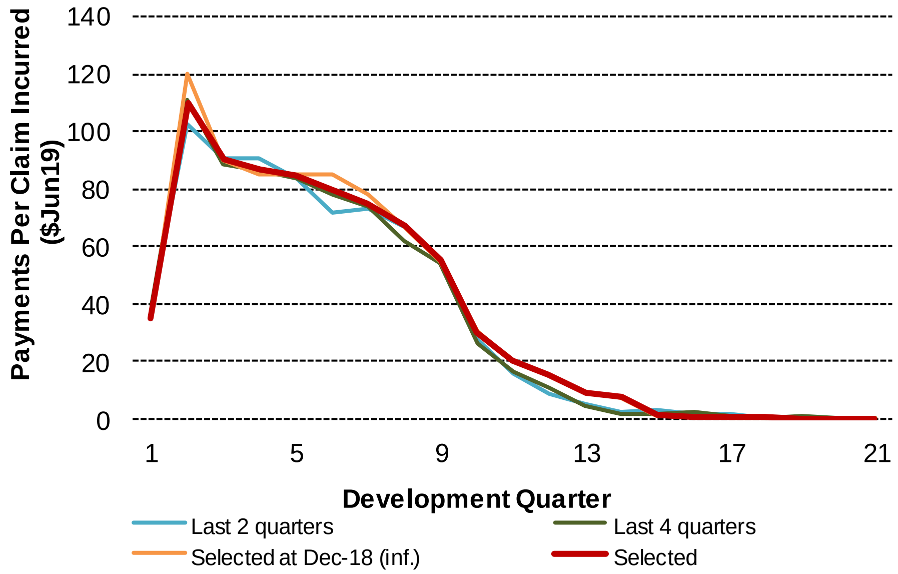
Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	-	-	-	n/a
2005/06 - 2012/13	0.00	0.00	(0.00)	-23%
2013/14 - 2014/15	0.02	0.01	0.01	53%
2015/16 - 2018/19	5.4	5.7	(0.3)	-6%
Total	5.4	5.7	(0.3)	-6%

Overall, payments were $0.3 million less than expected, driven almost entirely from RTW Act accident years.

Valuation Basis

Figure 7.8 below shows the recent experience and selected basis for rehabilitation payments.

Figure 7.8 – Rehabilitation Experience and Selections



We have reshaped our PPCI selections at this valuation for development quarters 2 to 7 resulting in a marginal reduction consistent with the recent experience. There is essentially no rehabilitation cost after the fourth development year,

Valuation Results and Actuarial Release

Table 7.12 sets out the actuarial release resulting from our valuation of rehabilitation payments. The first column represents our projection from the December 2018 valuation.

Table 7.12 – Actuarial Release for Rehabilitation

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release¹	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	-	-	-	-	-	
2005/06 - 2012/13	0.00	0.00	0.00	(0.00)	0.00	21%
2013/14 - 2014/15	0.02	0.02	0.00	0.01	(0.01)	-34%
2015/16 - 2018/19	13.6	13.5	(0.1)	(0.3)	0.4	3%
Total	13.6	13.5	(0.1)	(0.3)	0.4	3%

¹ Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $0.1 million decrease in the projected liability combined with actual payments being $0.3 million less than expected results in an actuarial release of $0.4 million.

Table 7.13 breaks down the actuarial release by source.

Table 7.13 – Components of Actuarial Release: Rehabilitation

Release (strengthening) due to		
	$m	$m
AvE payments in six months		0.3
Changes to Valuation Basis		
Ultimate claims	(0.1)	
PPCIs	0.2	
Subtotal		0.1
Total		0.4

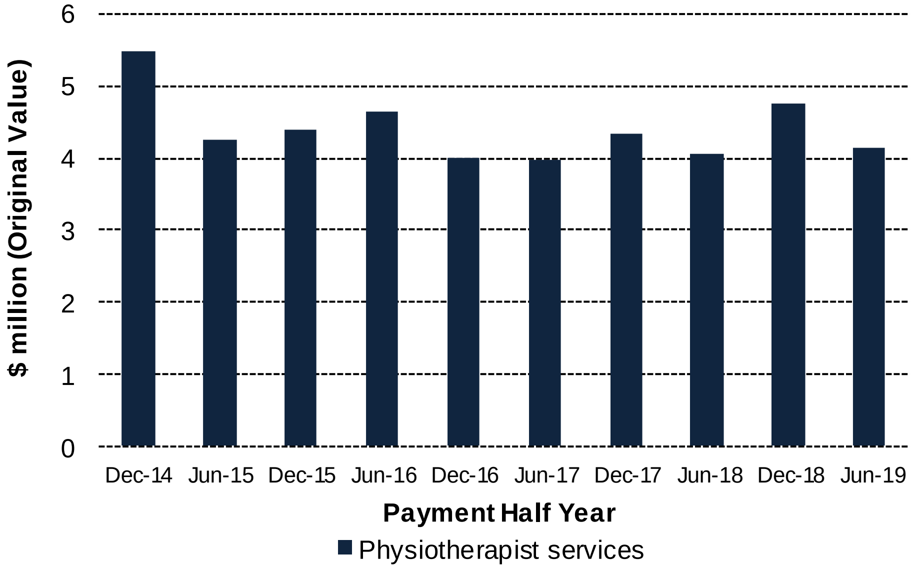
7.7 Physical Therapy

Physical therapy payments are payments made to physiotherapists.

Payments vs Expectations

Figure 7.9 below shows physical therapy payments by six month period over the last five years.

Figure 7.9 – Physical Therapy Half-Yearly Payments



Payments for the last six months have reduced from the higher December 2018 half-year. Over the longer term, physical therapy payments have remained relatively stable since June 2015.

Table 7.14 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection. Overall, payments were $0.4 million (9%) lower than expected.

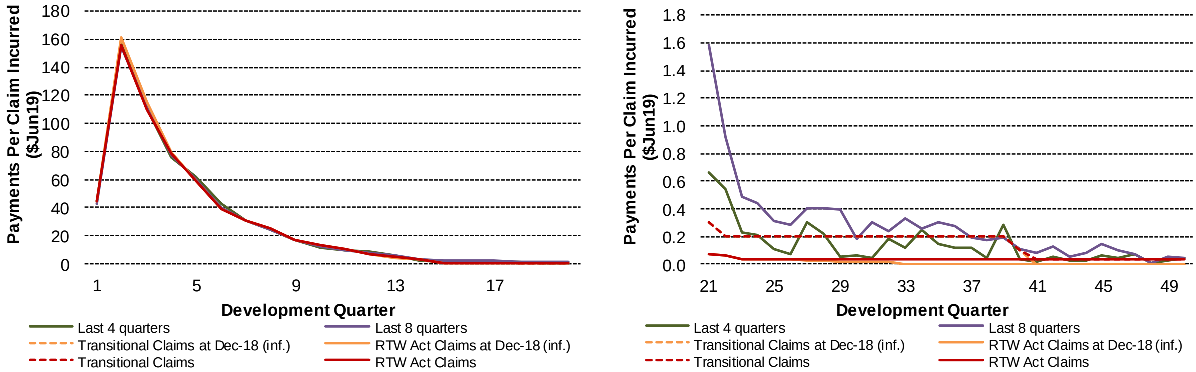
Table 7.14 – Actual vs Expected Payments: Physical Therapy

Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	0.01	-	0.01	n/a
2005/06 - 2012/13	0.01	0.03	(0.01)	-52%
2013/14 - 2014/15	0.03	0.03	(0.00)	-1%
2015/16 - 2018/19	4.1	4.5	(0.4)	-9%
Total	4.1	4.6	(0.4)	-9%

Valuation Basis

Figure 7.10 below shows the recent experience and selected basis for physical therapy payments.

Figure 7.10 – Physical Therapy Experience and Selections



At this valuation, we have capped the additional allowance for payments related to pre-approved surgeries in our PPCI assumptions for transitional claims to apply for the next 18 months only. This is consistent with our expected timing for existing transitional claims to finalise. Offsetting this, we have added back in a more permanent increase in the tail assumptions for both transitional and RTW Act claims for development quarters 27 to 80.

We have also reduced our PPCI Selections for RTW Act claims for development quarters two to four consistent with the emerging experience.

Valuation Results and Actuarial Release

Table 7.15 sets out the actuarial release resulting from our valuation of physical therapy payments. The first column represents our projection from the December 2018 valuation.

Table 7.15 – Actuarial Release for Physical Therapy

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	0.0	0.1	0.1	0.0	(0.1)	
2005/06 - 2012/13	0.1	0.3	0.2	(0.0)	(0.2)	-160%
2013/14 - 2014/15	0.1	0.1	(0.0)	(0.0)	0.0	19%
2015/16 - 2018/19	7.4	7.6	0.1	(0.4)	0.3	4%
Total	7.6	8.0	0.3	(0.4)	0.1	1%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $0.3 million increase in the projected liability is offset by actual payments being $0.4 million lower than expected, which results in an actuarial release of $0.1 million at June 2019.

Table 7.16 breaks down the actuarial change by source.

Table 7.16 - Components of Actuarial Release: Physical Therapy

Release (strengthening) due to		
	$m	$m
AvE payments in six months		0.4
Changes to Valuation Basis		
Ultimate claims	(0.1)	
PPCIs	(0.3)	
Subtotal		(0.3)
Total		0.1

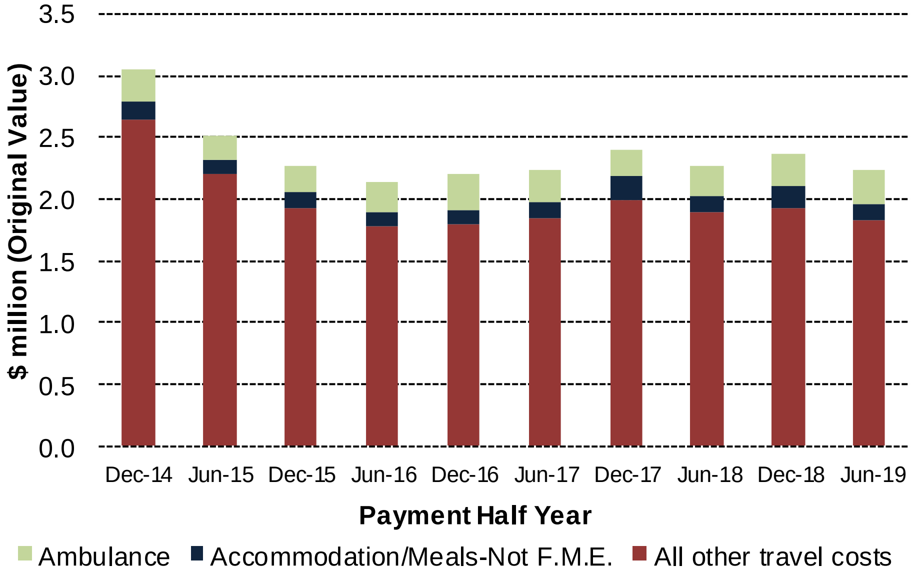
7.8 Travel

Travel payments include payments made for claimant related travel and accommodation.

Payments vs Expectations

Figure 7.11 below shows travel payments by six month period over the last five years.

Figure 7.11 – Travel Half-Yearly Payments



Travel payments reduced in the half year to June 2019 and are lower than they have been in the last two years.

Table 7.17 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 7.17 – Actual vs Expected Payments: Travel

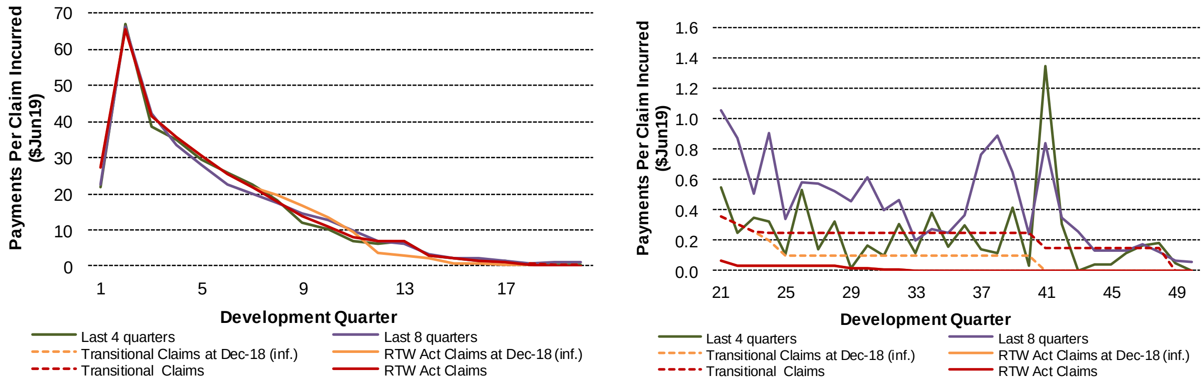
Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	0.01	-	0.01	n/a
2005/06 - 2012/13	0.03	0.01	0.01	93%
2013/14 - 2014/15	0.03	0.03	0.00	3%
2015/16 - 2018/19	2.2	2.3	(0.1)	-6%
Total	2.2	2.4	(0.1)	-5%

Overall, payments in the last six months were $0.1 million lower than expected with lower than expected payments for RTW Act accidents partially offset by higher than expected payments for older accident periods.

Valuation Basis

Figure 7.12 below shows the recent experience and selected basis for travel payments.

Figure 7.12 – Travel Experience and Selections



We have reshaped our selected RTW Act PPCIs for development quarters 8 to 17 in line with the recent experience resulting in a slight overall increase.

Valuation Results and Actuarial Release

Table 7.18 sets out the actuarial release resulting from our valuation of travel payments. The first column represents our projection from the December 2018 valuation.

Table 7.18 – Actuarial Release for Travel

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	0.0	0.0	0.0	0.0	(0.0)	
2005/06 - 2012/13	0.1	0.1	0.0	0.0	(0.0)	-97%
2013/14 - 2014/15	0.1	0.0	(0.0)	0.0	0.0	45%
2015/16 - 2018/19	4.8	5.1	0.3	(0.1)	(0.1)	-2%
Total	4.9	5.2	0.3	(0.1)	(0.1)	-3%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $0.3 million increase in the projected liability offset by actual payments being $0.1 million lower than expected results in a minor actuarial strengthening of $0.1 million at June 2019.

Table 7.19 breaks down the actuarial strengthening by source.

Table 7.19 - Components of Actuarial Release: Travel

Release (strengthening) due to		
	$m	$m
AvE payments in six months		0.1
Changes to Valuation Basis		
Ultimate claims	(0.0)	
PPCIs	(0.2)	
Subtotal		(0.3)
Total		(0.1)

8 Other Entitlements – Short Term Claims

This section presents results for the remaining entitlements. These include legal and investigation costs, recoveries, common law, LOEC, and commutations.

8.1 Summary of Results

Table 8.1 summarises the movements in our liability estimates for the remaining entitlement groups since the December 2018 valuation.

Table 8.1 – Valuation Results: Other Payment Types

	Worker Legal	Corporation Legal	Invest-igation	Common Law	LOEC	Commu-tation	Recoveries	Total
Dec18 Valuation	$m	$m	$m	$m	$m	$m	$m	$m
Estimated Liab at Dec-18	37.9	33.2	2.4	2.6	0.7	2.1	(24.6)	54.3
Projected Liab at Jun-19	36.3	32.8	2.5	2.6	0.5	2.1	(25.1)	51.8
Jun-19 Valuation								
Impact of experience/OSC - Movement in liab	4.8	0.8	(0.2)	(0.0)	(0.0)	(0.0)	(0.1)	5.3
Estimated Liab at Jun-19 (Dec-18 eco assumptions)	**41.2**	**33.6**	**2.3**	**2.6**	**0.5**	**2.1**	**(25.2)**	**57.0**
Impact of change in eco assumptions	0.7	0.4	0.0	0.1	0.0	0.1	(0.4)	0.9
Estimated Liab at Jun-19 (Jun-19 eco assumptions)	**41.9**	**34.0**	**2.3**	**2.7**	**0.5**	**2.2**	**(25.6)**	**57.9**
AvE Payments - six months to Jun-19	(1.1)	0.2	(0.3)	(0.2)	(0.0)	(0.2)	(1.7)	(3.3)
Actuarial Release at Jun-19	(3.7)	(1.0)	0.5	0.2	0.0	0.2	1.7	(2.0)

The movements from our December 2018 projection of the June 2019 liability are:

- An increase of $5.3 million in the liability, reflecting the claims experience since December 2018 and our valuation response. Combined with payments being $3.3 million lower than expected, this produces an actuarial increase (strengthening) of $2.0 million.
- The change in economic assumptions at the current valuation has little impact overall on Other Entitlements.

8.2 Worker Legal

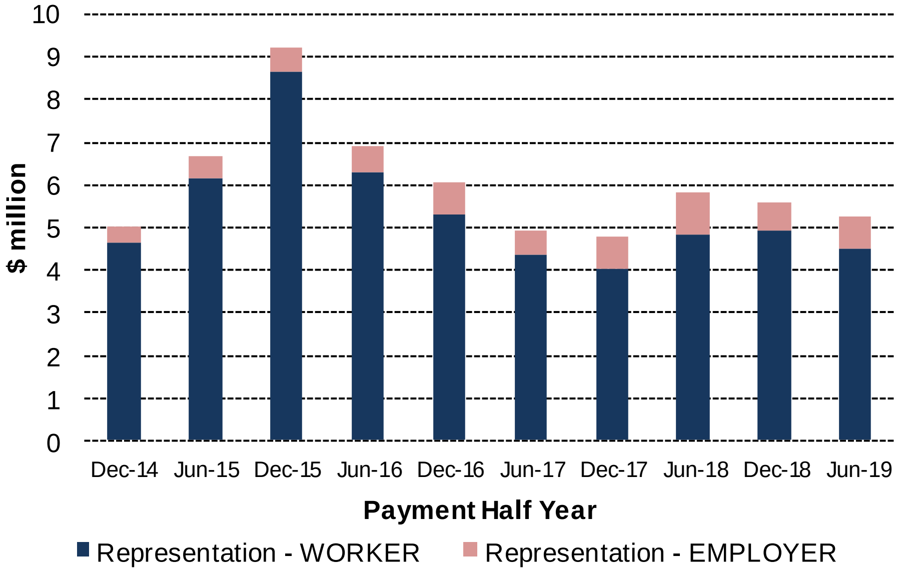
Our valuation of legal costs separately models legal fees paid to ReturnToWorkSA's contracted legal advisers (Minter Ellison and Sparke Helmore), which we call 'corporation legal', and legal fees paid to workers' representatives and employers, which we call 'worker legal'. This section describes the Worker Legal results, with Section 8.3 discussing ReturnToWorkSA's legal results.

Disputes are the main driver of expenditure for both worker and corporation legal fees, and were discussed in Section 3.3.3. Worker legal accounts are generally only submitted upon completion of the dispute and therefore any changes in dispute numbers will usually involve a delay before they are translated into changes in worker legal costs. Corporation legal fees on the other hand are paid at commencement of the dispute and will usually reflect changes in underlying dispute numbers without delay.

8.2.1 Experience

Figure 8.1 below shows worker legal payments in each six month period over the last five years.

