

Quality Assurance Review of PricewaterhouseCoopers' June 2009 Valuation of ACC's Outstanding Claims Liabilities

Department of Labour

September 2009

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29 September 2009

Mr Peter Nelson
Department of Labour
56 The Terrace
Wellington
NEW ZEALAND

Dear Peter

Quality Assurance Review of June 2009 ACC Liability Valuation

We are pleased to provide you our report of our quality assurance review of the ACC's Outstanding Claims Valuation at 30 June 2009.

We remain available to answer questions on our work.

Yours sincerely

Aaron Cutter

Fellows of the Institute of Actuaries of Australia

Jamie Reid

Quality Assurance Review of Half Year ACC Actuarial Valuation

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Part I Executive Summary

1 Introduction and Scope

This summary provides an overview of the Finity Consulting Pty Limited (Finity) review of the Accident Compensation Corporation's ("ACC") 30 June 2009 actuarial process and valuation report completed by PricewaterhouseCoopers (PwC).

PwC's actuarial valuation of ACC's outstanding claims liabilities at 30 June 2009 is based on data to 31 March 2009. PwC considered the experience between 31 March 2009 and 30 June 2009, and decided it was not necessary to adjust its estimates.

Finity's review has been conducted for the Department of Labour (the Department) to assist with their functions as advisor to the Minister for ACC on strategic directions and purchasers of services from the ACC in the form of the Non-Earners Account. Details are contained in Part II of this report, which should be read for a complete understanding of the scope, process and conclusions.

This review has included a review of the actuarial process, reviews of each payment type valued by PwC and consideration of "global" actuarial assumptions that impact all payment types (including risk margins and economic assumptions), overall valuation results and compliance.

2 ACC Dimensions

The ACC has been the monopoly provider of compensation in respect of bodily injury in New Zealand uninterrupted since 1974 except for a small period of privatised workers' compensation.

In recent years claim payments and liabilities have been growing faster than would be the case allowing for economic inflation and exposure changes alone. Social Rehabilitation (relating to Serious Injuries) and Weekly compensation (non-fatal) make up over 65% of ACC's total outstanding claim liabilities. These two payment types have been the predominant cause of the deterioration in ACC's liabilities.

Summary of Results by Account

The total outstanding claims provision at 30 June 2009 is \$23,785 million. This estimate including claims handling expenses of \$1,261 million and a risk margin of \$2,662 million. The split for each Account and the corresponding liabilities at June 2006, June 2007 and June 2008 are shown below.

Table 1 – 30 June 2009, 2008, 2007 & 2006 Provisions by Account

Account	Liability at 30-June (\$'m)				% Change		
	2009	2008	2007	2006	08-09	07-08	06-07
Employers	1,534	1,124	949	917	36%	18%	4%
Partnership Program	151	122	81	73	24%	51%	11%
Self Employed	327	260	237	255	26%	10%	-7%
Total Work	2,012	1,506	1,267	1,244	34%	19%	2%
Residual Work	2,078	1,786	1,829	1,886	16%	-2%	-3%
Residual Non Work	1,180	1,008	938	962	17%	7%	-3%
Total Residual	3,258	2,794	2,767	2,848	17%	1%	-3%
Earners	4,196	3,135	2,453	2,222	34%	28%	10%
Treatment Injury	1,893	1,181	886	773	60%	33%	15%
Motor Vehicle	6,031	4,475	3,964	3,554	35%	13%	12%
Non Earners	3,733	2,906	2,398	2,074	28%	21%	16%
Total	21,123	15,998	13,735	12,715	32%	16%	8%
Risk Margin	2,662	2,008	1,655	0	33%	21%	n/a
Total Provision	23,785	18,006	15,391	12,715	32%	17%	21%

ACC's estimated liabilities have increased significantly in recent years. The total increase over three years is \$11,070 million, equivalent to 23% per year.

Table 2 provides details on the drivers of change over the last year. The table also shows how the change was recognised in PwC's two reviews during the year.

Table 2 – Analysis of Change since June 2008

Reason for Change	June 2008 to December 2008	December 2008 to June 2009	Change for Year
Expected Movement			1,288
Experience and Modelling	461	1,078	1,539
Economic Assumptions	1,830	(951)	879
Allowance for Future Cabinet-Approved and Regulated Rate Increases		1,562	1,562
Risk Margins	291	220	511
Total - Unexpected Movement	2,581	1,910	4,491
Total Movement			5,779

The estimated liabilities at 30 June 2008 were \$18,006 million. The estimated liabilities at 30 June 2009 are \$23,785 million, an increase of \$5,779 million since June 2008. Reasons for the increase in liabilities are as follows:

- Expected increases: \$1,288 million. Each of the accounts has increased due to expected inflationary impacts, exposure growth assumptions. The impact of legislation changes and program changes introduced previously would also be included here.