Figure 8.1 – Worker Legal Half Yearly Payments



Worker legal payments peaked in the December 2015 half-year and then reduced over the two years to December 2017. This reduction in payments follows the reduction in dispute numbers during the 2015/16 year, reflecting the long delay between lodgement of disputes and payment of worker legal fees. Payments in the last six months reduced slightly, which we believe reflects the slow resolution of disputes rather than an underlying decrease in dispute activity. As shown in Section 3.3.3 remains a large number of open disputes in the scheme.

Disputes being lodged for RTW Act accidents have reduced to around 130 per month over the last half-year. This is lower than the longer-term average level of around 200 disputes per months for pre-RTW Act periods. However it remains to be seen if the lower level of disputes can be maintained going forward once WPI assessments increase; that said, dispute numbers should still remain below 200 per month for RTW Act claims.

Table 8.2 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 8.2 – Actual vs Expected Payments: Worker Legal

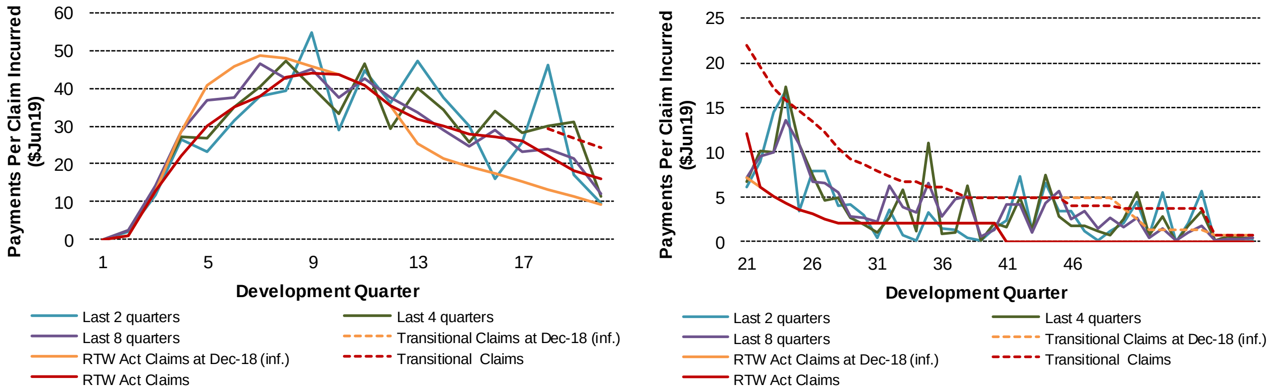
Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	0.2	0.0	0.1	400%
2005/06 - 2012/13	0.9	1.7	(0.7)	-44%
2013/14 - 2014/15	0.9	1.4	(0.5)	-34%
2015/16 - 2018/19	3.2	3.2	(0.0)	-1%
Total	5.2	6.3	(1.1)	-17%

Overall, payments in the six months to June 2019 were lower than expected by 17%. This was due to a combination of higher than expected payments for pre June 2005 claims offset by lower payments for more recent transitional claims.

8.2.2 Valuation Basis

A PPCI model is used to value Worker Legal fees. Figure 8.2 below shows the recent experience and selected basis for worker legal payments.

Figure 8.2 – Worker Legal Experience and Selections



For transitional claims, we have increased our valuation basis by around $1.7 million (discounted) at this valuation to reflect the high number of open disputes currently in the scheme and their progression through to the later dispute resolution process. While the number of open disputes have reduced slightly, this has been slower than we had allowed for in our previous basis and so we have held back the payments which did not occur in the last six months.

Our revised valuation basis of around $18.3 million (discounted) for transitional worker legal costs allows for some progression of currently open disputes, along with a further 250 further new disputes to be lodged (at a lower cost) before the transitional cohort is fully runoff.

We have reshaped our PPCIs for RTW Act periods with lower selections for development quarters 4 to 9 offset by higher selections for development quarters 13 to 21 in light of the emerging experience.

8.2.3 Valuation Results and Actuarial Release

Table 8.3 sets out the actuarial release resulting from our valuation of worker legal payments. The first column represents our projection from the December 2018 valuation.

Table 8.3 – Actuarial Release for Worker Legal

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release¹	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	0.02	0.02	0.00	0.14	(0.14)	-666%
2005/06 - 2012/13	8.9	10.3	1.4	(0.7)	(0.7)	-8%
2013/14 - 2014/15	7.2	7.5	0.3	(0.5)	0.2	2%
2015/16 - 2018/19	20.2	23.3	3.1	(0.0)	(3.0)	-15%
Total	36.3	41.2	4.8	(1.1)	(3.7)	-10%

¹ Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The actuarial strengthening of $3.7 million is due to liability increases of $4.8 million partially offset by actual payments being $1.1 million lower than expected.

Table 8.4 breaks down the actuarial change by source.

Table 8.4 – Components of Actuarial Release: Worker Legal

Release (strengthening) due to		
	$m	$m
AvE payments in six months		1.1
Changes to Valuation Basis		
Ultimate claims	(0.1)	
PPCI increase for RTW Act Claims	(3.0)	
PPCI increase for Transitional Claims	(1.7)	
Subtotal		(4.8)
Total		(3.7)

8.3 Corporation Legal

Corporation Legal refers to the legal fees paid to ReturnToWorkSA's contracted legal advisers. Since 1 January 2013 there have been two legal service providers, Minter Ellison and Sparke Helmore, who were originally paid fees based on the number of matters handled and the complexity of these matters.

Beginning in 2016, an annual contract was agreed upon whereby the contracted legal advisers would be paid a pre-determined fixed fee each month throughout the contract period. Fees for advice and representation pertaining to complex cases are paid at the same rate outlined in the previous contract in addition to the fixed fee each month. This contract has been extended each year since with revised fixed fees.

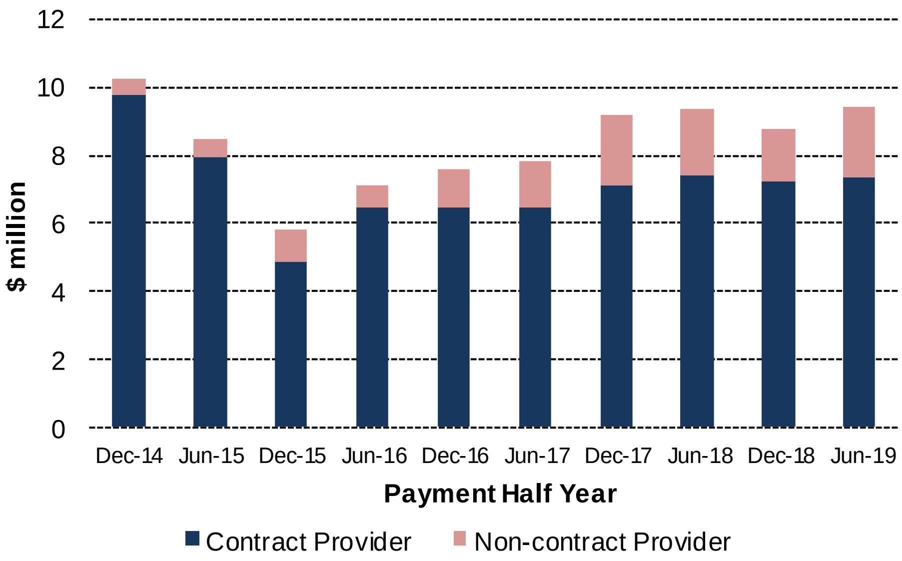
A performance fee is also payable at the end of each contract half-year based on the achievement of certain performance outcomes. This fee is unchanged for the FY2020 contract.

In addition to the two main legal service providers, ReturnToWorkSA also pay additional providers legal fees related to third party recoveries, staff claims and extra-ordinary matters. These providers are referred to as "non-contract" providers in the remainder of this section.

8.3.1 Experience

Figure 8.3 below shows Corporation Legal payments in each six month period over the last five years.

Figure 8.3 – Corporation Legal Half Yearly Payments



Corporation Legal expenditure in the six months to June 2019 is higher than the December 2018 half-year and remains higher than recent periods due to higher contract and "non-contract" fees. The high amount of "non-contract" fees reflect the high number of legal matters in the Supreme Court as discussed in Section 3.3.3.

Table 8.5 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 8.5 – Actual vs Expected Payments: Corporation Legal

Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
Total	9.4	9.3	0.2	102%

Overall, actual payments were $0.2 million (2%) higher than expected driven by higher "non-contract" payments. A breakdown by accident period is not possible as Corporation Legal payments are not allocated to individual claims.

8.3.2 Valuation Basis

Under the current contract, a fixed amount is paid to both legal providers each month regardless of the number of non-complex matters referred. Table 8.6 below summarises the payments applicable under the current contract.

Table 8.6 – Corporation Legal Contract Components

	Contract Terms
Matter Type	Current
Advice only	Fixed Fee per month
Dispute representation	Fixed Fee per month
Complex matters	Paid per matter
Performance Fee	Paid at the end of year

To project the future costs of Corporation Legal we have:

- Adopted the fixed monthly fees payable to each provider under the contract
  - The fixed fee per month is unchanged for the December 2019 half-year and reflects the terms of the FY2020 contract. Beyond the current contract, the fees are estimated to remain at a similar level reflecting the recent stability in the number of new disputes in the scheme.
- Estimated the number of complex matters that will be referred each year for the duration of the contract and multiplied this by the relevant fees as specified in the contract terms
  - We have made an allowance for payment of $100,000 per half-year due to the high number of complex matters currently open for transitional claims.
- Allowed for payment of additional performance fees as specified in the terms of the contract as well as outstanding performance fees payable under the previous contract
- Allocated the cash flows in each payment year across accident periods
- Estimated a separate allowance for matters handled by "non-contract" providers.
  - Our base allowance of $1.1 million per half year is unchanged from the previous valuation
  - We have extended our temporary allowance of $1 million per half-year until June 2020 (additional half-year) for Supreme Court matters reflecting the current delay in resolving these matters.

Beyond the current contract, payments for Corporation Legal are projected to increase in line with inflation.

The allocation of cash flows across accident periods is based on the observed experience in Worker Legal costs, with an adjustment to reflect the quicker payment pattern of Corporation Legal costs. As transition claims run-off, dispute lodgements are expected to occur earlier due to the shorter duration of claims under the RTW Act.

8.3.3 Valuation Results and Actuarial Release

Table 8.7 sets out the actuarial release resulting from our valuation of Corporation legal payments. The first column represents our projection from the December 2018 valuation.

Table 8.7 - Actuarial Release for Corporation Legal

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
Total	32.8	33.6	0.8	0.2	(1.0)	-3%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

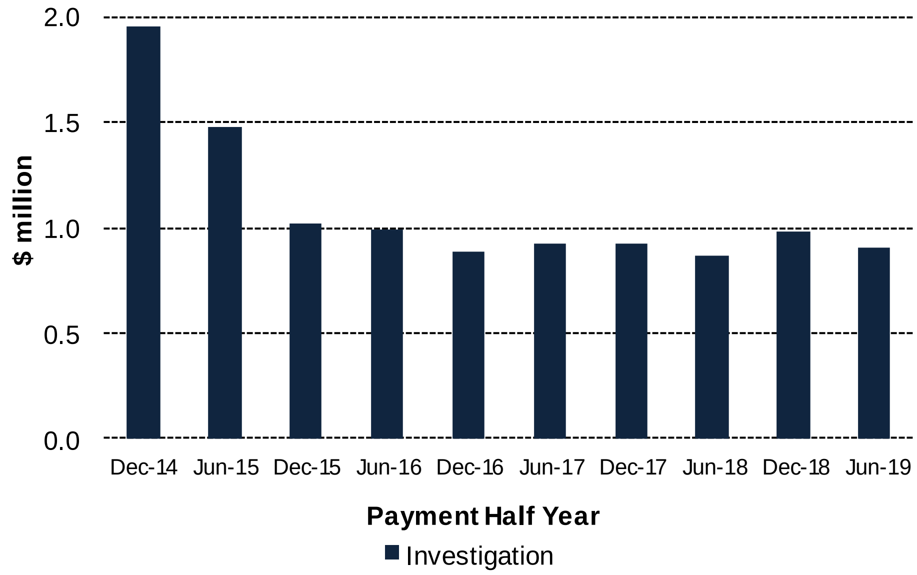
The $0.8 million increase in the projected liability combined with actual payments being $0.2 million higher than expected results in an actuarial strengthening of $1.0 million.

8.4 Investigation

8.4.1 Experience

Figure 8.4 below shows investigation payments in each six month period over the last five years.

Figure 8.4 – Investigation Half Yearly Payments



Investigation spending in the six months to June 2019 reduced to levels consistent with the average over FY17 and FY18. The increase in payments for the December 2018 half-year coincided with ReturnToWorkSA insourcing the 'Mobile Insurance Loss Adjusters' fees which was previously paid to claims agents as part of the agent remuneration. The utilisation of Mobile Insurance Loss Adjusters have since reduced in the June 2019 half-year.

Table 8.8 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 8.8 – Actual vs Expected Payments: Investigation

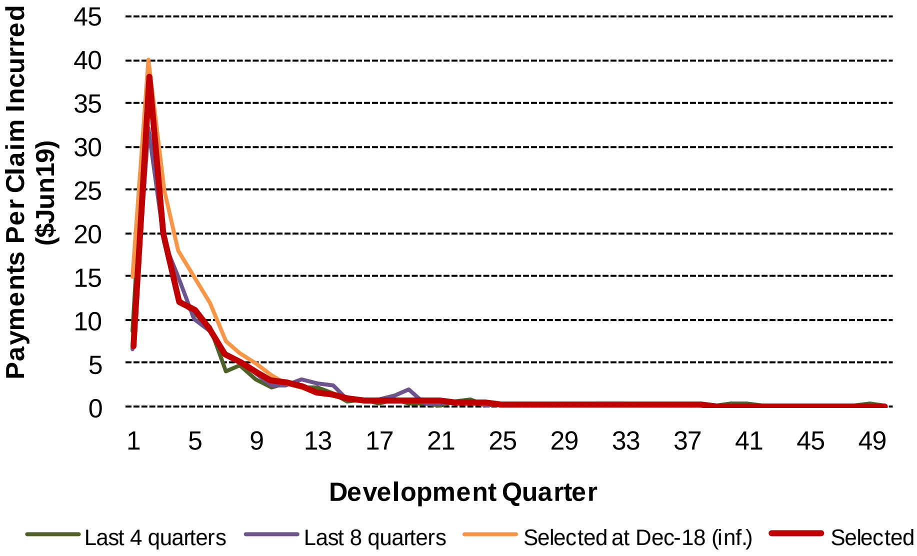
Accident	Payments in Six Months to Jun 19			
Period	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	-	-	-	n/a
2005/06 - 2012/13	0.03	0.02	0.02	99%
2013/14 - 2014/15	0.03	0.03	0.00	0%
2015/16 - 2018/19	0.8	1.2	(0.3)	-28%
Total	0.9	1.2	(0.3)	-25%

Overall, actual payments were 25% lower than expected due to expected 'Mobile Insurance Loss Adjusters' fees which did not eventuate.

8.4.2 Valuation Basis

A PPCI model is used to value investigation payments. Figure 8.5 below shows the recent experience and selected basis.

Figure 8.5 – PPCI Experience and Selections: Investigation



We have reduced the adopted PPCIs at this valuation to reflect the absence of 'Mobile Insurance Loss Adjustors' fees from investigation payments. We have not allowed for a different PPCI pattern for transitional claims up to 30 June 2015 on materiality grounds.

8.4.3 Valuation Results and Actuarial Release

Table 8.9 sets out the actuarial release resulting from our valuation of investigation payments. The first column represents our projection from the December 2018 valuation.

Table 8.9 - Actuarial Release for Investigation

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	-	-	-	-	-	
2005/06 - 2012/13	0.1	0.2	0.1	0.0	(0.1)	-213%
2013/14 - 2014/15	0.1	0.1	0.0	0.0	(0.0)	-46%
2015/16 - 2018/19	2.3	2.0	(0.3)	(0.3)	0.7	28%
Total	2.5	2.3	(0.2)	(0.3)	0.5	20%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The $0.2 million decrease in the projected liability combined with actual payments being $0.3 million lower than expected results in an actuarial release of $0.5 million.

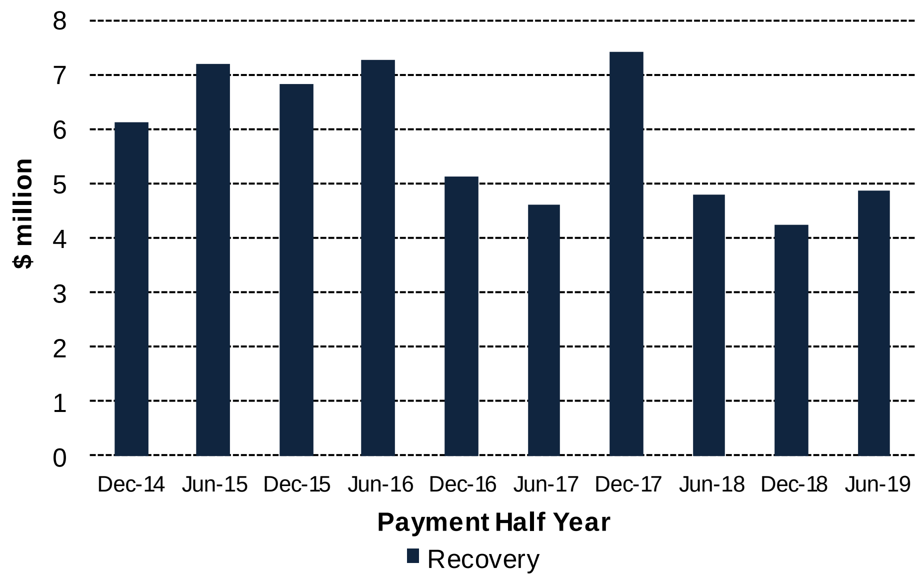
8.5 Recoveries

Recoveries can be made by ReturnToWorkSA from overpayments to workers, from the Motor Accidents Commission (MAC) and private insurers for CTP claims, or from third parties for recoveries relating to negligence claims. Third parties for negligence claims will often be companies engaged in labour hire and owners or head contractors on construction sites, as ReturnToWorkSA cannot recover money from an employer for negligence.

8.5.1 Experience

Figure 8.6 below shows recovery payments in each six month period over the last five years.

Figure 8.6 – Recovery Half Yearly Payments Received



Recovery payments have generally been lower since 2016 in line with reducing gross payment levels.

Table 8.10 compares the payments in the six months to 30 June 2019 with the expected payments from our December 2018 valuation projection.

Table 8.10 – Actual vs Expected Payments: Recoveries

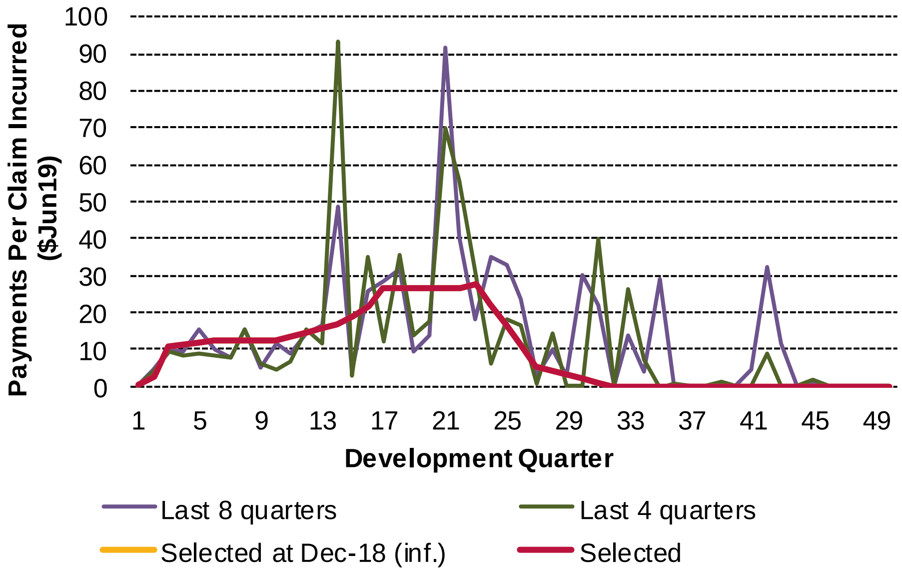
Accident Period	Payments in Six Months to Jun 19			
	Actual	Expected	Act - Exp	% Act - Exp
	$m	$m	$m	
To 30 Jun 05	(0.01)	-	(0.01)	n/a
2005/06 - 2012/13	(1.3)	(0.4)	(0.9)	200%
2013/14 - 2014/15	(1.6)	(1.4)	(0.1)	7%
2015/16 - 2018/19	(2.0)	(1.3)	(0.7)	51%
Total	(4.9)	(3.2)	(1.7)	52%

Overall, actual recovery payments were $1.7 million higher than expected across both transitional and RTW Act claims. This was due to two large recoveries of around $1 million each that were received over the last six months.

8.5.2 Valuation Basis

A PPCI model is used for recovery payments. Figure 8.7 below shows the recent experience and selected basis.

Figure 8.7 – PPCI Experience and Selections: Recoveries



Our selected recovery PPCI assumptions are unchanged at this valuation and are in line with the experience at early durations. Our selection is lower than the experience at longer durations and reflects our expectation of the lower recoverability of costs going forward under the RTW Act (where gross payments are lower), and following CTP reforms in 2014.

8.5.3 Valuation Results and Actuarial Release

Table 8.11 sets out the actuarial release resulting from our valuation of recovery payments. The first column represents our projection from the December 2018 valuation.

Table 8.11 – Actuarial Release for Recoveries

Accident Period	Projected Liab at Jun 19 from Dec 18 Valuation	Jun 19 Estimate on Dec 18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 mths to Jun 19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	0.0	0.0	0.0	(0.0)	0.0	
2005/06 - 2012/13	(0.3)	(0.3)	(0.0)	(0.9)	0.9	-334%
2013/14 - 2014/15	(3.7)	(3.7)	(0.0)	(0.1)	0.1	-3%
2015/16 - 2018/19	(21.2)	(21.3)	(0.1)	(0.7)	0.8	-4%
Total	(25.1)	(25.2)	(0.1)	(1.7)	1.7	-7%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The overall actuarial release of $1.7 million is a combination of actual recoveries being $1.7 million above expectations combined with a slight increase in the volume of expected future recoveries due to higher claim numbers.

8.6 LOEC, Commutations, and Common Law

LOEC, Commutations, and Common Law are minor entitlements with little outstanding claims liability.

8.6.1 LOEC

Loss of Earning Capacity (LOEC) claims are a legacy feature of the portfolio, and are valued together with Short Term claims. At 30 June 2019, there are only five remaining claims. The basis is unchanged from our previous valuation.

8.6.2 Commutations

Commutation payments relate to claims receiving dependant benefits. Payments made in the last six months were negligible and we have maintained our basis at this valuation.

8.6.3 Common Law

There were no common law payments in the last six months. The common law entitlement for short term claims relates to a small number of infrequent but relatively large claims related to other jurisdictions, and needs to be considered over long time horizons. Having taken this into consideration we have left the valuation basis unchanged.

Common law entitlements for some Serious Injury claims are considered in Section 9.

9 Serious Injury Claims

9.1 Overall Results

Table 9.1 shows the central estimate of Serious Injury claims costs at 30 June 2019 and movement in our liability estimates since the December 2018 valuation.

Table 9.1 – Serious Injury claims Valuation Results (excluding CHE)

	Income Support	Medical	Other (Care)	Hospital	Travel	Rehabi litation	Physical Therapy	Investi gation	Legal - Non-Contract	Legal Contract	Lump sums	Recove ries	Total
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Dec-18 Valuation													
Estimated Liab at Dec-18	372	545	397	101	52	18	32	1	11	11	71	-29	1,581
Projected Liab at Jun-19	382	571	410	107	55	20	34	1	11	11	76	-28	1,649
Jun19 Valuation													
Impact of experience/basis change	26	-34	-12	2	-4	-1	-2	0	1	1	14	-2	-13
Estimated Liab at Jun19 (Dec18 ecos)	**409**	**537**	**398**	**108**	**50**	**18**	**32**	**1**	**12**	**12**	**90**	**-30**	**1,637**
Impact of change in ecos	34	68	47	13	6	3	4	0	0	0	2	-1	177
Estimated Liab at Jun19 (Jun19 ecos)	**443**	**604**	**445**	**122**	**57**	**21**	**35**	**1**	**12**	**12**	**92**	**-30**	**1,814**
AvE Payments - six months to Jun-19	1	-1	0	0	0	0	0	0	0	0	4	1	5
Actuarial Release at Jun-19	-28	35	12	-2	5	1	2	0	-1	0	-18	0	8

The outstanding claims cost for Serious Injury claims (excluding CHE) is $1,814 million at 30 June 2019. The main movements from our December 2018 projection of the June 2019 liability are:

- Claims experience and basis changes reducing the liability by $13 million, as a result of:
  - Net changes to claim numbers (including IBNR claims) increasing the liability by $29 million
  - Partial recognition of lower medical and treatment spend on Serious Injury claims in recent years, thought to be linked to claims no longer needing to continually prove incapacity once determined as Serious Injury under the RTW Act, resulting in a reduction of $48 million
  - Other basis and assumption changings leading to an increase of $7 million, which was largely a combination of the reinstatement of Income Support benefits for some claims and a transfer of the lump sum liability into the Serious Injury cohort as Serious Injury identification is now occurring earlier
- The change in economic assumptions at the current valuation – principally the decrease in the long term discount rate assumption, increases the estimated liability by $177 million. The impact of the change in economic assumptions is discussed in Section 11.3.2.

The remainder of this section deals with the claims experience and basis changes.

9.2 Background

"Serious Injury" claims are those with WPI of 30% or more, who are eligible to receive Income Support to retirement and other benefits for life under the RTW Act.

As Serious Injury claims were not identified before the RTW Act commenced, there is uncertainty as to the precise number and characteristics of the now Serious Injury cohort. Our Serious Injury cohort includes:

- Known Serious Injury claims, comprising:

- ▸ Claims managed internally by ReturnToWorkSA in the EnABLE group, which generally are more like Severe Traumatic Injuries (i.e. they require significant levels of care and support, or else have other special needs)
- ▸ Other Serious Injuries with a confirmed WPI assessment of 30% of more, but not internally managed by ReturnToWorkSA

- Other 'potential' Serious Injury claims – these are claims who have not yet been formally assessed as Serious Injury, but who are considered likely to do so at some point in future.
  - ▸ Over the last 12 months ReturnToWorkSA has moved towards a more formal process for assessing claims' Serious Injury likelihood prior to an official assessment date. The result of this (as was noted at the previous valuation) is that Serious Injury claims are identified earlier than has previously been the case. While this temporarily makes comparisons to older accident years at the same point of development difficult, we nevertheless see it as a very positive step to include the 'potential' group at any point in time.
  - ▸ For older accident years, there is a pool of claims that have features that indicate they would have likely been a Serious Injury claim, but have ceased interaction with the Scheme before a formal assessment took place (for reasons such as redemptions). As there is no future liability associated with these claims, there is no need for ReturnToWorkSA to make a clear determination on their Serious Injury status, and as such these remain 'potential' Serious Injury claims. However, we continue to count them as a Serious Injury claims for valuation purposes in order to understand potential numbers and trends in high severity claims over time.
- IBNR claims – Serious Injury claims that will be identified in future.

Section 4.2 describes our projection of serious injury claim numbers.

9.3 Valuation Approach

As Serious Injury claims are essentially entitled to lifetime benefits, it is important to consider the characteristics of individual claims when projecting future costs. Our valuation approach therefore projects future claim costs individually for each claim by payment type.

Due to significant differences in the level of incapacity and associated treatment and care costs, we have separately modelled 'Severe Traumatic Injury' claims and 'Other Serious Injury' claims, and our assumptions have been set as described in Appendix A and summarised in the following table.

Table 9.2 – Approach to Setting Valuation Assumptions for Serious Injury claims[1]

	Severe Traumatic Injuries	Other Serious Injury
Life expectancy	Mortality improvement of 1.5% p.a. Mortality loadings for claims with high care needs (reducing life expectancy by 19 years) and for moderate care needs (reducing life expectancy by 7 years).	Mortality improvement of 1.5% p.a.
Income Support	To retirement age on all operationally active claims. Based on historical experience and estimates provided by ReturnToWorkSA.	To retirement age on all operationally active claims. Based on historical experience.
Treatment	Paid for life.	Paid for life.

	Severe Traumatic Injuries	Other Serious Injury
Related Costs and Other[2]	Based on historical experience and estimates provided by ReturnToWorkSA, with the exception of Hospital, which is based on selected payment per active claim curves for this cohort. Allowance for IBNER on Other and Medical costs above identified costs.	Early duration claims (in the treatment and recovery phase) based on payment per active claim curves selected from this cohort. Mid-to-long duration claims (in the maintenance phase) based on historical experience.
Lump sums[3]	Paid to claimants who have not already had a lump sum, based on assessed WPI, or an assumed average WPI if no assessment has been undertaken as yet.	
Legal and Investigation	Legal costs are modelled as a percentage of IS costs, net of payments to date. An average ultimate investigation cost is made per claim, net of payments to date.	Modelled as payment per claim incurred.
Recoveries	Projected on claims identified by ReturnToWorkSA as having recovery potential.	Applied a recovery as a proportion of gross payments for future periods.
Common Law	Not available to pre-1 July 2015 claims, and included in the cost of statutory entitlements for post-1 July 2015 claims.	
Future cost escalation	WCI: IS AWE: Recoveries, Treatment and Other, Legal and Investigation Superimposed: 2% p.a. on Treatment and Other Needs Utilisation: 75% loading applied at age 65 on Treatment and Other, capped at 30 hours of care per day	WCI: IS AWE: Recoveries, Treatment and Other, Legal and Investigation Superimposed: 2% p.a. on Treatment and Other
IBNR Assumptions	IBNR claims in the latest four accident years only. Claim size based on historical experience on current claims.	IBNR claims on all accident years, reflecting outstanding Serious Injury applications and WPI disputes (for older accident periods) and the delay from injury to WPI assessment (for newer accidents). Claim size based on historical experience on current known and potential claims.

[1] Projected costs are those paid after the claim has been identified as Serious Injury.

[2] Treatment related costs relate to Medical (including Aids and Appliances), Hospital, Rehab, Physio and Travel. Other costs have been split into "Care" and "Other" for the purposes of the valuation. Care relates to services such as attendant, respite and/or nursing care. The remaining payments in 'Other' mainly relate to home and vehicle modifications and domestic services.

[3] Impairment lump sum only. Serious Injury claims are not entitled to the Future Economic Loss lump sum.

The Severe Traumatic valuation is reliant on estimates provided by ReturnToWorkSA. At the previous valuation the movement in liability due to estimate revision was larger than would typically be expected for a lifetime valuation due to refinements made to the estimation process. The approach to setting estimates (and information used to support this process) has now been consistent over the last 12 months, which represents a maturing of the process and has resulted in a lower movement as a result of changes to estimates.

The approach to modelling Other Serious Injuries smooths out volatility seen early in the life of many Serious Injury claims, to reflect the general reduction in medical and related costs as claims move from the initial 'recovery' phase in the first few years to a longer term 'maintenance' level. The key features are:

- Aggregate models were built for all payment types, with the exception of Lump Sums
- The models selected for each payment type are as follows:
  - Income Support, Treatment and Other – Payments per Active Claim. The only decrement for Treatment and Other payments is mortality, while Income Support payments have an additional decrement for retirement.
  - Legal and Investigation – Payments per Claim Incurred
  - Recoveries – Proportion of Gross Payments
- These models were adopted for the following:
  - All IBNR claims and future accident years
  - All Legal, Investigation and Recovery payments
  - All Treatment and Other payments for claims less than five years old. The utilisation of these benefits tends to be heightened at early durations, making it difficult to select future payment levels based on a claimant's actual historical experience. When aggregated across all claims the shape to this utilisation can be captured and applied up to a point (that has been selected as five years), where the Treatment and Other needs have stabilised.

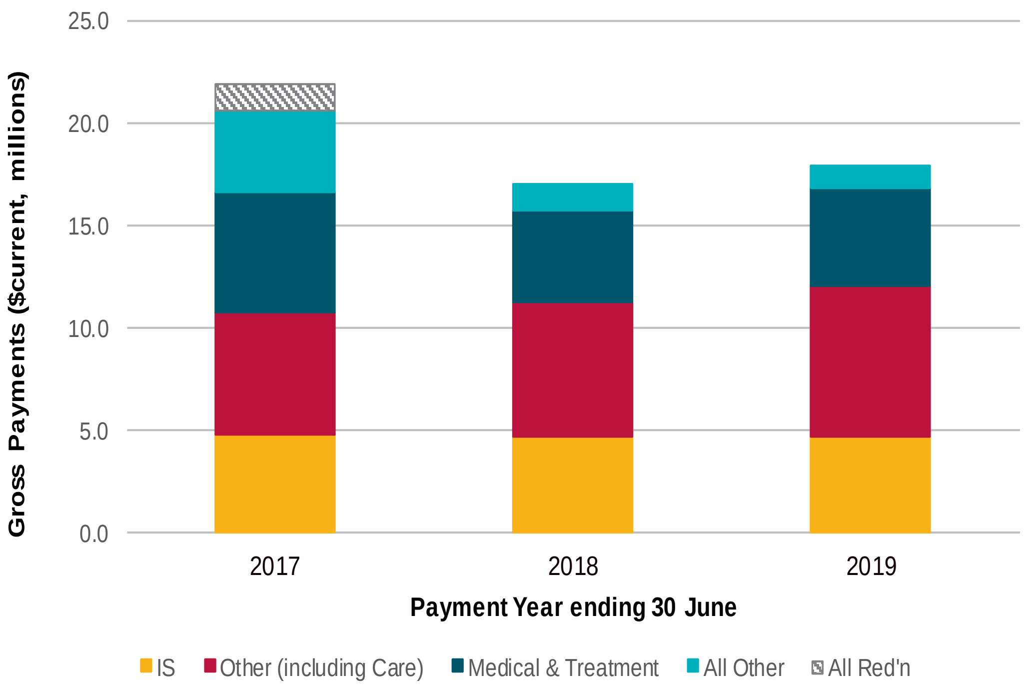
One of the key determinants of very long term costs will be how much, if any, of the costs associated with ageing are compensated out of the compensation scheme. For example, whether ReturnToWorkSA will fund the full costs of living in a nursing home for an elderly claimant or just the additional care costs associated with the original injury is at this stage still in the early stages of being worked through, but will become increasingly important as the Severe Traumatic Injury claimants age. Our basis does not attempt to capture the full costs for age related care and support, which is consistent with the current understanding of the approach to aged care related costs being funded.

9.4 Valuation of Severe Traumatic Injury claims

9.4.1 Payments by Type

Figure 9.1 shows claim payments over the past three years for Severe Traumatic Injury claims.

Figure 9.1 – Severe Traumatic Injury Claim Payments ($Jun19)



$57 million has been paid to Severe Traumatic Injury claims in the last three years. After allowing for recoveries of $4 million over this same period and excluding redemptions, this equates to an average of around $17 million per annum in net claim payments (inflated to 30 June 2019 values), comprising around:

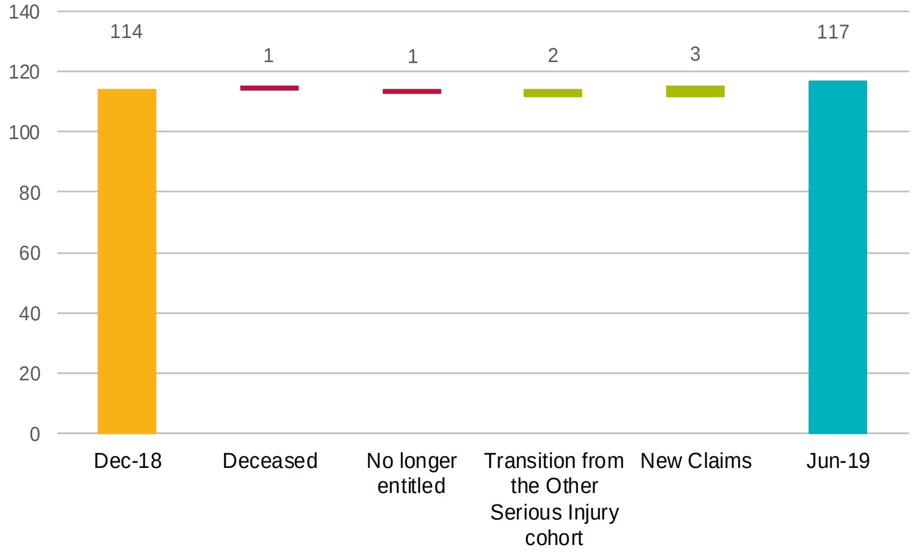
- $7 million per annum in care and other costs
- $5 million per annum in medical, treatment and related benefits
- $5 million per annum in Income Support
- $2 million per annum in lump sums
- Small amounts of legal and investigation payments ($0.4 million per annum)
- $1 million per annum in recoveries.

As Figure 9.1 shows, there were a small number of redemption payments for this group, which relate to negotiations commenced prior to introduction of the RTW Act and IS only redemptions. It is not expected that redemptions will be an ongoing feature for Serious Injury claims.

9.4.2 Claimant Profile

Figure 9.2 shows the number of active Severe Traumatic Injury claims (i.e. those being valued) at the current and previous valuations, along with the reasons for movement in the number of claims being valued.

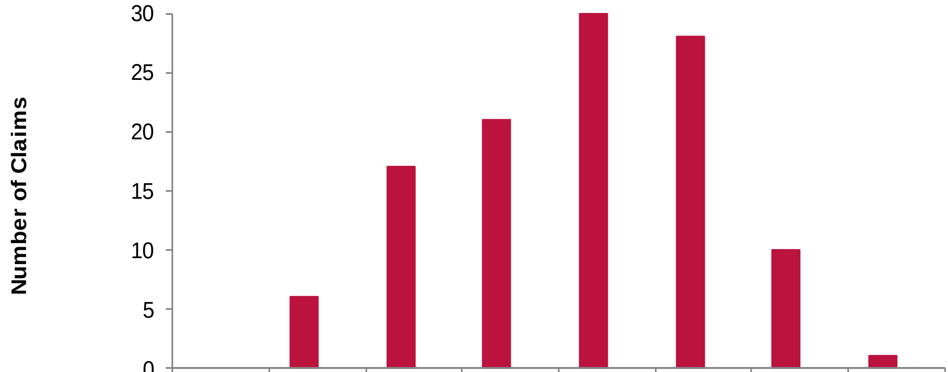
Figure 9.2 – Movement in Severe Traumatic Injury Claim Numbers



There are 117 active (i.e. with expected ongoing benefits) Severe Traumatic Injury claims at June 2019, compared to 114 at the previous valuation. This increase was due to five new claims, two of which were previously valued in the Other Serious Injury cohort at December 2018, and offset by one claimant losing entitlement and the death of another claimant. Although the number of claims entering EnABLE over the last six months was higher than expected, recent accident years as a whole continue to be lower than pre-RTW Act periods.