- Unexpected increases: \$4,491 million, of which:
 - ▶ Experience and modelling: \$1,539 million. This increase arises due to adverse claims experience, and changes in PwC's estimates of future experience based on their analysis of historical data.
 - ▶ Economic assumptions: \$879 million. This change is in response to the changing economic environment, that is, changes in inflation and discounting. This caused estimated to increase by \$1,830 million at December 2008. Changes since December have been more favourable to ACC, reducing the effect of this change.
 - ▶ Allowance for future Cabinet-approved and regulated rate increases: \$1,562 million. PwC did not previously allow fully for future inflation on certain claim types, as this was subject to a scope limitation. We comment in detail on this change in Section 4 of this report.
 - ▶ Risk margins: \$511 million. PwC adds a margin to its estimates to allow for the risk of further adverse movements. Because the estimates have increased PwC has also increased the margin.

All accounts have deteriorated significantly over the last year. All accounts have been impacted by the changes in economic assumptions and the allowance for future Cabinet-approved and regulated rate increases. We note that the Treatment Injury account had the largest increase between 2008 and 2009. The increase is attributable to higher social rehabilitation costs, including:

- ▶ Higher care and capital expenditure due to recognising the more serious nature of injuries – there were offsets in other Accounts recognising the less serious nature of their injuries.
- ▶ Significant increases in claim numbers.
- ▶ The allowance for future Cabinet-approved and regulated rate increases has had the greatest effect of those accounts, such as Treatment Injury, that have a high proportion of Social Rehabilitation claims.

Summary of Results by Payment Type

The total provision and movements by payment type are shown in the following table.

Table 3 – 30 June 2009, 2008, 2007 & 2006 Provisions by Payment Type

Payment Type	Liability at 30-June (\$'m)				% Change		
	2009	2008	2007	2006	08-09	07-08	06-07
Non fatal weekly compensation	6,261	4,877	4,314	4,224	28%	13%	2%
Fatal weekly compensation	497	413	389	384	20%	6%	1%
Medical	1,796	1,149	928	963	56%	24%	-4%
Social rehabilitation - serious injury	7,476	5,131	4,151	3,547	46%	24%	17%
Social rehabilitation - non serious	1,184	868	836	831	36%	4%	1%
Vocational rehabilitation	226	164	132	159	38%	24%	-17%
Elective surgery	1,444	1,001	745	684	44%	34%	9%
Other rehabilitation	41	546	481	328	-92%	14%	47%
Independence allowance	735	711	574	543	3%	24%	6%
Lump sums	187	173	262	180	8%	-34%	45%
Ambulance and bulk billed	16	26	20	19	-38%	30%	8%
Claims Handling Expenses	1,261	939	904	854	34%	4%	6%
Total Net Central Estimate	21,123	15,998	13,735	12,715	32%	16%	8%
Risk Margin	2,662	2,008	1,655	0	33%	21%	n/a
Total Provision	23,785	18,006	15,391	12,715	32%	17%	21%

All payment types have deteriorated over the last year. Ambulance and bulk billed costs are an exception, however these payments are insignificant from a liability point of review (amounts are paid quickly by ACC so large reserves are not necessary). For Other Rehabilitation, the 2009 estimate is only in respect of backdated attendance care costs. In previous years, this payment type included other payments such as travel and dental benefits, and these have been reallocated to other payment types.

All accounts have been impacted by the changes in economic assumptions. In addition, we note:

- Allowance for future Cabinet-approved and regulated rate increases – Increase of \$1,562 million. Of this amount, the increase in Social Rehabilitation – Serious Injury was \$1,257 million. Medical, Social Rehabilitation – Non-Serious Injury and Elective Surgery also increased.
- Social Rehab for Serious Injuries – Experience has been reasonably close to expected. There continues to be more claims reclassified ‘serious’ than expected but this impact was offset by a greater number of claims becoming inactive.

PwC has developed a robust framework for describing past superimposed inflation (over and above fee rate increases) and the impact of fee rates separately. Their future short term superimposed inflation assumptions are appropriate. Longer term superimposed inflation assumptions are more difficult to assess for reasonableness, however, they are consistent with those seen elsewhere for similar liabilities and do not appear unreasonable.

The NSIS manage the claims for which this liability relates. It is crucial that the information that NSIS reviews, their decisions and resulting care program changes are communicated to PwC. Providing PwC with internal NSIS monitoring reports is crucial going forward.

- Non Fatal Weeklies - Liabilities for this payment type have increased responding to the increasing number of new claims and claimants receiving payments for longer than was previously the case. PwC has strengthened its assumptions in response to a number of years of poor results.
- Medical –The number of active claimants for this payment type has increased significantly, and this represents the main cost driver for this payment type.
- Elective Surgery - Elective surgery is facing significant cost pressures, the causes of which are difficult to contain. For example, ACC is paying for procedures where the original injury is only contributing a small amount to the requirement for surgery, or has not contributed to the need for surgery at all. ACC has changed its budgeting approach for elective surgery, and this had led to increases in treatment waiting lists. However, waiting lists are not explicitly included in PwC liability estimation methodology. We recommend that changes in waiting lists should be reflected in the estimated liabilities.
- Vocational Rehabilitation - Liabilities have increased on this account due to an increase in the number of claims. This has been attributed to greater awareness of ACC's vocational rehabilitation programs.

Each payment type is considered in detail in the Appendices of this report.

3 Process

The PwC actuarial valuation process appears comprehensive and thorough. PwC works closely with ACC during the actuarial review to ensure that they incorporate new and relevant information in their recommendations. The process PwC undertakes to understand the impact on liability, as explained, appears reasonable and includes dialogue with a range of ACC staff and management.

In the majority of cases, the valuation technique adopted by PwC is a Payments per Active Claim (PPAC) approach. Where appropriate this was modified to be based on individual claims characteristics (eg. Social Rehabilitation for Serious Injuries). For some smaller or quite volatile payment types a payment decay method was used. We are of the opinion that the actuarial methodologies employed are appropriate for the payment types, extent of data and experience emerging in the ACC scheme. However, specific adjustments should be considered for Non-Fatal Weeklies and Elective Surgery. We provide further details in Appendix A.

There have been no changes in methodology since the December 2008 valuation.

4 Allowance for Future Cabinet-approved and Regulated Rate Increases

PwC has made a significant change to its valuation approach since the December 2008 review. It has included an additional inflation allowance for certain payment types, referred to as Cabinet-approved and regulated rates.

PwC did not previously consider these payments fully as it was subject to a scope limitation. The change has increased estimated liabilities at 30 June 2009 by \$1.562 million.

Most of the increase due to the allowance for future Cabinet-approved and regulated rate increases arises for Social Rehabilitation – Serious Injury. Attendant care workers are currently paid less than the average New Zealand worker. PwC has assumed that, over time, carers' wages will move closer to those of the average New Zealand worker. This assumption is the key driver of the change in liabilities.

Finity's previous reports have noted a number of problems with not allowing for future Cabinet-approved and regulated rate increases:

- When the Cabinet did approve fee increases these resulted in deterioration in ACC's liabilities. For example, during 2008 Cabinet-approved rate increases for home based rehabilitation services that added \$309 million to the outstanding claims liability. Such increases in liabilities directly impact ACC's funding level and therefore progress toward full funding by 2014.
- Unfavourable volatility introduced when rates increase, and this may be overemphasised by key stakeholders as a significant source of superimposed inflation.
- We believe that market pressures on care and medical fees cannot be ignored completely and that in the long term ACC fee increases will keep pace.
- Not allowing for future Cabinet-approved and regulated rate increases had the potential to present ACC's funding level and more importantly prospective funding position more favourably than a 'central' estimate would otherwise do.
- Not allowing for future Cabinet-approved and regulated rate increases has potential to undermine the principle to fully fund liabilities by each years' levy payers. That is, future generations would be required to post fund Cabinet decisions under an approach that did not allow for future Cabinet-approved and regulated rate increases.
- Where there is a history of or reasonable potential for fee rates to increase above normal inflation, it would be usual for the actuary to incorporate a level of future superimposed inflation in the outstanding claims liability to allow for this.

For these reasons, we believe it is appropriate that PwC is now attempting to allow for future increases in Cabinet-approved and regulated rate.

The allowance for future Cabinet-approved and regulated rates impacted social rehabilitation most materially because of the large liability associated with this payment type and also the long duration over which these types of payments are made. We have reviewed in detail the methodology that PwC has used to assess future hourly fee rates for care and believe that the allowance is reasonable.

Further details are provided in Section 4 of this report.

5 Overall Opinion

Basis of Review

This quality assurance review is a review for reasonableness. It should be noted that the quality assurance review has not provided (nor is it intended to provide) an independent estimate of the liabilities for ACC. Nor is this quality assurance review intended to provide verification that each of the detailed calculations underlying the calculation of the liabilities is correct. The review does not extend to providing a guarantee of PwC's advice.