Figure 9.3 shows the age and life expectancy of the current Severe Traumatic Injuries.

Figure 9.3 – Age Distribution and Life Expectancy (in years) of Severe Traumatic Injuries



	<20	20s	30s	40s	50s	60s	70s	Older
Number of Claims	0	6	17	21	34	28	10	1
Loaded Life Expectancy	0	61	46	38	27	18	13	5

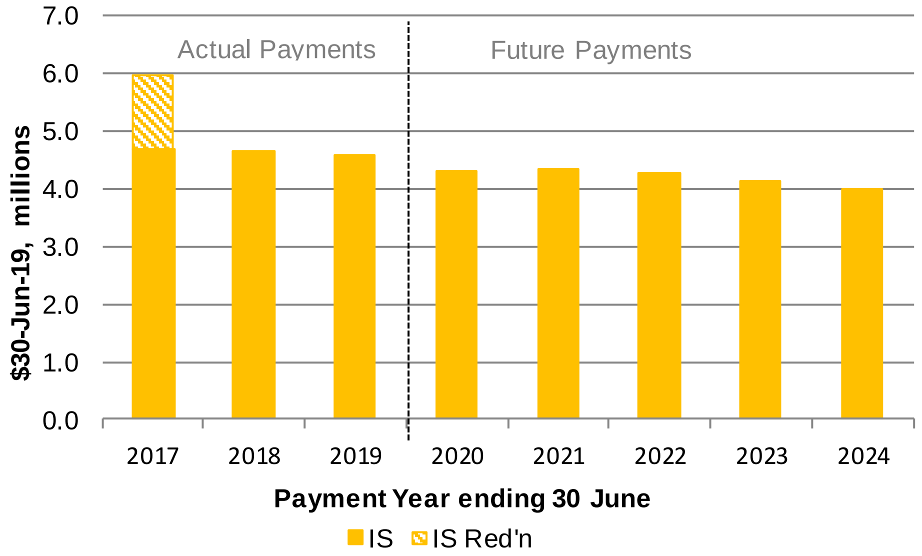
Severe Traumatic Injury claimants are currently around 54 years old on average, with an expected future life expectancy of around 30 years (after allowing for mortality, mortality improvements and mortality loadings). The average age at injury was about 40 years.

Over half of the current Severe Traumatic Injuries have a WPI assessment, with an average WPI of around 53%; the relatively low completion rate is partly explained by older claims being paid their lump sum prior to the introduction of WPI assessments in 2009. At this valuation, there are 12 claims with recorded WPI assessments less than 30%; ignoring these claims, the average assessed WPI is close to 60%.

9.4.3 Income Support

Figure 9.4 shows historic and projected Income Support payments for Severe Traumatic Injury claims (including IBNR claims, but only on existing accident years).

Figure 9.4 – IS Payments: Severe Traumatic Injury Claims ($Jun19)

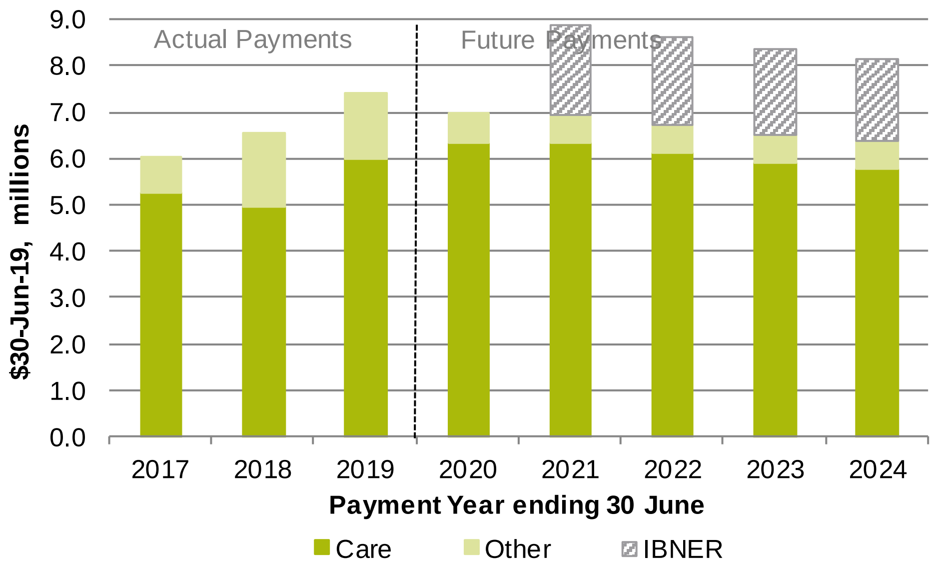


We estimate around $4.3 million will be paid in Income Support to Severe Traumatic Injury claims in 2020. Future payments reduce over time in line with changes in replacement ratios, expected mortality and retirement, with the outstanding claim projection equivalent to 15 years of the 2020 payments (for known claims).

9.4.4 Care and Other Costs

Figure 9.5 shows historic and projected care and other payments for Severe Traumatic Injury claims (including IBNR claims).

Figure 9.5 – Other (incl. Care) Payments: Severe Traumatic Injury Claims ($Jun19)

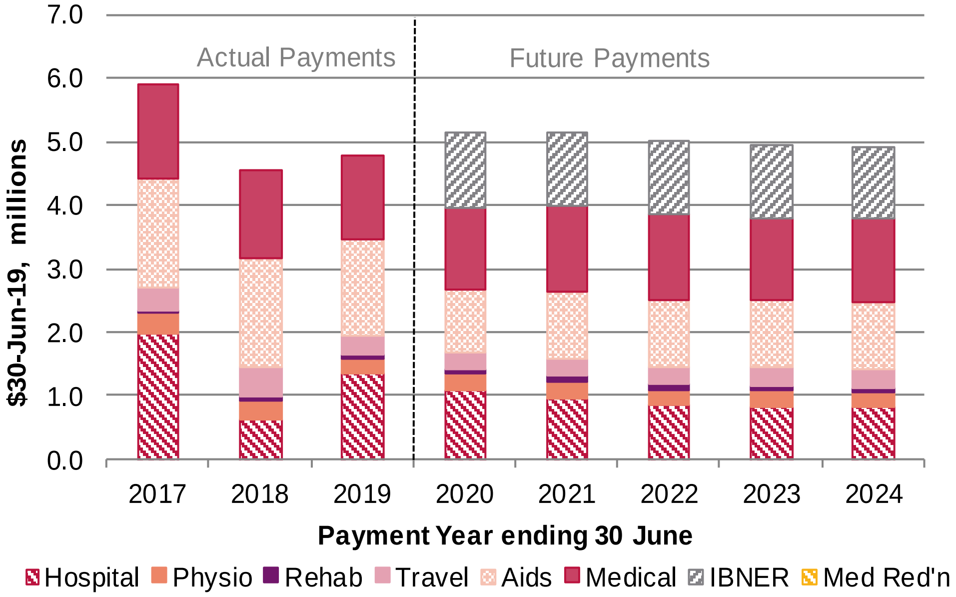


We expect $7.0 million of other and care payments in 2020, which is close to the average of the last two years. Payments then increase in the short term due to allowance for new Severe Traumatic (IBNR) claims and our IBNER allowance which is intended to capture an annualised contribution for other benefits (primarily modifications and transfers from initial hospital care into home care). These increases are slowly offset by reductions due to mortality, with the outstanding claims projection equivalent to 31 years of the 2020 payments, including the IBNER allowances.

9.4.5 Treatment and Related Costs

Figure 9.6 shows historic and projected treatment and related costs for Severe Traumatic Injury claims (including IBNR claims).

Figure 9.6 – Treatment and Related Payments: Severe Traumatic Injury Claims ($Jun19)

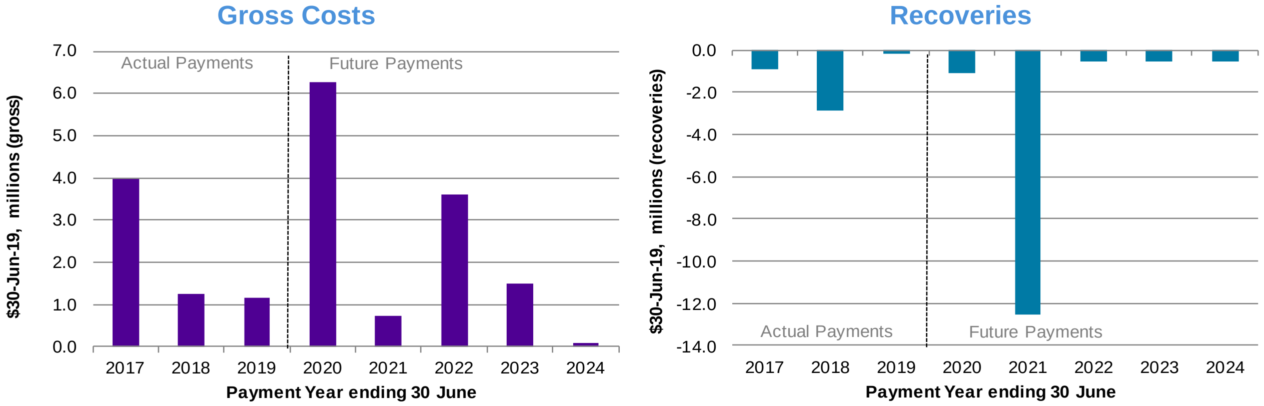


We expect future treatment and related payments of $5.1 million in 2020, similar to the average over the last three years. The outstanding claims projection is equivalent to 33 years of the 2020 payments.

9.4.6 All Other Payments

The following graph shows historic and projected other benefits for Severe Traumatic Injury claims – this includes one-off payments such as permanent impairment lump sums and recoveries, and smaller payments such as legal and investigation costs.

Figure 9.7 – All Other Payments: Severe Traumatic Injury claims ($Jun19)



In the three years to 30 June 2019, a net amount of $2.4 million of other benefits was received for Severe Traumatic Injury claims. Our future projections for claims occurring prior to 30 June 2019 include (in current dollars):

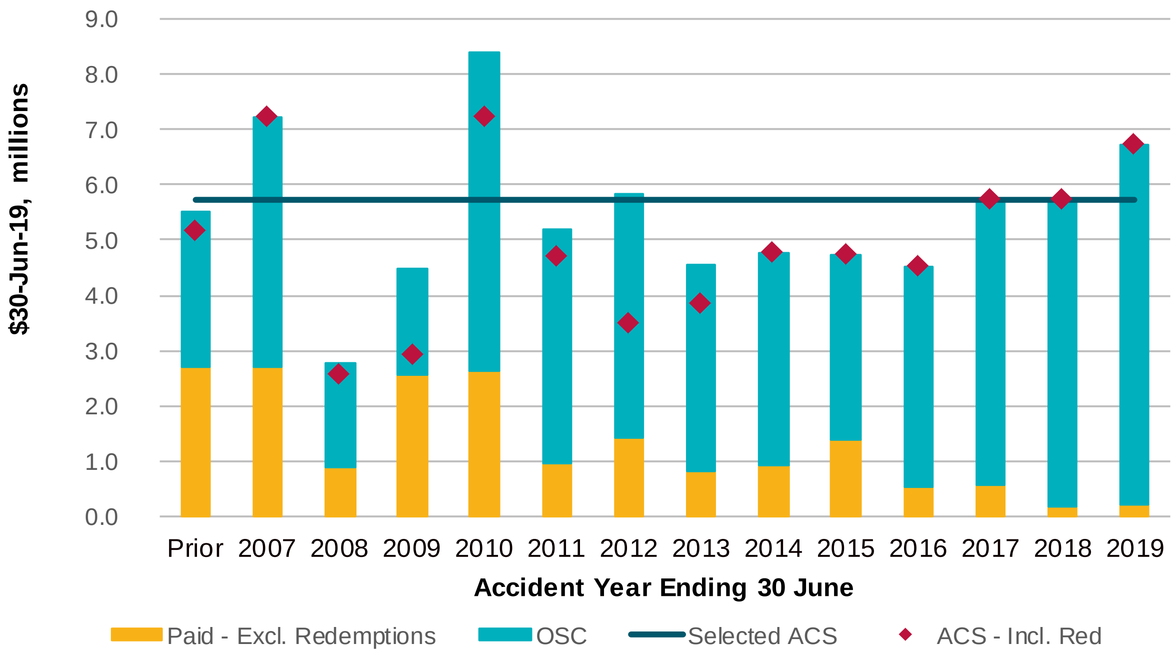
- Lump sum benefits of $11.3 million paid to Serious Injury claims who have not yet had a lump sum paid
- Legal and investigation costs of $1.7 million
- Recoveries of $15.2 million, for those claims where ReturnToWorkSA has identified recovery potential.

Due to the one-off nature of most of these payments, the outstanding liability is a much lower multiple of 2020 expenditure.

9.4.7 Overall Results and Implications

Figure 9.8 shows the net ultimate average claim size across current Severe Traumatic Injury claims. There is still a large share of the cost that is due to projected future payments, so there is greater uncertainty about ultimate costs than in other areas of the valuation.

Figure 9.8 – Average Claim Size: Reported Severe Traumatic Injury Claims ($Jun19)



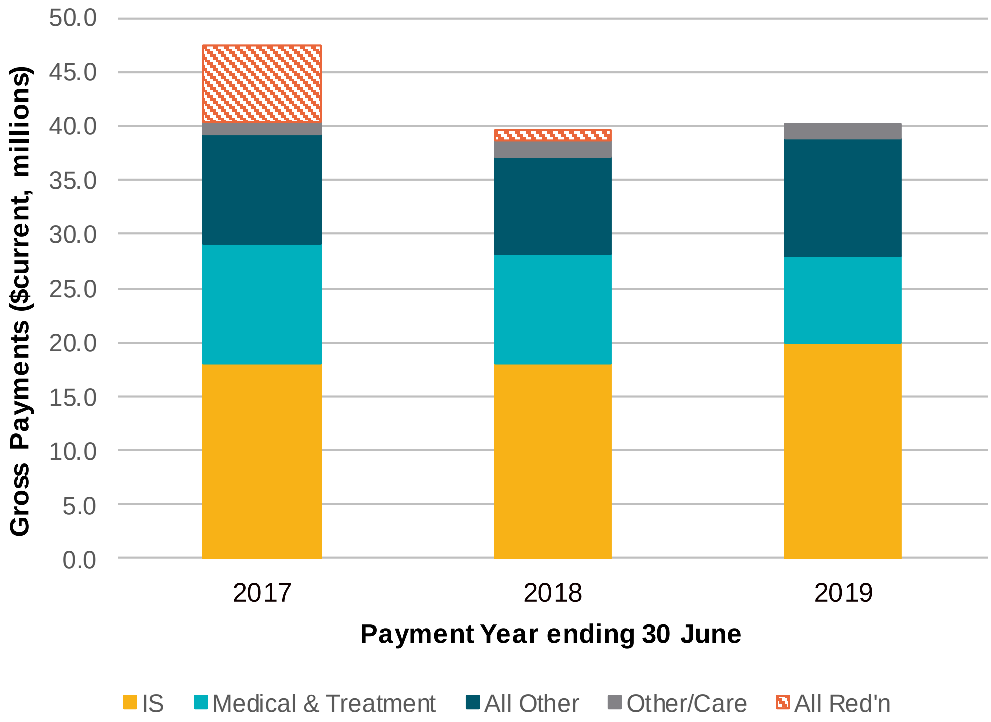
The average claim size across current Severe Traumatic Injury claims is around $4.9 million in current dollar values; however, this includes claims that have been redeemed at less than the full lifetime value. Excluding redeemed claims the average claim size is $5.4 million, which is similar to the projected average size ($5.7 million) for recent accident years where injuries are yet to stabilise. We project a slightly higher average size for the 2019 accident year to reflect one extremely high needs claim that has already been identified.

9.5 Valuation of Other Serious Injury claims

9.5.1 Payments by Type

Figure 9.9 shows claim payments over the past three years for the Other Serious Injury claims (i.e. excluding the Severe Traumatic Injuries).

Figure 9.9 – Other Serious Injury Claim Payments ($Jun19)



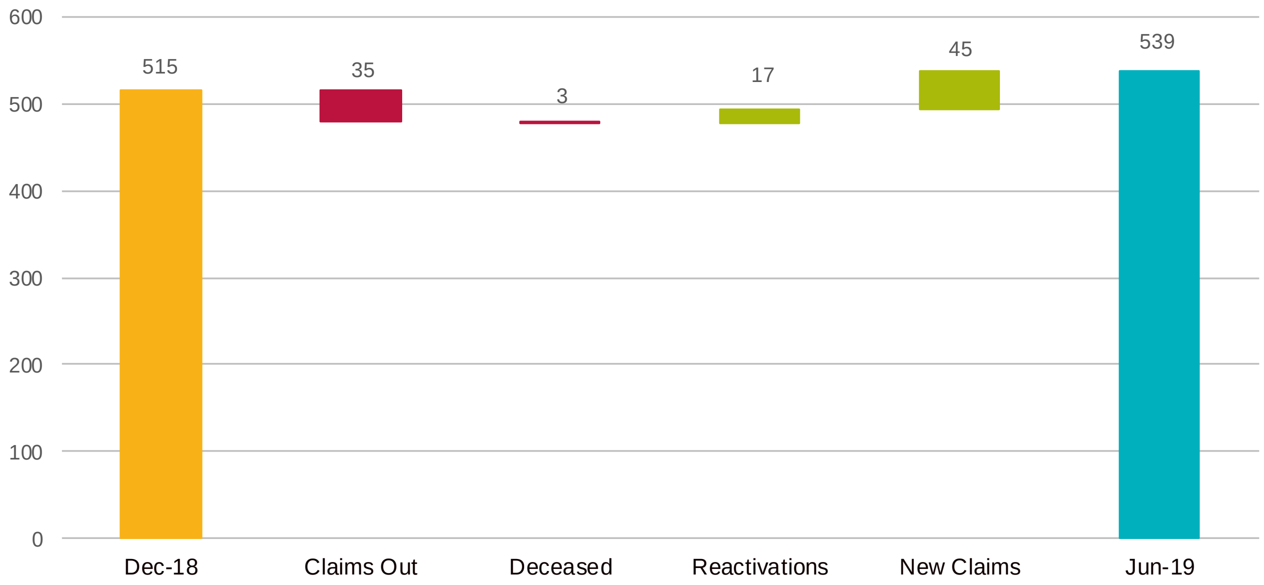
Around $127 million has been paid to Other Serious Injury claims in the last three years. After allowing for recoveries of around $4 million over this same period and removing redemptions, this equates to an average of around $38 million per annum in net claim payments (inflated to 30 June 2019 values), comprising:

- $19 million per annum in Income Support
- $10 million per annum in medical, treatment and related benefits
- $8 million per annum in lump sums
- Small amounts of other benefits ($3 million)
- $1 million per annum in recoveries.