Wherever we have considered the materiality of an amount in the PwC valuation, assessment of materiality is judgemental relative to the total ACC liabilities using the definition of 'material' from the Institute of Actuaries of Australia's professional standard PS300 and does not necessarily conform to audit materiality levels.

Change in Estimates

Of the total increase in PwC's estimates since December, \$1.1 billion is attributed to modelling and experience. This is in addition to the change due to allowance for future Cabinet-approved and regulated rate increases. The deterioration due to modelling and experience arises on the following payment types:

- \$0.6 billion is attributable to Non-Fatal Weeklies.
 - ▶ While there have been some positive signs in the recent experience, long term continuance rates have been deteriorating for several years. PwC has responded to the poor continuance rate performance by increasing its continuance rate assumptions. Specifically, PwC has given more weight to the recent experience in selecting its assumptions, rather than taking an average over a longer period.
- \$0.2 billion is attributable to Social Rehabilitation – Serious Injuries.
 - ▶ Experience was broadly in line with expectations. However, PwC has strengthened its assumptions following further analysis.
- \$0.2 billion is attributable to Elective Surgery.
 - ▶ This is attributable to changes in PwC's superimposed inflation assumptions, reflecting poor experience over a number of years.

In each case, we believe the change in assumptions reflects not only the experience of the last six months, but an alternative view of the longer-term historical experience. It is appropriate to review the assumptions as more historical experience emerges. PwC's has taken a more conservative view of the historical data than has previously been the case.

However, there are a range of central estimate assumptions that represent a reasonable interpretation of the experience. We remain of the view that PwC's estimates are not unreasonable as a central estimate.

As noted above, we believe it is appropriate that PwC's estimates allow for future Cabinet-approved and regulated rate increases.

Uncertainty

PwC has produced sensitivity analysis that illustrates the uncertainty of the liabilities. A key uncertainty relates to continuance rates for Non-Fatal weekly compensation. PwC include a sensitivity assuming continuance rates continue to deteriorate. The sensitivity considers claimants more than 60 months post accident, and assumes that the negative trends in continuance rates continue for another 5 years. This scenario results in an increase in estimated liabilities of \$2.0 billion. This represents a possible, albeit unlikely, scenario and demonstrates the uncertainty inherent in ACC's liabilities.

Opinion

We have reviewed the suitability of the main assumptions for each payment type with respect to the recent experience. The results of this review are documented in the following sections of this report including our observations and, where appropriate, suggestions or recommendations for change. In respect of each payment type, we concluded that the liability estimated by PwC was not unreasonable.

We are also satisfied that PwC's total estimated liability is not unreasonable. This conclusion is based on our review of each of the individual payment types. We have not identified any material bias in the estimates for individual payment types that would make the total estimate unreasonable.

6 Global Financial Crisis

The global financial crisis which began as a 'credit crunch' during late 2007 continues to impact insurance businesses. To varying degrees throughout the world, the expected impact is a slowdown in economic activity and a recession. However, there remains significant uncertainty around the length and severity of the downturn, the general economic outlook for 2009 and 2010 and the impact of the GFC/economic downturn on claims cost outcomes in New Zealand.

Based on discussion with PwC we note that:

- PwC's estimates reflect the direct effects of the GFC. Specifically, PwC's economic assumptions have been revised to reflect the current economic environment.
- PwC has considered the potential indirect effects of the GFC in producing its estimates. However, at this stage PwC has decided not to make any changes to its methods or assumptions as a result of the GFC.

At this stage in the economic downturn, it is difficult to gauge the likely strength of the downturn and its potential impact on ACC's claims outcomes. We believe that PwC's treatment of the GFC in producing its estimates is not unreasonable.

7 Claims Made Estimates

The valuations of certain claims within the Lump Sums and Independence Allowance payment types are limited to claims reported up to 30 June 2009. This means that the valuation for these payment types has been undertaken on a "claims made" basis, for example, the estimated liability does not include amounts in respect of individuals presenting with a sensitive claim in 2012 as a result of an assault in 2000, or presenting with an asbestos-related claim arising from exposure in the late 1970s.

We understand that ACC has based its approach to these claims on legal advice. However, while the approach may be legally correct, it does have the potential to confuse. We recommend that PwC provide greater clarity on what parts of the liabilities have been valued on a claims made basis.

We note that ACC's liabilities are an input to the estimation of levies and Non-Earners' appropriations. However, ACC uses a different valuation approach than PwC to estimate Lump Sums and Independence Allowance for levies and Non-Earners' appropriations. Our opinion on the approach adopted will be covered in our reports on these matters.