9.5.2 Claimant Profile

Figure 9.10 shows the number of active Other Serious Injury claims (those being valued) at the current and previous valuation.

Figure 9.10 – Movement in Other Serious Injury Claim Numbers



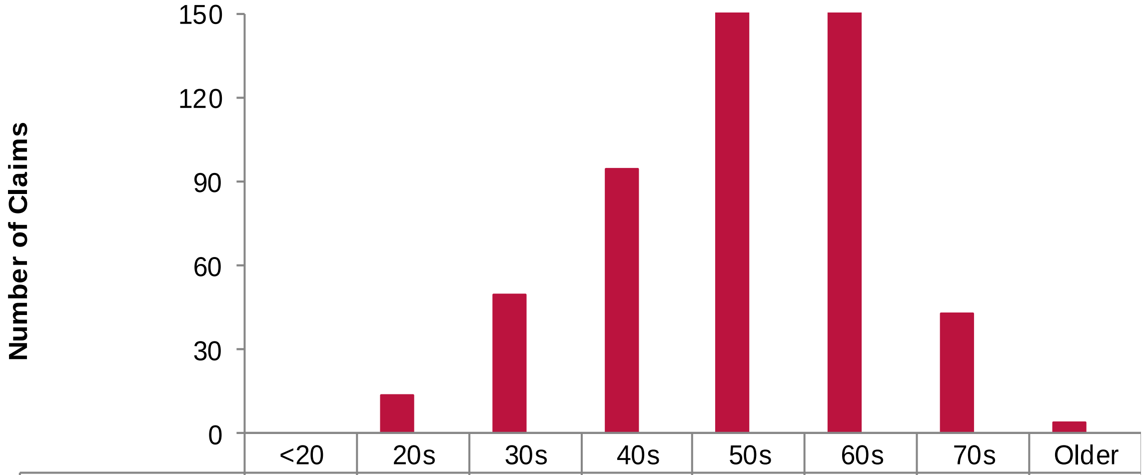
There are 539 active (i.e. with expected ongoing benefits) Other Serious Injury claims at June 2019, compared to 515 at the previous valuation. The major reasons for this change are:

- Claims Out – reduction of 35 claims. This largely refers to claims from the 'potential' cohort which were either confirmed not to meet the eligibility criteria for a Serious Injury claim, or where additional information has meant that their likelihood of becoming a Serious Injury claim has been revised.
- Deceased – 3 claimants
- Reactivations – increase of 17 claims. This increase is due to claims that had previously been identified as a potential Serious Injury, but who were not considered as likely to meet the threshold at their latest review. Most of these claims are now included due to a formal determination, based on their final WPI being higher than was estimated during the review.
- New Claims – increase of 45 claims.

With the portfolio still maturing we would generally expect the number of Other Serious Injury claims to increase, broadly in line with the number of new claims each year, as discussed in Section 4.2.

Figure 9.11 shows the current age and life expectancy of the known and potential Other Serious Injury claims.

Figure 9.11 – Age Distribution and Life Expectancy (in years) for Other Serious Injury Claims



	<20	20s	30s	40s	50s	60s	70s	Older
Number of Claims	0	14	50	95	171	162	43	4
Life Expectancy	0	62	52	41	31	23	14	8

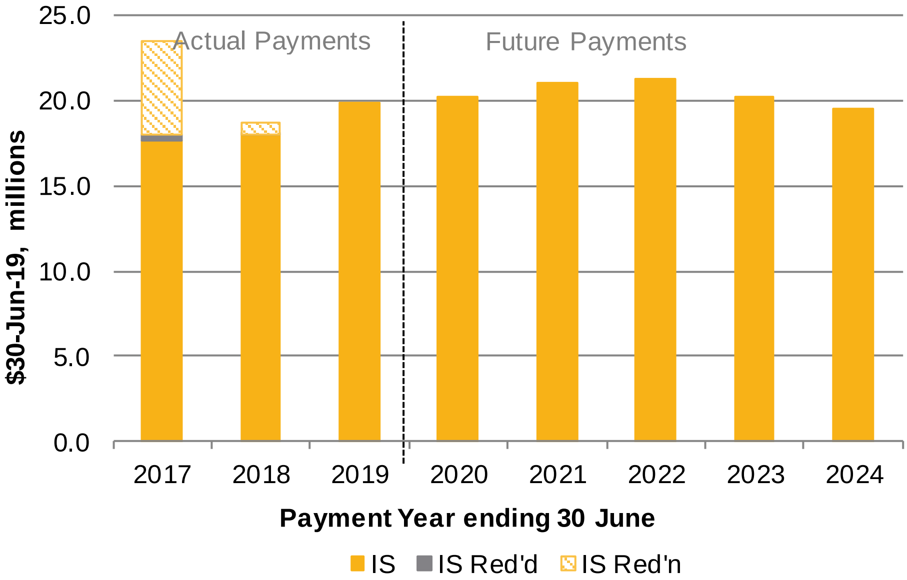
The Other Serious Injury claims are currently around 56 years old on average, with an expected future life expectancy of 31 years (after allowing for mortality, including mortality improvements). The average age at injury was 46 years.

Around 63% of the current Other Serious Injuries have had a WPI assessment, averaging around 36% WPI. At this valuation, there were 58 claims with recorded WPIs below 30%. The average impairment level excluding these low assessments is around 38%.

9.5.3 Income Support

Figure 9.12 shows historic and projected Income Support payments for Other Serious Injury claims (including IBNR claims). The grey bars indicate Income Support payments for claims who have since been redeemed.

Figure 9.12 – IS Payments: Other Serious Injury Claims ($Jun19)

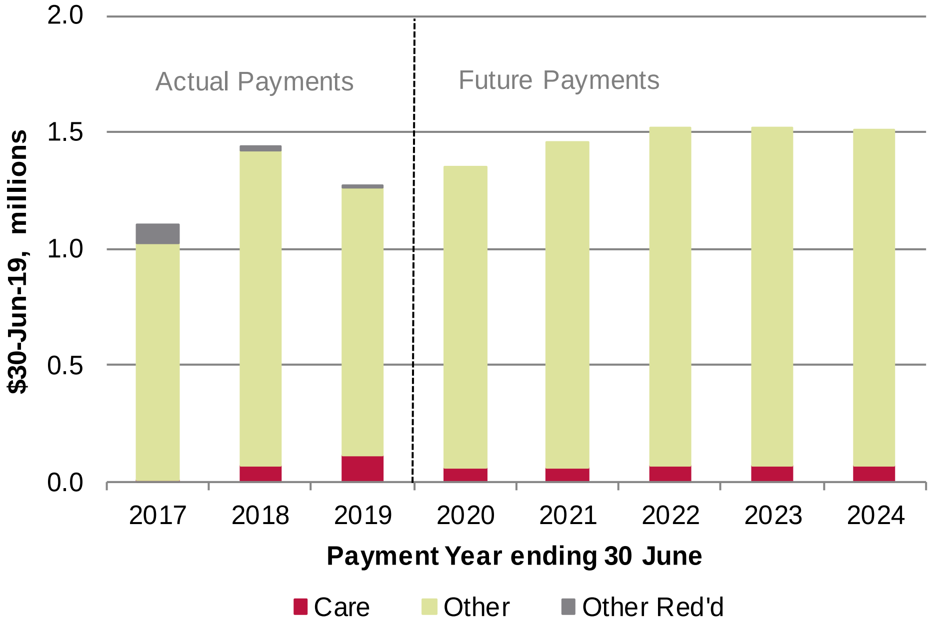


We estimate around $20 million will be paid in Income Support to Other Serious Injury claims in 2020. Future payments will generally reduce over time in line with expected mortality and retirement, although there is an increase between 2020 and 2022 as IBNR claims are identified.

9.5.4 Care and Other Costs

Figure 9.13 shows historic and projected care and other payments for Other Serious Injury claims (including IBNR claims). The grey bars indicate Care and Other payments for claims who have since been redeemed.

Figure 9.13 – Other (incl. Care) Payments: Other Serious Injury Claims ($Jun19)

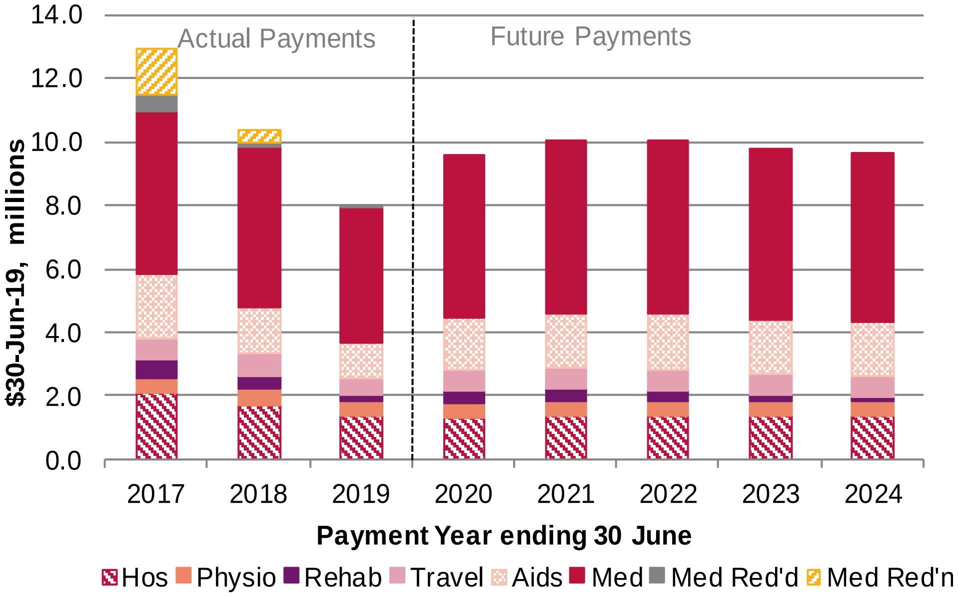


Other Serious Injury claims receive very little in care costs. We expect around $1.4 million in other payments in 2020 with an increase from the 2019 level due to IBNR claims.

9.5.5 Treatment and Related Costs

Figure 9.14 shows historic and projected treatment and related costs for Other Serious Injury claims (including IBNR claims). The grey bars indicate Medical and Treatment payments for claims who have since been redeemed.

Figure 9.14 – Treatment and Related Payments: Other Serious Injury Claims ($Jun19)



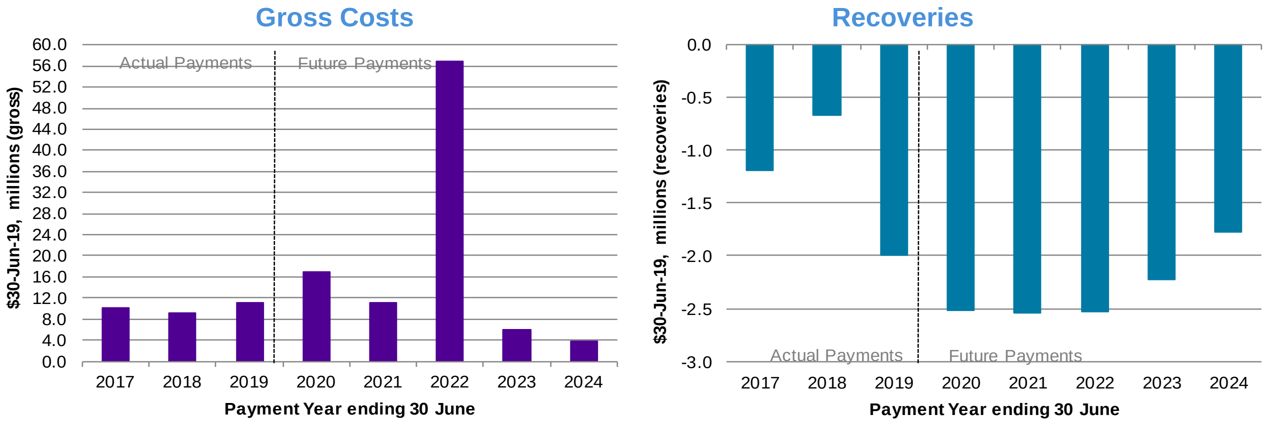
We expect treatment and related payments of $9.5 million in 2020 for ongoing claims, after lower costs in 2019. Payments increase in 2021 due to IBNR claims offset by reductions in line with mortality.

Our valuation basis has only partially responded to the reductions in medical and treatment costs that have occurred in recent years, and so if current expenditure levels continue then further liability savings will result. For now we are being somewhat cautious in responding to these reduction, as given the very long tail on this projection we want to ensure that any reductions are sustainable.

9.5.6 All Other Payments

Figure 9.15 shows historic and projected other benefits for Other Serious Injury claims (including IBNR claims).

Figure 9.15 – All Other Payments: Other Serious Injury claims ($Jun19)



Our future projections include (in current dollars):

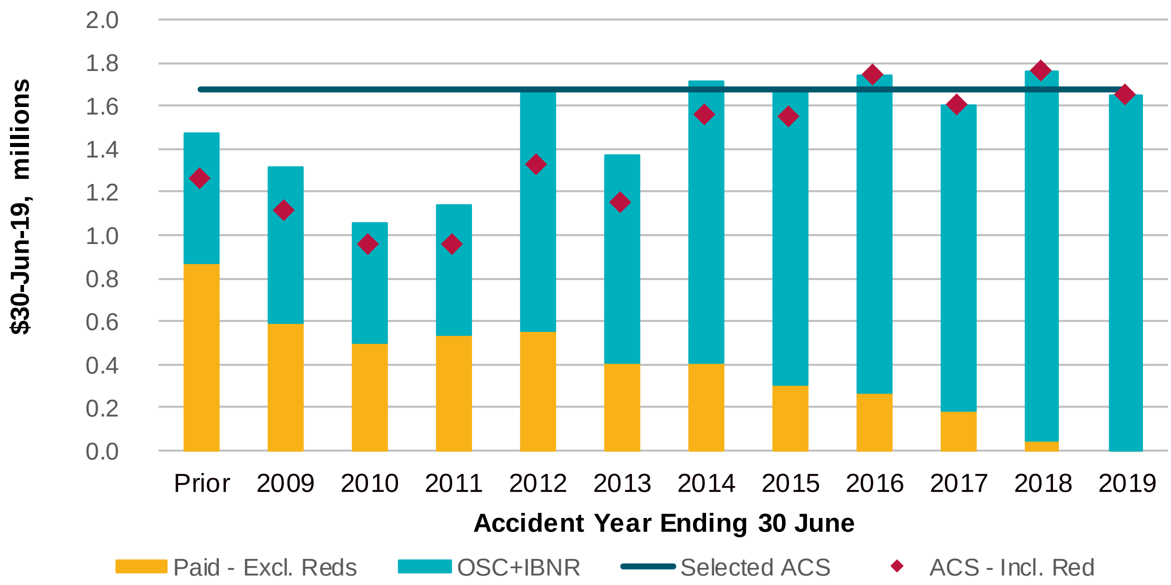
- Lump sum benefits of $82.5 million paid to current Other Serious Injury claims who have not yet had a lump sum paid. Lump sum payments on IBNR claims are pragmatically all assumed to be paid 3 years from the valuation date, leading to the spike in payments in 2022.
- Legal and investigation costs of $22.3 million

- Recoveries of $14.1 million.

9.5.7 Overall Results and Implications

Figure 9.16 shows the net ultimate average claim size (inflated to 30 June 2019 values) across all Other Serious Injury claims.

Figure 9.16 – Average Size by Payment Type: Other Serious Injury Claims



The total selected average size is around $1.7 million. Pre 2015 accident years have a lower size due to redemptions on claims for less than lifetime cost. Additionally, the identification of Serious Injury claims for these periods was made difficult due to inconsistent recording of WPI information, meaning it is possible there is some bias towards lower severity claims for these periods. More detail on the selections underlying this average size can be found in Appendix A.6.4.

9.6 Valuation Results and Actuarial Release

Table 9.3 shows the actuarial release by accident period for Serious Injury claims.

Table 9.3 – Actuarial Release: Serious Injuries

Accident Period	Projected Liab at Jun-19 from Dec-18 Valuation	Jun-19 Estimate on Dec-18 Eco Assumptions	Difference from Projected Liability	Act v Exp Pmts in 6 months to Jun-19	Actuarial Release[1]	Release as %
	$m	$m	$m	$m	$m	
To 30 Jun 05	259.5	249.4	-10.1	-0.2	10.3	4%
2005/06 - 2012/13	592.5	559.5	-33.0	0.1	32.9	6%
2013/14 - 2014/15	229.9	229.2	-0.8	-0.6	1.3	1%
2015/16 - 2018/19	567.6	598.9	31.2	5.5	-36.8	-6%
Total	1,649.5	1,636.9	-12.6	4.9	7.7	0%

[1] Includes change in OSC and Act vs Exp payments. Positive values represent accounting profit (valuation release), negative values represent accounting loss

The main reasons for the movements by accident period are as follows:

- Pre-2014 accident periods movements were a combination of:

- Partial recognition of lower medical payments in recent years
- Movements in claim numbers, due to offsetting movements of changes in the ‘potential’ group and newly identified IBNR claims
- Capping the ageing allowance (typically 75% at age 65) for claims already in receipt of very high levels of care

• 2013/14 and 2014/15 accident periods – largely neutral as ultimate claim number estimates were not materially changed, although there were a number of small offsetting movements

• 2015/16 to 2018/19 accident periods – this is largely related to the higher level of estimated Serious Injury numbers for RTW Act periods. This change follows a ground-up assessment of the level of IBNR for the 2016 accident year, and the continued tail of Serious Injury claims emerging on transitional periods.

Table 9.4 shows the drivers of the actuarial release for Serious Injury claims.

Table 9.4 – Components of Actuarial Release: Serious Injury Claims

	Other Serious Injury	Severe Traumatic Injury	Total
	$m	$m	$m
AvE payments in six months			(5)
Changes to Valuation Basis			
AvE IBNR Transition Claims	8	(4)	4
AvE IBNR RTW Act Claims	(37)	4	(33)
Recognition of lower medical and treatment spend	40	8	48
Other Payment Changes, including transfer of LUS	(22)	6	(17)
Other Changes	6	3	10
Subtotal			12
Total			8

The two largest movements were changes to claim numbers ($29 million liability increase across transitional and RTW Act claims) which is largely the result of continued pressure on ultimate claim numbers in RTW Act periods, and a partial reflection of reductions in medical and treatment spend in recent years ($48 million reduction in liability) thought to be linked to the removal of the need to continually prove incapacity once a claim is determined as Serious Injury. Beyond this, the biggest movements were the reinstatement of Income Support benefits for a number of claims and recognising all the lump sum cost on IBNR claims within the Serious Injury liability (reflecting the early identification processes now in place).

10 Economic and Other Assumptions

10.1 Discount Rate

The discounted mean term (DMT) of the liabilities is 15 years, similar to the previous valuation. The high DMT is driven by the large proportion of the OSC made up of Serious Injury liabilities. As a result, even relatively small changes to economic assumptions can have a material impact on the liability.