8 Recommendations

We recommend that PwC implement the following for their next valuation:

1. Risk Margins - We recommend that risk margin analysis be updated before the next review of ACC's outstanding claims. This recommendation supports PwC's own recommendation. We recommend that, when the risk margin analysis is updated, this analysis should be fully documented, including commentary and analysis of actual historical volatility.
2. Non fatal weekly compensation – that PwC further attempt to refine their understanding of underlying continuance rates for claims that will remain on benefit even after successful completion of ACC's current long term claims project.
3. Social rehabilitation serious injury – NSIS provide PwC with their internal monitoring reports so that PwC may understand the impact of NSIS decisions more fully and respond in their future valuation estimates.
4. Independence allowance and lump sums - From the valuation report, it is not clear which future claims relate to the outstanding claims, and which relate to future accident years. It would be good if PwC could be clearer about this.
5. Elective Surgery - We recommend PwC consider the appropriateness of the current valuation methodology in describing the payments that are expected at long

duration post accident and that they explicitly include waiting lists within their estimation methodology.

6. Elective Surgery - We recommend that PwC specifically consider the impact of ageing in the superimposed inflation analysis and document the results of this work.
7. Non-regulated fee rates - PwC's estimates should include a provision for future rate increases where ACC's rates have moved away from market rates. ACC should ensure that it monitors rate pressures in order that these provisions can be estimated.

9 Reliances and Limitations

The reliances and limitations to our work form an important part of this report and are included in full in Section 8. A reader of this executive summary should refer to the reliances and limitations to our work.

This report is being provided for the sole use of the Department for the purposes stated in Section 1 of this report. It is not intended, nor necessarily suitable, for any other purpose. This report should only be relied on by the Department for the purpose for which it is intended.

Part II Detailed Findings

1 Introduction

1.1 Purpose

Finity Consulting Pty Limited (“Finity”) has been engaged by the Department of Labour (“the Department”) to carry out a quality assurance review of the full year valuation report prepared by PricewaterhouseCoopers Actuarial Ltd (“PwC”) undertaken for the Accident Compensation Corporation (“ACC”).

PwC’s actuarial valuation of ACC’s outstanding claims liabilities at 30 June 2009 is based on data to 31 March 2009. PwC considered the experience between 31 March 2009 and 30 June 2009, and decided it was not necessary to adjust its estimates.

The purpose of our review is to provide information to assist the Department in assessing the reasonableness of PwC’s assessment of outstanding claims liabilities and in particular to provide commentary on the drivers of claims costs. This report does not in itself directly provide advice to the Department in relation to the adequacy of levy setting or Non-Earner Account appropriations. Our advice on levy setting and the Non-Earner account will be provided separately.

We were also engaged by the Department during 2008 to provide quality assurance reviews relating to actuarial reports produced by PwC and ACC. In particular, we have previously provided similar advice to the Department on PwC’s half yearly valuation report of the ACC’s 31 December 2007, 30 June 2008 and 31 December 2008 outstanding claims liabilities. Our most recent report, on the estimates at 31 December 2008, is dated 11 June 2009.

Our work is being carried out under our contract with the Department dated 18 June 2009.

1.2 Scope

Based on our discussions with the Department, we understand the scope of this review is required to address the same matters that were considered during our review last year of the half year liability valuation report. We have therefore addressed the following issues:

- Suitability of the actuarial methodology adopted.
- Suitability of the main actuarial assumptions having regard to recent experience.
- Spot check (but not an exhaustive check or full independent calculation) of valuation calculations.
- Appropriateness of economic and discount rate assumptions.
- Recommendations of improvements to process or information.

- Identify and quantify significant changes to the valuation from the previous Full Year Valuation.
- Document significant changes by ACC Account.

The out year forecasts produced by PwC were not reviewed for this report. The out year forecasts do not form part of the projected liabilities at 30 June 2009. We understand that ACC will be producing out year forecasts to estimate levy rates and Non Earners Appropriations. We will review ACC's out year forecasts in of our review of ACC levy rates and Non Earners appropriations.

1.3 Approach

Our approach to carrying out this review has been as follows:

- We obtained a copy of PwC's 30 June 2009 valuation report and appendices, with appendices provided as SAS datasets, spreadsheets or word documents ("PwC report" or "PwC June report").
- We interviewed the key PwC staff to understand their processes and hear their views on the most important aspects of the valuation. Because we have undertaken this assignment previously, the discussions focussed on identifying changes made compared to the December 2008 valuation.
- Interviewed ACC staff with responsibility for weekly compensation, the National Serious Injury Service, elective surgery and treatment injury. We also met with members of ACC's actuarial team. The purpose of these meetings was to broaden our understanding of significant payment and injury types.
- We reviewed the PwC June report, carrying out our own analyses where required.
- In some cases we followed up PwC and ACC with questions arising from our review.

The scope and purpose of our review were not aimed at a detailed review of PwC's calculations.

1.4 Materiality

Wherever we have considered the materiality of an amount in the PwC valuation, assessment of materiality is judgemental relative to the total ACC liabilities using the definition of 'material' from the Institute of Actuaries of Australia's professional standard PS300 and does not necessarily conform to audit materiality levels.

1.5 Compliance

Our report has been prepared as Actuarial Advice in accordance with the Code of Professional Conduct issued by the Institute of Actuaries of Australia.

Our scope of work does not constitute External Peer Review and accordingly our report has not been prepared in accordance with the Institute of Actuaries of Australia Professional Standard PS100.

1.6 Report Structure

The remainder of our report contains the following:

- Section 2 – sets out our understanding of the actuarial process undertaken by PwC
- Section 3 – comments on the economic assumptions adopted
- Section 4 – comments on the decision to remove the limitation on PwC's scope in respect of Cabinet-approved fee rate increases and increases in regulated rates
- Section 5 – comments on ACC's risk margin and the Global Financial Crisis
- Section 6 – highlights our view on selected payment types
- Section 7 – summarises our recommendations and suggestions
- Section 8 – contains important reliances and limitations.

In addition, appendices set out our detailed commentary on actuarial methodology and each of the payment types.

2 Actuarial Process

2.1 Overview

Key features of the process include:

- The PwC and ACC actuarial teams work closely together during the valuation. PwC relies on ACC for data, to help identify emerging issues or explain key features of the experience observed while completing the valuation.
- ACC provide evidence of reconciliations performed of the data to the General Ledger. PwC perform reasonableness checks on the information received.
- Since PwC's June 2008 estimate was produced, there is a new PwC partner responsible for the valuation and ACC has a new Chief Actuary; these changes are not of concern.
- PwC have rigorous technical review processes.

We carried out a detailed review of the actuarial process which is documented in our review of the 31 December 2007 outstanding claims liabilities. Based on our discussions with PwC and ACC we understand that there have been no significant process changes for this review.

2.2 Independence

ACC has good internal actuarial capability. There is significant interaction between this team and the PwC actuarial team in the provision of information and the discussion of actuarial assumptions and results. Our previous reports for the Department have considered these interactions, and concluded that we have no concerns about the independence of the valuation. Based on our discussions with PwC and ACC for this valuation we continue to hold this view. However, documentation of any reliance by PwC on ACC is an important part of demonstrating independence and should be given prominence in the Full Year valuation.

2.3 Use of the PwC Report

PwC estimates both the liabilities at 30 June 2009 and out year estimates (that is, projections beyond 30 June 2009). PwC's report specifically notes that the use of the out year results to estimate levies or Non-Earner appropriations is beyond the scope and intended purpose of its work. This disclaimer was not included prior to December 2008.

ACC has previously adopted PwC's out year projections directly in producing the levy and Non-Earner appropriation estimates. We understand going forward that ACC will be producing out year forecasts to estimate levy rates and Non Earners Appropriations. We will review ACC's out year forecasts separately in of our review of ACC levy rates and Non-Earners appropriations.

3 Economic Assumptions

PwC has continued to use an unadjusted NZ yield curve to determine its discount rate assumptions. We provided detail on PwC’s discount methodology in our previous report.

3.1 Overall impact

Economic assumptions at 30 June 2009 compared with 31 December 2008 have driven a reduction to the liabilities of ACC by \$951 million.

Actual inflation was close to that projected and did not contribute materially to the impact on liabilities of economic assumption changes. Long term gap assumptions (discount rate less inflation beyond 10 years) remain unchanged. The following table breaks down the causes of the reduction in liability.

Table 3.1 – Summary of economic assumption driving liability movements

Description of difference between 31 December 2008 and 30 June 2009	Impact \$m
Projected inflation (CPI, LCI, AWE) increased, typically 0.2% to 0.5%	+ 371
Higher long duration NZ Government Bond Yields	- 1,234
TOTAL	- 951

3.2 Overall conclusions

Overall, we believe that the approach taken and the assumptions are appropriate.

4 Allowance for Future Cabinet-Approved and Regulated Rate Increases

PwC has made a significant change to its valuation approach since the December 2008 review. It has included an additional inflation allowance for certain payment types, referred to as Cabinet-approved and regulated rates.

PwC did not previously consider these payments fully as it was subject to a scope limitation. The change has increased estimated liabilities at 30 June 2009 by \$1.6 billion.