10.1.1 Approach

Accounting standard AASB 1023 states that the discount rates used in measuring the present value of expected future claim payments shall be: "risk free discount rates that are based on current observable, objective rates that relate to the nature, structure and term of the future obligations". It also says that:

> *"the discount rates are not intended to reflect risks inherent in the liability cash flows"*, and
>
> "*typically, government bond rates may be appropriate discount rates for the purpose of this Standard, or they may be an appropriate starting point in determining such discount rates"*.

We derive forward interest rates applying to each future duration by:

- Taking the quoted market yields on Australian Government coupon bonds for the durations they are available, as at the date of the valuation – this information is sourced from the Reserve Bank website. These market yields are used to determine the zero coupon yields.
- Using these zero coupon yields to determine forward rates
- At longer durations we extrapolate the forward yield curve between current market rates and our expected long term forward rate. The assumed long term forward rate and extrapolation take account of:
  - The duration that government bonds are available to, and the volumes of longer term bonds traded
  - Long term risk free rates of return
  - General economic factors
  - Current monetary policy (e.g. CPI currently in the range of 2% to 3%), combined with expectations of long term real yields
- Beyond the end of our extrapolation, the yield is maintained at the long term forward rate.

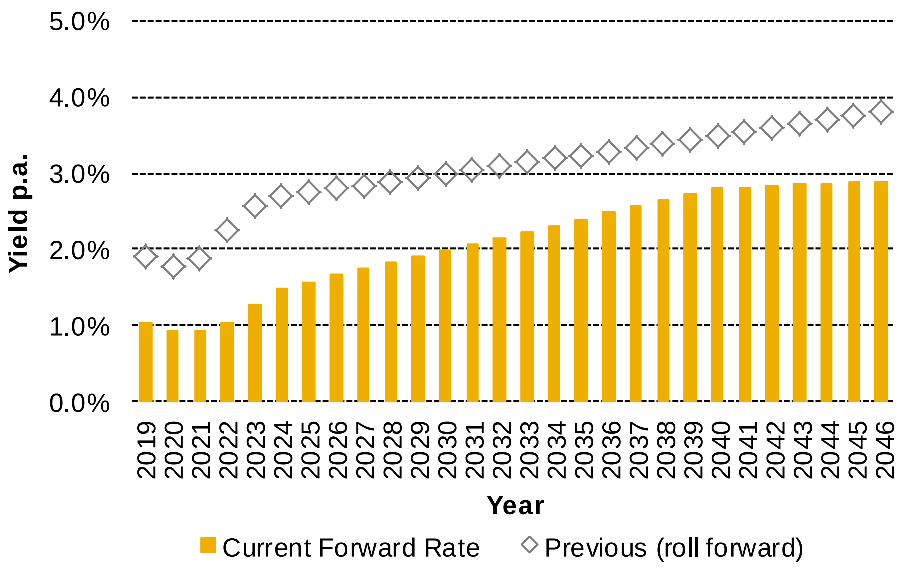
The resulting forward rates are applied to the projected cash flows for each future period. When discounting using forward rates, the relevant rates must be 'chained' together, for example a payment at the end of year three is discounted using the product of the first, second and third year forward rates.

10.1.2 Current Assumptions

Discount rates at June 2019 are lower at all durations compared to December 2018 as shown in Figure 10.1. We have assumed a long-term rate of 3.25%, which is 0.75% lower than assumed at December 2018, based on the yield of the longest date bond (March 2047).

The equivalent single discount rate has decreased from 3.0% p.a. at 31 December 2018 to 2.1% p.a. at 30 June 2019.

Figure 10.1 – Risk Free Forward Rate vs Previous Valuation



Details of the discount rates by year are included in Appendix C.

10.2 Inflation

In setting our inflation assumptions we consider:

- Forecasts of CPI and wage inflation
- RBA monetary policy
- Market-based information on inflation, with the aim of obtaining inflation expectations which are consistent with the discount rate expectations (as the discount rates are market based), for example using Treasury Indexed Bonds (TIBs). TIBs are essentially Government bonds where the original capital invested, and subsequent coupon payments, are indexed for CPI inflation. The difference between yields on TIBs and on nominal government bonds gives an implied breakeven rate of CPI inflation.

Given there is a prescribed inflation index for income support payments that is specific to South Australian conditions, our inflation assumptions consider inflation at a SA specific level for this portfolio.

In summary, our assumptions at the current valuation are:

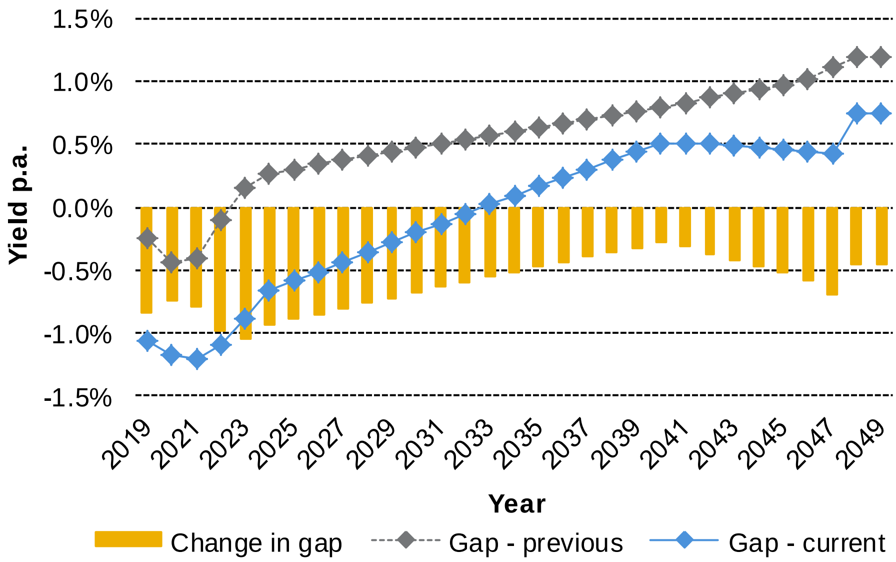
- Wage Price Inflation has been assumed to be 2.1% for the coming year, increasing to 2.15% after five years. This is a reflection of both current forecasts and wage growth in SA over the past 12 months.
- Wage Price Inflation assumptions gradually increase from this level to 2.5% over the next 25 years, after which a gap of 0.75% p.a. is maintained between Wage Price Inflation and forward discount rates. The long term gap between inflation and discount rates is 45 basis points below what it was at the December 2018 valuation, reflecting the significant drop in the yield curve which is not fully offset by lower inflation assumptions.

- Average Weekly Earnings (AWE) is set as equal to Wage Price Inflation for the coming year. From 2024 onwards, AWE is set to 0.10% above Wage Price Inflation. This is 15 basis points lower than our assumption at the previous valuation, which reflects the low AWE growth in SA in recent years.
- CPI inflation has been set at 2.0% p.a. for all future durations. This is at the lower end of the Reserve Bank's targeted range of 2-3% p.a., and reflects the low CPI growth across both SA and Australia over recent periods.

Overall, our resulting projected wage inflation is lower than at the previous valuation.

The combined impact of the above movements in adopted inflation and discount rates is a decrease in the 'gap' between inflation and discount rates, as shown in Figure 10.2. As this shows, the current economic assumptions imply a negative gap out to nearly 15 years; whilst we have not checked to confirm, we expect this is an unprecedented economic basis for the scheme.

Figure 10.2 – Gap between Adopted AWE and Discount Rates



The impact of this change is to increase the scheme liability, which is quantified in Section 11.3.2.

The rates of inflation are applied to entitlement types as follows:

- IS entitlements and related expenditure for Short Term claims have no inflation applied for the current cohort of claims, consistent with the RTW Act. AWE is initially applied for future injuries.
- IS entitlements and related expenditure for Serious Injury claims are inflated using the projected Wage Price Inflation rate until retirement.
- The maximum Lump Sum entitlement is indexed annually by the adopted CPI rate (the maximum entitlement applies to all accidents occurring in a year).
- All other entitlements are inflated at the adopted AWE rate, with allowance for superimposed inflation where warranted.

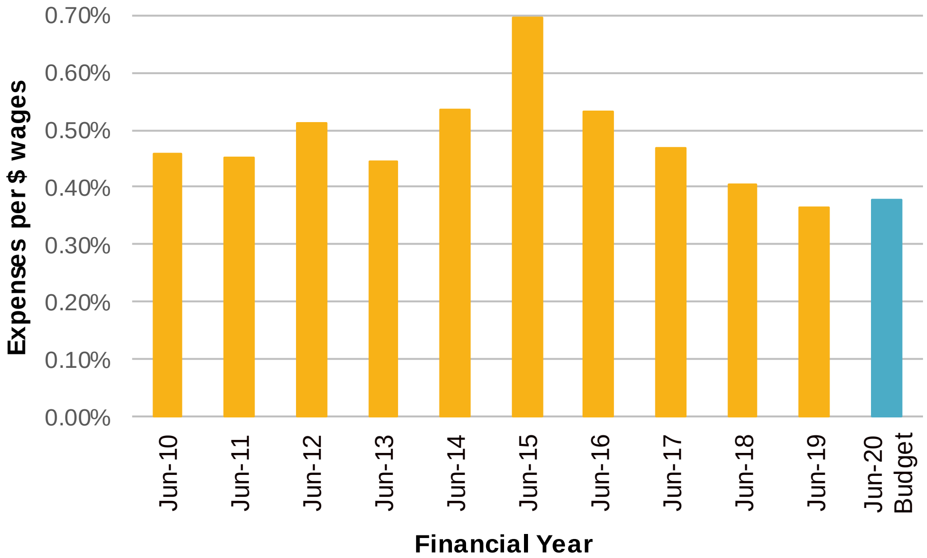
We have made assumptions about superimposed inflation for some payment types, and on the timing of the application of inflation. These assumptions are detailed in Appendix C.

10.3 Expenses

In setting provisions for outstanding claims, it is necessary under accounting and actuarial standards to include an allowance for the future costs of claim administration that are not allocated to individual claims.

Figure 10.3 below shows expenses as a percentage of wages over the past 10 years along with the forecast figure for 2018/19 and the 2019/20 budget.

Figure 10.3 – Scheme Expense Rate (% of covered wages)



Following the passage of the RTW Act, there was a period of high expenses driven by transitional costs in the scheme. The expenses have since reduced each year since 2015, and are now sitting at 0.36% of wages for the June 2019 financial year, which is below the anticipated long term expense rate from the reform costing work (0.40%).

The approach we have taken to set our expense allowance for the outstanding claims valuation is as follows:

- For Serious Injury claims the allowance is 8.5% of outstanding claims, unchanged from the previous valuation.
- For Short Term claims the allowance is 12.5% of outstanding claims, unchanged from the previous valuation.

Given the significant changes that have been undertaken by ReturnToWorkSA to implement the RTW Act, and the resulting changes in claimant profile over recent years, the expense loading may need some minor revision once a new steady state is reached.

The overall expense rate equates to 9.6% of gross outstanding claims, virtually unchanged from 9.7% at the previous valuation.

10.4 GST Recoveries

Entitlements are modelled net of GST (ITC) recoveries.

10.5 Risk Margins

Since June 2017 ReturnToWorkSA has established its outstanding claims provision with a 75% probability of sufficiency.

We have undertaken a full review of the risk margin scorecards for internal and external systemic risks at this valuation. Our approach is based on the key elements of the framework proposed by the Institute of Actuaries of Australia's Risk Margin Taskforce in their paper "Framework for Assessing Risk Margins" ('the task force paper'). Specifically, we have examined Coefficients of Variation (CVs) arising from internal systemic error and external systemic error. A summary of the framework is included in Appendix C.2.

We have split the various entitlements into six groups for the purposes of risk margins analysis. For each risk margins group, we derive assumptions about the independent error, internal systemic error and external systemic error, which are then combined to estimate the total CV for that risk margin group. We assume that there is some correlation between risk margins group within internal and external systemic error, while we assume that independent error is (by definition) uncorrelated. This leads to a 'diversification benefit' in the overall Scheme risk margin.

Our current estimated CVs for each entitlement group, along with the total diversified and undiversified CV, are set out in Table 10.1 below.

Table 10.1 – Coefficient of Variation

	Total CV	
Risk Margin Group	Jun-19	Dec-18
Serious Injury	27.9%	31.3%
Short Term Claims		
Income Support	15.7%	14.5%
Lump Sums	25.1%	27.3%
Legal + Investigation	28.0%	28.2%
Medical and Other Treatment	17.1%	17.1%
Recoveries	20.0%	20.7%
Total (Undiversified)	26.2%	28.8%
Total (Diversified)	**22.3%**	**24.5%**
Diversification	15.0%	14.8%

The movements in the CVs since our previous valuation are:

- Serious Injury has reduced due to a combination of lower uncertainty around legal interpretation of the reforms (e.g. the resolution of *Mitchell*) and lower parameter and model selection error to reflect greater confidence in identifying Serious Injury claims and costs as the process matures. The overall CV for Serious Injuries is, however, still high, and it will continue to be so given the very long tail nature of the projection and high level of external risk this incorporates.
- Income Support has increased due to higher parameter selection error from uncertainty around continuance rates with recent growth in active claim numbers.
- Lump Sum has decreased due to lower uncertainty around economic loss lump sums as experience emerges and lower risk around legal interpretation of reforms with the resolution of *Mitchell.*
- Medical and Other Treatment is unchanged as there is still uncertainty around parameter selection for costs beyond the hard boundary cut-offs (surgery and medical aids and appliances).

- Recoveries have marginally reduced as a result of reducing avenues of recovery resulting in lower exposure to external systemic risk.
- Legal and Investigation has decreased marginally, due to lower risk around legal interpretation of reforms with the resolution of *Mitchell.* It is however the highest individual CV of the components considered.
- The diversification benefit has increased slightly due to the change in the mix of liabilities across entitlement groups.

Based on a diversified coefficient of variation of 22.3% and our modelled distribution (which is a blend between a normal and lognormal distribution), we recommend a risk margin of 14.0% at a 75% probability of sufficiency, down from 15.0% at our previous valuation.

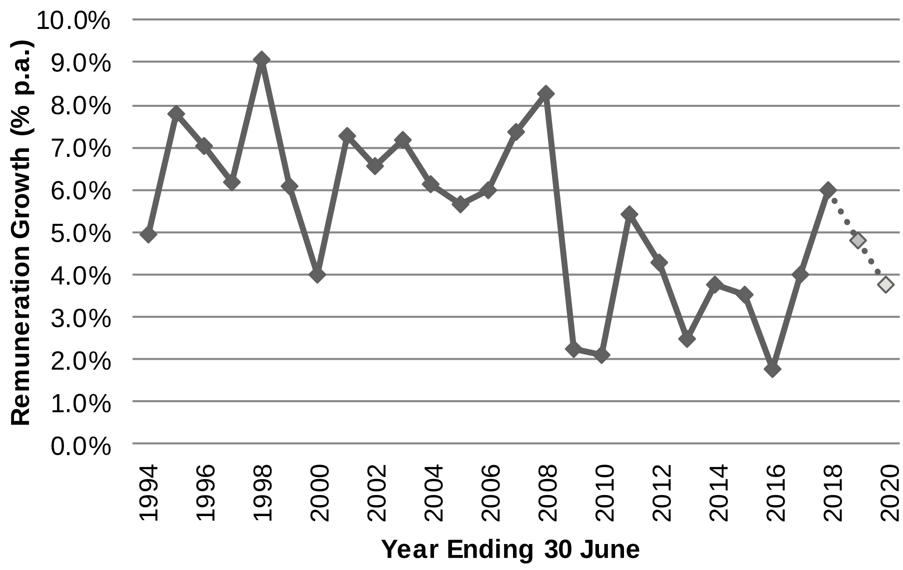
10.6 Non-Exempt Remuneration

When making our assessment of the cost of future claims, we consider the underlying remuneration pool as a measure of the exposure from which claims will arise.

The movement in the remuneration pool over time is the net result of a number of influences: (1) growth in average weekly earnings, (2) 'natural' growth in the number of employees, and (3) movements of firms out of/into the scheme due to becoming self-insured or exiting self-insurance.

The remuneration projection for current and future years is undertaken by ReturnToWorkSA. The implied annual growth in the total non-exempt remuneration by year is shown below in Figure 10.4.

Figure 10.4 – Non-Exempt Leviable Remuneration: Annual Growth



We have adopted ReturnToWorkSA's remuneration projection of $29.8 billion for 2018/19, noting that it is still subject to estimation as premium returns are yet to be completed for the current year. The key features we note in the remuneration experience are:

- The remuneration growth for 2009 and 2010 was the lowest seen since the early 1990's (the time of the last significant recession in Australia). There were two key contributors to this experience:

  - The global financial crisis (GFC) – during 2009 unemployment rates were higher than for the previous few years, and the level of under-employment (people working fewer hours than they would like) also rose. The level of wage inflation also reduced in the year.
  - A change in the definition of leviable remuneration from 1 July 2008, to exclude wages for trainees and apprentices (noting that while their wages are excluded, their claims costs are not). This change to the remuneration base reduced remuneration estimates for 2008/09 by about 2% relative to the previous definition.
- Despite remuneration growth briefly heading up to more 'normal' historical levels in 2011 and 2012, wage growth then reduced again towards levels seen during the GFC.
- The actual 2018 remuneration growth has ended up at 6.0%, the highest rate of growth in the last decade. ReturnToWorkSA's projection of growth in 2019 is 4.8% (unchanged from previous), which still makes it the third highest annual growth in the last decade. The current projection for 2020 is for wages growth to reduce to 3.8% (down 0.2% from previous).

11 Valuation Results

This section of the report summarises the valuation results, namely:

- The central estimate of outstanding claims as at 30 June 2019
- Our recommended balance sheet provision under AASB1023
- Movement in the central estimate compared to what was projected at the previous valuation
- Estimated historical scheme costs
- Projected future cash flows for the current outstanding claims
- Projected outstanding claims as at 31 December 2019 and 30 June 2020
- Reconciliation of results with 31 December 2018 projections.

11.1 Outstanding Claims – Central Estimate

Our central estimate of the outstanding claims by entitlement type as at 30 June 2019 is set out in Table 11.1. This liability relates to all claims which occurred on or before 30 June 2019 and includes the impact of updated economic assumptions.

Table 11.1 – Outstanding Claims by Entitlement Type

Entitlement Group	Short Term Claims	Serious Injuries	Total	% of Net Cent Est
	$m	$m	$m	
Income	142	443	585	22%
Medical	123	604	727	27%
Other (incl. Care)	8	445	453	17%
Lump sums	287	92	379	14%
Hospital	20	122	142	5%
Travel & Accomodation	5	57	62	2%
Worker legal	42	12	54	2%
Corporation legal	34	12	46	2%
Physical Therapy	8	35	44	2%
Rehabilitation	14	21	35	1%
Investigation	2	1	3	0.1%
Common law	3	0	3	0.1%
Commutation	2	0	2	0.1%
LOEC	1	0	1	0.0%
Gross Liability	691	1,844	2,535	93%
Recoveries	-26	-30	-56	-2%
Expenses	86	157	243	9%
Net Central Estimate	752	1,971	2,722	

The outstanding claims liability before recoveries and expenses is estimated to be $2,535 million. The net central estimate, allowing for recoveries and including an allowance for claims handling expenses, is $2,722 million.