Most of the increase due to the allowance for future Cabinet-approved and regulated rate increases arises for Social Rehabilitation – Serious Injury. Attendant care workers are currently paid less than the average New Zealand worker. PwC has assumed that, over time, carers' wages will move closer to those of the average New Zealand worker. This assumption is the key driver of the change in liabilities.

We believe it is appropriate that PwC is now attempting to allow for future increases in Cabinet-approved and regulated rates.

The allowance for future Cabinet-approved and regulated rate increases impacted social rehabilitation most materially because of the large liability associated with this payment type and also the long duration over which these types of payments are made. We have reviewed in detail the methodology that PwC has used to assess future hourly fee rates for care and believe that the allowance is reasonable.

We have structured this section as follows:

- Section 4.1 describes PwC's valuation approach, how this approach has changed, and our opinion on that change
- Section 4.2 quantifies the impact of the change, and shows the payment types that have been impacted
- Section 4.3 comments on how PwC has allowed for the change in approach

4.1 Valuation Approach

Cabinet-Approved and Regulated Rates

PwC has made a significant change to its valuation approach since the December 2008 review. The level of certain payments made by ACC is subject to direct government control. These payments are referred to as regulated rates and Cabinet-approved rates. Government action is required to change the level of these payments. This action consists of obtaining Cabinet approval and/or changing an amount specified in regulations.

Examples of payments that this change has impacted include:

- Contracted agency hourly rates for attendant carers, which are subject to Cabinet approval.
- Amounts paid by ACC to GPs, which are specified in regulations.

PwC previously assumed that Cabinet-approved and regulated rates would increase in line with standard wage inflation (labour cost index or LCI). PwC was instructed to make this assumption by ACC, and noted this in its previous reports as a scope limitation.

Reasons for Previous Approach

Previous PwC reports have included details of the rationale for not allowing for future Cabinet-approved and regulated rate increases. PwC noted that estimates of liabilities would not normally allow for legislation changes before they become apparent. PwC advised that there were similarities between legislation changes and the process by which certain fees are increased in New Zealand. Based on these similarities, PwC concluded that it is not inconsistent to make no allowance for above inflation increases in their liability estimate.

We understand that the Cabinet approval process considers the projected impact on funding of their decisions and therefore has an ability to control funding to some extent. Another reason for the previous approach is that there is no legal requirement for regulated rates to ever increase. However, as noted in our previous reports, we believe it would be difficult to maintain the viability of the ACC scheme without any rate increases.

Reasons for Change

Finity's previous reports have noted a number of problems with not allowing for future Cabinet-approved and regulated rate increases:

- When the Cabinet did approve fee increases these resulted in deterioration in ACC's liabilities. For example, during 2008 Cabinet approved rate increases for home based rehabilitation services that added \$309 million to the outstanding claims liability. Such increases in liabilities directly impact ACC's funding level and therefore progress toward full funding by 2014.
- Unfavourable volatility introduced when rates increase, and this may be overemphasised by key stakeholders as a significant source of superimposed inflation.
- We believe that market pressures on care and medical fees cannot be ignored completely and that in the long term ACC fee increases will keep pace.

- Not allowing for future Cabinet-approved or regulated rate increases had the potential to present ACC's funding level and more importantly prospective funding position more favourably than a 'central' estimate would otherwise do.
- Not allowing for future Cabinet-approved or regulated rate increases has potential to undermine the principle to fully fund liabilities by each years' levy payers. That is, future generations would be required to post fund Cabinet decisions under a basis that assumed no increases in these rates.
- Where there is a history of or reasonable potential for fee rates to increase above normal inflation, it would be usual for the actuary to incorporate a level of future superimposed inflation in the outstanding claims liability to allow for this.

For these reasons, we believe it is appropriate that PwC is now attempting to allow for future increases in Cabinet-approved and regulated rates.

Previous PwC Approach

In December 2008 and prior reviews, PwC was directed not to include future increases in Cabinet-approved and regulated rates in its valuation. This implied zero future inflation on these fee rates. However, PwC did include standard wage inflation (LCI) in their determination of ACC's outstanding claims liability central estimate.

We noted that included LCI was not in complete accordance with the scope limitation placed on PwC. However, we also noted our view that to include zero future inflation would produce a grossly inappropriate representation of ACC's liabilities.

Because PwC was already including some inflation on Cabinet-approved and regulated rates, the impact of removing the scope limitation is reduced.

4.2 Impact of Change

Table 4.1 summarises the impact of allowing for future Cabinet-approved and regulated rate increases, and shows this in the context of ACC's total liabilities.