Table 11.2 details the outstanding claims result by accident year.

Table 11.2 – Outstanding Claims by Accident Year

Accident Year	Short Term Claims	Serious Injuries	Total	% of Net Cent Est
	$m	$m	$m	
Pre Jun-05 Years	25	273	297	11%
Jun-06	4	45	49	2%
Jun-07	5	77	82	3%
Jun-08	6	70	76	3%
Jun-09	7	48	54	2%
Jun-10	7	82	90	3%
Jun-11	9	87	96	4%
Jun-12	11	95	105	4%
Jun-13	12	121	134	5%
Jun-14	16	123	139	5%
Jun-15	25	144	168	6%
Jun-16	59	143	201	7%
Jun-17	85	160	245	9%
Jun-18	152	167	319	12%
Jun-19	269	210	479	18%
Gross Liability	691	1,844	2,535	93%
Recoveries	-26	-30	-56	-2%
Expenses	86	157	243	9%
Net Central Estimate	752	1,971	2,722	100%

Table 11.3 shows the overall liability split between Serious Injuries and Short Term claims, both before and after discounting. As this shows, there is a significant level of discounting in relation to the Serious Injury claims liability due to its long payment pattern.

Table 11.3 – Impact of Discounting

	Short Term Claims	Serious Injuries	Total
	$m	$m	$m
Inflated	780	3,317	4,097
Inflated and Discounted	752	1,971	2,722
Ratio	96%	59%	66%

11.2 Provision for Outstanding Claims

Table 11.4 sets out the components of our recommended provision at 75% probability of sufficiency, $3,103 million.

Table 11.4 – Recommended Balance Sheet Provision

	Central Estimate	Risk Margin	Recommended Provision
	$m	$m	$m
Gross Claims Cost - Serious Injuries	1,844		
Gross Claims Cost - Short Term Claims	691		
Claims Handling Expenses	243		
Gross Outstanding Claims Liability	2,778	389	3,167
Recoveries	-56	-8	-64
Net Outstanding Claims Liability	2,722	381	3,103

11.3 Movement in Liability

Our central estimate is $209 million higher than projected at the previous valuation, as shown in Table 11.5.

Table 11.5 – Movement from Previous Valuation

	Gross	Recoveries	CHE	Net
	$m	$m	$m	$m
Liability as at Dec-18	2,265	-54	219	2,430
Plus liability for claims incurred in the period	244	-5	27	266
Less Expected Payments to Jun-19	191	-6	23	208
Plus Interest (unwinding of discount)	23	-1	2	25
Liability Projected from Previous Valuation	2,341	-53	226	2,513
Current Valuation	2,535	-56	243	2,722
Difference	194	-3	18	209

We have attributed the change in central estimate into the following components:

- Movement in liability due to claims experience – this covers the components that are due to claim outcomes (such as changes in the number and mix of claims), as well as the impact of revisions to our valuation assumptions. This step also includes the impact of changes in the timing of lump sum payments, where slower than expected lump sums lead to an increase in the remaining liability.
- Impact of changes in economic assumptions – the component which is mandated by accounting standards (and therefore outside ReturnToWorkSA's control).

This split also allows calculation of the actuarial release, where we add the difference between actual and expected payments to the movement in the liability due to claims experience, to give a measure of the 'profit' impact of claims management performance relative to the previous valuation basis.

Table 11.6 – Movement in Central Estimate and Determination of Actuarial Release

	Liability Estimate[1]	AvE Payments in 6 mths to Jun-19	Actuarial Release [2]
	$m	$m	$m
Liability at Dec-18 Valuation	2,430		
Projected Liability at Jun-19 (from Dec-18 valuation)	2,513		
Claims Movement - Short Term Claims	14	-14	-1
Claims Movement - Serious Injury	-14	5	9
Impact of Change in economic assumptions	208		
Recommended Liability at Jun-19	2,722		
Total Actuarial Release			8

[1] Net central estimate of outstanding claims liability, including CHE
[2] Includes change in OSC and Act vs Exp payments.

Each of these components is discussed in the following sections.

11.3.1 Actuarial Release at June 2019

The actuarial release over the period is $8 million. Table 11.7 shows the actuarial release by entitlement type.

Table 11.7 – Actuarial Release by Entitlement Type

Entitlement Group	Short Term Claims[1]	Serious Injury Claims[1]	Total Actuarial Release [1]	Release %
	$m	$m	$m	
Income	-11.2	-27.8	-39.0	
Lump Sums	9.1	-17.8	-8.6	-2.5%
Worker legal	-3.7	-0.6	-4.3	-8.9%
Corporation legal	-1.0	-0.4	-1.4	-3.1%
Investigation	0.5	0.0	0.5	14.8%
Medical	-0.4	35.5	35.1	5.3%
Other	3.1	11.9	15.0	3.7%
Hospital	1.9	-1.6	0.3	0.2%
Travel	-0.1	4.5	4.4	7.7%
Physical therapy	0.1	2.3	2.4	6.1%
Rehabilitation	0.4	1.4	1.9	6.0%
Common Law	0.2	0.0	0.2	7.4%
LOEC	0.0	0.0	0.0	0.3%
Commutation	0.2	0.0	0.2	10.5%
Gross Liability	-0.8	7.4	6.6	0.3%
Recoveries	1.7	0.3	2.0	-3.8%
Expenses	-1.6	0.9	-0.7	-0.3%
Net Central Estimate	-0.6	8.6	8.0	0.3%

[1] Includes change in OSC and Act vs Exp payments, excludes economic impacts

The major factors contributing to the $8 million actuarial release at the current valuation are:

- For **Short Term claims**, the actuarial strengthening (negative release) of just $1 million is the net result of:
  - An increase of $11 million on Income Support claims. This is partly due to higher new claim numbers, with an increase in the proportion of claims that commence Income Support. Our analysis suggests that the recent mix of claims on Income Support is slightly more adverse, with increases in the numbers of mental injury and musculoskeletal claims; these claims tend to remain on Income Support longer than other claims. There have also been more claims continuing through to 6-12 months after injury.
  - A release of $9 million on lump sums, although the main reason for this is a transfer of the liability for these claims into the Serious Injury segment, as likely serious injury claims are now being identified much earlier than in the past; this is therefore not a genuine release, but a change in where the cost is being recognised. There was also a $6 million strengthening for hearing loss lump sums, where claim numbers have been increasing quickly.

    As previously mentioned, we continued to treat the low level of lump sum payments as a slowdown in their payment, rather than a reduction. If this is not the case, then future savings in lump sums are likely.
  - An increase of $5 million for legals, as disputes continue to move into the later (and more expensive) stages of the dispute resolution process.
  - A release of $5 million on treatment and related costs, where experience has tracked better than projected despite the increases in Income Support claims.
- For **Serious Injury claims**, there was an overall release of $9 million, due to:

- Higher Income Support costs ($28 million increase), due to a combination of increases in the expected number of Serious Injury claims and a higher average size of income payments.

  Even with the higher allowance for Serious Injury claim numbers, we are still only allowing for a very small percentage of ongoing claims to ultimately reach the Serious Injury boundary (around 2% of pre-2016 claims that are still open), so there is still a risk of further increases.

- A $53 million saving on treatment related costs. As mentioned earlier we have continued to see reductions in the medical and related spend once claims have moved beyond the initial treatment period, which we are increasingly recognising via reductions in the valuation basis. If recent experience is maintained, further savings are likely; however, given the very long term nature of these projections we want to ensure these reductions are sustainable before the basis is fully reduced.

- An $18 million increase due to lump sums – as mentioned above for Short Term Claims, this is a change in where the cost is being recognised, and not a change in the underlying cost of these claims.

- Payments in the six months were $5 million higher than expected, which is mostly due to Income Support backpay on a number of claims and lump sum payments on new claims.

Our projections for the remaining entitlement types were also reviewed and updated, although none of the movements are significant in relation to the overall scheme liability.

11.3.2 Impact of Economic Assumption Changes

Changes to inflation and discount rate assumptions increased the central estimate by $208 million.

As discussed in Section 10.1 there have been decreases in discount rates at long durations, an event which is outside ReturnToWorkSA's control, which has led to this increase in the OSC liability.

11.4 Historical Scheme Costs

As part of our valuation we have estimated the 'historical cost' for each past accident year. This represents our estimate of total projected costs for the accident year, including expenses, and is discounted to the start of the accident year. Historical claims handling, operating expense and self-insurer levy figures are taken from ReturnToWorkSA's published annual accounts and the latest information from ReturnToWorkSA for 2019.

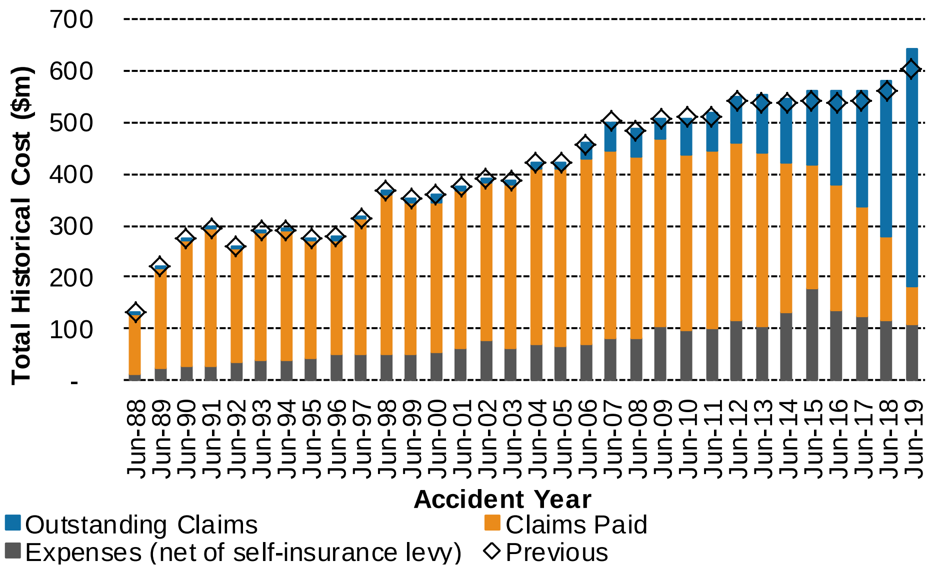
Figure 11.1 summarises the currently estimated historical costs for each year since the scheme began. As this shows, commencement of the RTW Act had initially acted to contain the cost for accident years up to 2017 at around $550 million, breaking the strong upward trend seen in the lead up to 2010. Scheme expenses were particularly high in 2015 as a result of additional transition related expenses. In general the hindsight cost estimates are higher than the previous valuation estimates, which is primarily due to the reduction in discount rates.

For recent accident years the costs are projected to be higher than the pre-2017 level as a result of:

- Higher exposure growth and claim frequency increases in some industries, as explained in Section 3.3.1 and Section 4.1.1
- Lower discount rates applying for the whole of the projection, as explained in Section 10.1

- The impact of higher active income support claim numbers, as explained in Section 5
- For 2019 there was an unusually high number of the most severely injured claims (claims in the severe traumatic injury cohort) while 2018 had an unusually low number. This dynamic makes the increase from 2018 to 2019 more pronounced than it would otherwise be, and is not an indication of deterioration in experience; rather it is just a reflection of the volatile nature of severe traumatic claim numbers given the low volume.

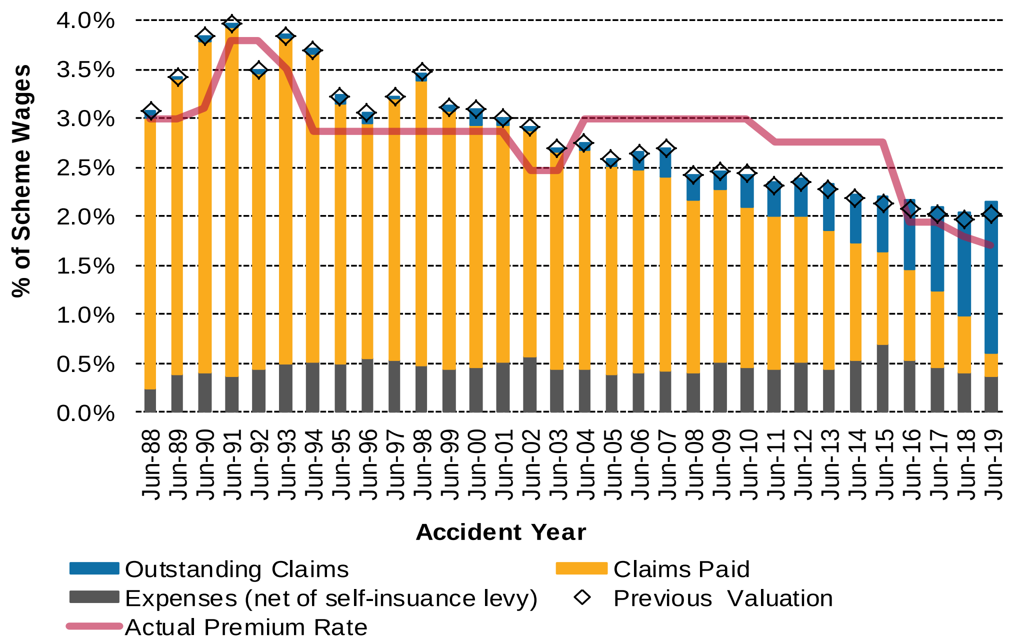
Figure 11.1 – Historical Cost Discounted to Accident Year



Using these costs we have estimated the 'historical premium rate', or the Break Even Premium (BEP) rate, for each past accident year; this is the amount that would have been sufficient to fully cover claim costs, including expenses and recoveries, assuming the scheme achieved risk free returns each year and the current actuarial valuation is an accurate forecast of future payments. The BEP is calculated by dividing the total projected costs for the accident year (from Figure 11.1) by the total scheme leviable remuneration in that year (discussed in Section 10.6). We present the costs on this basis, i.e. using risk free discount rates, so that a like with like comparison can be made over the history of the scheme, which allows current scheme performance to be assessed in a long term context.

Figure 11.2 summarises the estimated annual BEP since the scheme began, including a comparison with the estimates at our previous valuation and the scheme's actual average premium rate charged for each year.

Figure 11.2 – Break Even Premium Rate and Actual Premium Rate Charged



* The Break Even Premium Rate in this Figure is calculated using the risk free rate, so that a like with like comparison can be made over the history of the scheme. For clarity, this is not the same as the scheme's pricing basis as the scheme targets a higher than risk free rate of return when premiums are set.

The main points to note are:

- The introduction of the RTW Act reduced the BEP for accident years between 2008 and 2010 to just under 2.5% of wages
- For accident years since 2011 the costs are progressively lower again, as claims have had less opportunity to remain on long term benefits
- The current estimate of the BEP for the 2019 accident year is 2.16% of wages, up from 2.02% at the December 2018 valuation. Of this increase, 0.09% is attributable to changes in the economic assumptions, and 0.05% is due to changes in the underlying claims performance. In relation to claims costs:
  - Serious Injury costs are projected to be 0.05% higher than at our previous valuation
  - Short Term claim costs are projected to be 0.01% higher
  - Scheme expenses are forecast to be 0.01% lower.
- Scheme expenses have reduced year-on-year since 2015 when they were particularly high as a result of additional transition related requirements. Expenses for the 2019 year are around 0.36% of wages (unaudited), which is below the target post-reform rate of 0.40% of wages.

We note that these calculations assume past and future investment earnings at the risk free rate, and adopt the annual cost of expenses in the year. All else being equal, any earnings above the risk free rate or additional sources of income would act to reduce the required premium rate.

We emphasise that (as seen in the graph) the BEP estimates for recent accident years include a significant outstanding claims estimate and are therefore likely to change as experience emerges. We also note that the adopted wages figure for 2019 still involves a degree of estimation.

11.5 Future Cash Flows

Table 11.8 presents projected cash flows for the coming four half-years, by entitlement type. These cash flows include allowance for future claims incurred as described in Section 11.6, but make no allowance for expenses.

Table 11.8 – Projected Cash Flows

Entitlement Group	Projected Cashflows for Period			
	Jun-19 to Dec-19	Dec-19 to Jun-20	Jun-20 to Dec-20	Dec-20 to Jun-21
	$m	$m	$m	$m
Income Support	73.2	74.4	75.2	76.4
Medical	36.0	35.9	37.6	37.6
Lump sums	55.7	43.7	45.0	47.0
Rehabilitation	6.1	6.2	6.5	6.6
Physical Therapy	5.1	5.1	5.3	5.4
Hospital	10.0	10.0	10.6	10.7
Legal - Non-Contract	6.9	6.9	6.9	6.8
Other	6.9	7.0	8.3	8.4
Legal Contract	10.0	10.1	9.2	9.3
Travel	2.9	3.0	3.1	3.2
Investigation	1.1	1.1	1.1	1.1
Commutation	0.2	0.2	0.2	0.2
LOEC	0.1	0.1	0.1	0.1
Common law	0.2	0.2	0.2	0.2
Recoveries	-4.5	-5.6	-5.2	-17.1
Net Claims Cost - Total	210.0	198.4	204.0	195.9
Serious Injuries (net)	40.3	27.8	30.0	20.2
Short Term Claims (net)	169.7	170.6	174.0	175.7

Cash flows over the next two years are expected to remain fairly stable, with the next half-year slightly higher due to a higher number of lump sums expected over the next six months. The irregular shape to the Serious Injury cashflows is a result of assumptions around the timing of one-off lump sums and recoveries.

11.6 Projected Outstanding Claims

Table 11.9 shows the outstanding claims projected to 31 December 2019 and 30 June 2020. We note the payments shown here are based on that in Table 11.8, but also include an allowance for claims handling expenses for consistency with our liability estimate.

Table 11.9 – Projected Outstanding Claims Provision (31 December 2019 and 30 June 2020)

	Half year ending	
	Dec-19	Jun-20
	$m	$m
Provision at Period Start	3,103	3,191
Less Risk Margin	381	392
Central Estimate at Period Start	2,722	2,799
Plus Additional Liability Incurred in Period	297	301
Less Expected Payments in Period	-235	-223
Plus Interest (unwind of discount)	15	15
Projected Central Estimate at Period End	2,799	2,893
Plus Risk Margin	392	405
Projected Provision at Period End	3,191	3,298

We project the central estimate for the net outstanding claims liability at 31 December 2019 to be $2,799 million; this estimate includes allowance for claim payments and expenses, discount rate movements in line with forward rates and new claims incurred in the period 1 July 2019 to 31 December 2019. The corresponding provision at a 75% probability of sufficiency is $3,191 million.

The projected increase to 30 June 2020 in the liabilities relates to the fact that the additional liability incurred on new Serious Injury claims is more than the expected payments on existing Serious Injury claims; for Short Term claims the half-yearly ins and outs are now broadly offsetting.

11.7 Reconciliation of Incurred Cost with Previous Projection

At the 31 December 2018 valuation we projected an additional claim cost liability of $239 million would be incurred from claims arising in the January to June 2019 half-year. Our current projection for the ultimate value of this liability is $257 million, a material increase of 7.7% or $18 million consisting of:

- Reduction in discount rates adding $12 million
- Higher than expected claim frequency adding $3 million
- An unusually high number of the most seriously injured claims adding $3 million.

Table 11.10 – Comparison of December 2018 Projections to Current Valuation

For period 1 Jan 2019 to 30 Jun 2019		
Incurred Claims Liability ($m, excl. expenses):		Difference
Projected in Dec-18 Valuation	239	
Incurred (current valuation)	257	7.7%

12 Uncertainty and Sensitivity Analysis

12.1 Risk and Uncertainty

In this section we discuss the major areas of uncertainty involved in estimating the balance sheet outstanding claims provision (OSC, including allowance for expenses and risk margins, with provision at 75% probability of sufficiency). At the present time there are heightened uncertainties and risks, particularly on the unfavourable side, with the operation of the RTW Act still to stabilise.

To assist in understanding the uncertainty, we have designed a range of scenarios which illustrate potential scheme outcomes. For each scenario we have made an approximate estimate of its impact on the OSC provision.

We have considered the uncertainty in four broad categories:

- Economic – employment, inflation, investment markets
- Legal – disputes, tribunal decisions, appeal court decisions
- Short Term claims – outcomes relating to claims whose entitlements are subject to the hard boundaries
- Serious Injury claims – outcomes for claims who are entitled to long term payments from the scheme.

There is overlap and interaction between these categories. ReturnToWorkSA has essentially no control over economic influences, full control over scheme management and some influence (but not control) over legal and behavioural risks.

We note that sensitivity analysis is indicative only of a range of possible liability outcomes. The sensitivities shown below do not represent upper or lower bounds to the scheme's outstanding claims liabilities.

12.2 Economic Scenarios

In brief, the scenarios we have considered are a stronger economy and a weaker economy; as summarised below. As demonstrated at the current valuation, despite a number of 'weakening's' in the economy, further deterioration has continued to occur.

Table 12.1 – Economic Scenarios

	Stronger	Weaker
Unemployment	Down to 3%	Up to 7%
Wage inflation	2.75% pa	2% pa
Investment earnings	3.75% pa	1% pa
Real 'Gap'[1]	1%	-1%

[1] Difference between inflation and discount rate

In undertaking sensitivity analysis it is straightforward to model inflation and investment earnings. In relation to unemployment, there is no clear way to estimate the impact on the cost of claims, and we refer to the RTW scenarios in the 'short term claims' section. Broadly, the claims impact will be in the same direction as other economic impacts, but the magnitude of the impact is probably smaller than that of inflation and investment changes.

Table 12.2 – Economic Sensitivities

	OSC Impact	
	$m	%
30 Jun 19 OSC estimate (Including risk margin at 75% POS)	3,103	
Strong Economic Scenario (1% gap between inflation and discount rate)	-518	-17%
Weak Economic Conditions (-1% gap)	+431	+14%

Economic conditions are still currently unfavourable for scheme performance relative to long term historical norms. If conditions do improve the implications for both funding and premiums are favourable.

12.3 Legal Risk Scenarios

As discussed in Section 3, there are currently high numbers of disputes in the scheme and the duration of open disputes is growing quickly. Further, a number of key provisions of the RTW Act are still subject to legal challenge. The table below indicates the sensitivity of results to three scenarios around dispute rates and dispute outcomes. It is likely that if the legal environment is either better or worse than we have implicitly assumed, then several experience changes could happen together.

Table 12.3 - Legal Sensitivities

	OSC Impact	
	$m	%
30 Jun 19 OSC estimate (Including risk margin at 75% POS)	3,103	
Onody decision results in higher aggravation claims than we have implicitly allowed	+5	+0%
WPI assessments increase by 2% as a result of the higher incentives under the RTW Act, resulting in extra Serious Injury claims and higher lump sum payments.	+236	+8%
Restrictions on multiple assessments ('top ups') do not work as expected.	+181	+6%

As indicated in the sensitivities above, if the WPI assessment provisions in the RTW Act do not work as intended it is possible that the impacts could be measured in hundreds of millions of dollars.

There is improvement potential that would measure in the multiple tens of millions of dollars if favourable resolution trends occur and the number of disputes drops as a result.

In relation to the *Onody* decision, our current assessment is that the impact is expected to be relatively minor, although an impact of say an additional $5 million is plausible based on current hearing loss aggravation claim numbers. If either (1) more aggravation claims occur as a result of the higher incentive now, or (2) there are aggravations from other types of injuries, then the financial impacts could be much larger, particularly if claims can use the aggravation approach as a means of getting into the Serious Injury cohort.

12.4 Short Term Claim Scenarios

The implementation of the RTW Act has brought significant change to the scheme, and changes in the scheme's culture. It is possible that the early changes in the scheme's experience might not be sustained if patterns of behaviour revert towards those of past years. On the other hand, it is possible that the scheme experience might outperform current projections, because of the extent of the changes in expectations and behaviour of scheme participants.

Table 12.4 summarises a number of sensitivities that help demonstrate the potential for variability in the Short Term Claim cohort.

Table 12.4 – Short Term Claim Sensitivities

	OSC Impact	
	$m	%
30 Jun 19 OSC estimate (Including risk margin at 75% POS)	3,103	
Claim Numbers		
Deafness frequency continues to escalate by another 20%	+4	+0%
Income Support		
Deterioration in IS continuance rates continue to follow the most recent trend	+13	+0%
Treatment Costs		
Late surgery costs emerge more than expected, approximately double the current allowance	+28	+1%
Legal Fees		
Reductions in dispute costs under the RTW Act are lower than allowed for	+14	+0%
Higher average cost of legal fees for transitional claims due to disputes progressing further in the disputation process	+10	+0%
Expenses		
Higher expense rate of 15% for Short Term Claims due to expenses not reducing as much as gross claim costs	+20	+1%
Lump Sums		
Recent reduction in lump sum payments is due to First Paid and Economic Loss lump sum numbers reducing by 20%	-64	-2%
Economic Loss lump sum sizes emerge 20% lower than expected	-36	-1%
Transitional lump sum disputes and pending assessments all resolve in favour of claimant	+11	+0%
Lump sum numbers increase in line with ultimate claim numbers for 2018 and 2019(HY)	+11	+0%

These scenarios illustrate some of the key areas of uncertainty for Short Term Claim costs including:

- Continued deterioration of the hearing loss claim frequency would add around $4 million to the provision. While the impact is relatively modest on the OSC liability, it would also lead to a similar recurrent increase in premiums.
- Changes in RTW performance can increase Income Support costs by tens of millions of dollars – as an example, if we were to fully reflect the most recent RTW rates, where experience has deteriorated in the last 12 months, this would add around $13 million to the provision.
- Lump sums are currently tracking much lower than expected levels, which we continue to interpret as mainly being a ‘slowdown’ rather than a ‘reduction’ in lump sums. If this is not the case, and there is in fact improvements in lump sum experience, this could result in a release of up to $64 million in the provision.
- If the current pending WPI assessments and disputes for transitional claims all resolve in favour of the worker then the provision increase would be around $11 million.
- Higher dispute related costs are currently only projected to impact on the runoff of the transitional cohort, but if this ongoing slow dispute resolution process either worsens further or moves into the RTW Act claims then it could add another $44 million to the provision due to a combination of higher legal fees and claims handling expenses.

- Higher numbers of late surgeries – for example if there was a behaviour change whereby claimants seek to have more surgeries covered by the workers compensation system, could add $28 million to the provision.

12.5 Serious Injury Scenarios

With significantly higher benefits available to Serious Injury claims, the numbers of claimants becoming eligible for these benefits will have significant financial consequences for the scheme. In addition, with an increasing proportion of future claims liabilities relating to Serious Injury claims, changes in life expectancy and escalation of costs for Serious Injury claims costs will also have significant financial impacts.

Table 12.5 – Serious Injury Sensitivities

	OSC Impact	
	$m	%
30 Jun 19 OSC estimate (Including risk margin at 75% POS)	3,103	
10 additional Serious Injury IBNR claims emerge for 2016 and higher numbers continue for all RTW Act periods	+102	+3%
25% of WPI disputes result in a Serious Injury claim	+268	+9%
Serious Injury application disputes have a 50% success rate (currently 25%) and claims under RTW Act are all in line with 2016 accident year	+175	+6%
Unpaid care on EnABLE cohort ceases immediately and is replaced with paid care	+157	+5%
Uncertainty around mortality - impact of a 6 year increase in the life expectancy of the EnABLE claims (bringing them back in line with a standard population life expectancy)	+466	+15%
Superimposed inflation is 1% p.a. higher than assumed for medical and care, whether due to higher utilisation of services such as care and treatment, or from increasingly expensive treatments, above average award wage increases for carers, increased pressure as current unpaid family carers age, etc.	+436	+14%
Superimposed inflation is 1% p.a. lower than assumed for medical and care.	-318	-10%
No increase in utilisation of Care benefits after age 65	-99	-3%
Twice the additional allowance for utilisation of Care benefits after age 65	+80	+3%
Medical and treatment payments lowered to lowest rates in recent years	-137	-4%

Because of the very long tail of Serious Injury claims and the consequent leverage in the scheme's financial results, the scenarios illustrate some very large changes in the outstanding claims liability.

We emphasise that there is significant uncertainty around ultimate claim numbers, as indicated by the following scenarios:

- If an additional 10 IBNR claims emerge for the 2016 and following accident years (i.e. the RTW Act years), there will be an increase of around $102 million in the OSC provision. For this to occur there would only have to be a slight deterioration in the assumed conversion rates from our pool of possible IBNR claims or a small number of Serious Injury claims to emerge from outside this broad pool.
- If 25% of WPI disputes result in a Serious Injury claim (we currently assume 1%, beyond those already identified as 'potential' by ReturnToWorkSA), then the increase to the provision would be around $268 million.

- If the claimant success rate on Serious Injury application disputes is higher than the level allowed for in our IBNR, the increase in the provision would be around $175 million. We note that there is no overlap between this scenario and the WPI dispute scenario (+$268 million), meaning both could occur simultaneously, or perhaps more likely there could be a partial deterioration in both assumptions which results in an equivalent impact.

Changes in the level of benefits payable for care, support and medical needs also have very significant implications for the OSC liability.

As noted in Section 9.5.5, we have only given partial credit to the recently lower medical and treatment payments, and so if this lower level continues then a further $135 million reduction may be possible.

12.6 Key Uncertainties

There is considerable uncertainty in the projected future claim costs, in particular around how and when claims are determined to be Serious Injuries.

The main areas of uncertainty in our current estimates of the liabilities are:

- **Legal precedent risk** – risks here relate to the possibility of decisions which are unfavourable to the scheme or the culture and behaviour of its participants. In particular, a number of decisions have gone against ReturnToWorkSA's interpretation of the WPI assessment rules, and there are still many claims in dispute seeking to access higher levels of benefits than ReturnToWorkSA has determined. On current timing, this risk is likely to remain for at least another two to three years, and perhaps longer.
- **WPI assessments** – under the RTW Act, there are significant differences between the compensation available to claims above the 30% WPI threshold and those below. This factor, combined with the new lump sum for future economic loss payable to Short Term claims, means there is pressure on WPI assessments. The scheme will face significant financial consequences if this leads to either extra claims getting over the 30% WPI threshold or 'WPI creep'. The robustness of the 'once and for all' WPI assessment rules under the RTW Act is an important area of risk.
- **Serious Injury claim costs** – these claims are entitled to benefits for life, and the risks for this group relate to factors that are common across most claims, and deviations from our assumptions that compound across multiple years. For the current valuation the key uncertainties are:
  - **Ultimate numbers of claims** – there are several areas of uncertainty in relation to claim numbers. These include the impact of claimants delaying their WPI assessments, as well as the number of outstanding Serious Injury application disputes and other WPI disputes that could see claims ultimately meet the 30% WPI threshold.
  - **Life expectancy** – the future life expectancy of Serious Injury claimants has a significant impact on future cost projections.
  - **Cost escalation** – the potential for future cost escalation in a number of medical, care and treatment related items poses a risk. One example is the extent to which care costs that are currently not compensated by the scheme may become compensable in future, as family-based carers age and claimants increasingly require paid attendant care and/or residential care facilities. Another example is the potential increase in costs for care related specialists and facilities, due to wage pressures and/or market demand pressures for these specialists as the National Disability Insurance Scheme continues to scale up.

- **Claim number increases and return to work rates** – over the last 12-18 months there has been an increase in claim numbers and slippage in return to work outcomes (relative to the much improved RTW rates seen over the preceding few years) for claims managed entirely under the RTW Act. While legal involvement on RTW Act claims is currently tracking better than pre-reform levels, if the higher level of legal involvement on transitional claims transfers into the RTW Act cohort then the sustainability of RTW improvements made over the last four to five years could be at risk.
- **Outcomes for claims with current disputes** – risks here include the possibility of decisions which are unfavourable to the scheme, as well as the behavioural consequences of so many disputes remaining. Open dispute numbers remain high and more claims are moving into the later stages of the dispute resolution process.

Even though the RTW Act provisions commenced four years ago, there are still key areas of the Act being tested in the courts, and there is as yet only limited information on the number of Serious Injury claims which will emerge from these cohorts. The current valuation basis reflects our best estimate of how this experience will eventuate, based on our and ReturnToWorkSA's interpretation of the intent of the Act. Over time, our basis will further reflect the developing post-reform experience, and it is possible that the experience will differ materially from our current expectations.

13 Reliances and Limitations

Our results and advice are subject to a number of limitations, reliances and assumptions. The main ones are outlined below.

13.1 Reliance on Data and Other Information

We have relied on the accuracy and completeness of the data and other information (qualitative, quantitative, written and verbal) provided to us by ReturnToWorkSA for the purpose of this report. We have not independently verified or audited the data, but we have reviewed the information for general reasonableness and consistency. The reader of this report is relying on ReturnToWorkSA and not Finity for the accuracy and reliability of the data. If any of the data or other information provided is inaccurate or incomplete, our advice may need to be revised and the report amended accordingly.

13.2 Uncertainty

13.2.1 Emergence of Key Legal Precedent

Realising the expected long term financial savings from introducing the RTW Act depends on the effectiveness of maintaining the boundaries in practice. Any legal precedent that causes 'slippage' in the application of the boundaries will have an unfavourable impact on scheme costs.

There continues to be an unusually high number of cases on appeal to the Supreme Court and until these cases are resolved there will be uncertainty as to the financial costs which eventuate under the RTW Act benefit package.

13.2.2 Other Uncertainty

There is considerable uncertainty in the projected outcomes of future claims costs, particularly for long tail claims; it is not possible to value or project long tail claims with certainty. Our payment projections for Serious Injury claims, in particular, include payments which are expected to occur many decades into the future.

We have prepared our estimates on the basis that they represent our current assessment of the likely future experience of the scheme. Sources of uncertainty include difficulties caused by limitations of historical information, as well as the fact that outcomes remain dependent on future events, including legislative, social and economic forces, and behaviour by scheme stakeholders such as Corporation management, claimants and claims agents.

In our judgement, we have employed techniques and assumptions that are appropriate and the conclusions presented herein are reasonable given the information currently available, subject to our comments above. However, it should be recognised that future claim outcomes and costs will likely deviate, perhaps materially, from the estimates shown in this report.

The uncertainty at the current valuation is heightened by the need to allow for the impacts of the RTW Act. While its key features came into effect back in July 2015, legal testing of its implementation is still occurring and likely to take a number of years to complete, as noted above.

Our valuation assumes a continuation of the current environment with allowance for known changes where we have been able to quantify or estimate the effects. It is possible that one or more changes to the environment could produce a financial outcome materially different from our estimates.

13.3 Latent Claims

We have made no allowance for catastrophic aggregation of claims from latent sources (such as claims relating to asbestos) other than as reflected in the data and information we have received. Latent claim sources are those where the date of origin of a claim is many years before the claim is reported.

There has been a lot of focus on potential new sources of silicosis claims recently, but at this time it does not appear that ReturnToWorkSA is impacted anywhere near as much as some of the Eastern states. As such, there is no allowance for any change to silicosis claim emergence at this time.

13.4 Reinsurance

We understand that there is no reinsurance program in place in relation to any of the liabilities we have valued.

13.5 Limitations on Use

This report has been prepared for the sole use of ReturnToWorkSA's board and management for the purpose stated in Section 1. At ReturnToWorkSA's request, we consent to the release of this report to the public, subject to the reliances and limitations noted in the report.

Third parties, whether authorised or not to receive this report, should recognise that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or the data contained herein which would result in the creation of any duty or liability by Finity to the third party.

While due care has been taken in preparation of the report Finity accepts no responsibility for any action which may be taken based on its contents.

Finity has performed the work assigned and has prepared this report in conformity with its intended utilisation by a person technically competent in the areas addressed and for the stated purpose only. Judgements about the conclusions drawn in this report should be made only after considering the report in its entirety, as the conclusions reached by a review of a section or sections on an isolated basis may be incorrect.

This report, including all appendices, should be considered as a whole. Finity staff are available to answer any questions, and the reader should seek that advice before drawing conclusions on any issue in doubt.

Any reference to Finity in reference to this analysis in any report, accounts or any other published document or any other verbal report is not authorised without our prior written consent.

14 Scheme History

This section summarises the key events and changes in the scheme since major reforms in 2007.

2007-08

Changes to the Workers Rehabilitation and Compensation Act passed by the South Australian Parliament. The key aim was to place greater focus on earlier rehabilitation and return to work outcomes.

2008-09

Key components of the 2008 legislative changes commenced: earlier step-downs for IS claims; Work Capacity Assessment; changes to non-economic loss payments; changes to the dispute resolution framework (including Medical Panels introduced); provisional liability.

2009-10

- 'Window' for continuation of redemptions under previous legislation closed 1 July 2010
- Replacement of IT system IDEAS with Curam
- Change to process for reimbursement of weekly payments to employers
- Initial projects commenced under the $15 million Return to Work Fund.

2010-11

- Bonus/Penalty scheme for employer levies discontinued.

2011-12

Claims estimates introduced for all claims.

2012-13

- New employer payments scheme commenced 1 July 2012, with compulsory experience rating for medium and large employers, and optional 'retro paid loss' arrangement for large employers
- Second claims agent, Gallagher Bassett, commenced 1 January 2013 (Employers Mutual Limited had been the sole agent since 1 July 2006)
- Second legal service provider, Sparke Helmore, commenced 1 January 2013.

2014-15

The **Return To Work Act 2014** was passed in late 2014, with major changes to the scheme and claimant entitlements. Key provisions took effect 1 July 2015.

The main features of the reforms, for claims occurring from 1 July 2015, were:

- A tighter link between employment and injury before compensation is available
- For Seriously Injured workers: ongoing benefits, reduced emphasis on RTW, access to common law benefits for economic loss

- Introduction of boundaries on claim duration for ‘non-serious injuries’: 104 weeks for weekly benefits and 52 weeks thereafter for medical costs
- New lump sum payment for loss of future earning capacity for non-serious injuries with WPI of 5% or more.

A number of **Regulations** in June 2015 impacted on the operation of the RTW Act. The changes related to pre-1 July 2015 injuries and allow:

- ‘Top-up’ payments for non-economic loss in limited circumstances; approval to seek further compensation was required before 1 July 2016
- Coverage of future surgeries and up to 13 weeks of IS benefits for existing non-Serious Injuries, even if surgery falls outside the standard time boundaries.

2015-16

The premium system was changed so that nearly all employers were subject to experience rating, but under a new and much simpler system.