Table 4.1 – Summary of Changes due to Allowance for Future Cabinet-Approved and Regulated Rate Increases

Payment Type	Projected 30/6/09 at 31/12/08	Experience & model changes	Superimposed inflation	Economic Assumptions	Liability at 30/06/09	% change due to superimposed inflation	Proportion of Liability
Social Rehabilitation - Serious Injury	6,430	228	1,257	-439	7,476	20%	35%
Social Rehabilitation - Non Serious Injury	1,124	33	81	-54	1,184	7%	6%
Medical	1,736	-20	167	-87	1,796	10%	9%
Elective Surgery	1,284	172	57	-69	1,444	4%	7%
Sub Total	10,574	413	1,562	-649	11,900	15%	56%
Other Payment Types	8,860	665	0	-302	9,223	0%	
Sub Total	19,434	1,078	1,562	-951	21,123	8%	100%

Table 4.1 shows ACC's estimated liabilities at 30 June 2009 are \$21.1 billion (excluding risk margin). This compares to the projected 30 June 2009 liabilities at 31 December 2008 of \$19.4 billion, an increase of \$1.7 billion.

Of the increase of \$1.7 billion, \$1.6 billion was attributable to superimposed inflation as a result of allowing for future Cabinet-approved and regulated rate increases. Significant increases due to experience and other model changes were offset by favourable movements in investment returns since December.

Most of the increase due to the allowance for future Cabinet-approved and regulated rate increases arises for Social Rehabilitation – Serious Injury. The increase for this payment type was \$1.3 billion, or 20% of the estimated liabilities. Estimates for Social Rehabilitation – Non-Serious Injury have also increased.

Drivers of Change

Attendant care workers are currently paid less than the average New Zealand worker. PwC has assumed that, over time, carers' wages will move closer to those of the average New Zealand worker. This assumption is the key driver of the change in liabilities for Social Rehabilitation payment types. Further details are given in Appendix B.

There were also increases for Medical and Elective Surgery payment types as a result of allowing for future Cabinet-approved and regulated rate increases. For these payment types, most payments are made in the first five years following an accident. This reduces the impact of inflation on the liabilities. Further details are given in Appendix J (Elective Surgery), Appendix L (Short Term Medical) and Appendix M (Other Medical).

Elective surgery is available under regulated rates, or under contracted rates agreed directly between ACC and hospitals. We understand from ACC that regulated rates for elective surgery are significantly less than the contracted rates. As a result, services covered by regulated rates make up only a small proportion of overall elective surgery costs. This means that allowing for future Cabinet-approved and regulated rate increases has not had a significant impact on liabilities for this payment type.

The experience of elective surgery may be an example of why we consider it appropriate to allow for future Cabinet-approved and regulated rate increases. Market pressures on fees have required ACC to move away from the regulated rates in order to provide surgery to claimants.

Previous PwC Estimate

In its December 2008 report, PwC estimated that allowing for future Cabinet-approved and regulated rate increases would increase the 30 June 2009 liabilities by \$1.2 billion (plus risk margin). This is lower than the adopted change of \$1.6 billion shown in Table 4.1.

PwC has not provided a reconciliation to its previous estimate. We understand that the previous estimate assumed allowing for future Cabinet-approved and regulated rate increases would increase superimposed inflation for Social Rehabilitation by 1.0% per annum. Based on further investigation, PwC has assumed the superimposed inflation will increase by 1.5% in the period to 2020, and then return to 1.0%. We expect that this is the key driver of the difference between estimates.

4.3 Methodology

We described the methodology used for each payment type within the appendices of this report. This section summarises the comments in the appendices.

General

We have previously requested that ACC or PwC provide us with a list of regulated rates and a list of rates that require Cabinet approval. We have also requested further information on the proportion of liabilities within each payment type that relate to regulated or Cabinet approved rates. We have not been provided with this data.

We note that PwC received relatively little notice to allow for future Cabinet-approved and regulated rate increases. We expect that the documentation of assumptions will improve as the new methodology becomes established.

Social Rehabilitation

As noted above, the key assumption relates to how the wages of carers are expected to move relative to the general New Zealand workforce. Over the past five years, carers

wages have increased from 58% of average wages to 70% of average wages. PwC has assumed that carers' wages will continue to converge towards the national average.

PwC has projected that the gap between carers' wages and average weekly earnings will continue to close. Short term (til 2019) PwC assume hourly rate increases of 2% above LCI. Beyond this they assume hourly rate increases of 1% above LCI. These combine to increase carer wages toward 80% of average weekly earnings in the long term. These assumptions are included as part of PwC's overall superimposed inflation assumption, however, they are described explicitly in terms of fee rates.

PwC's response to allow for future Cabinet-approved and regulated rate increases as it relates to social rehabilitation is entirely appropriate.

Medical

PwC has stated the proportion of total payments that it understands relate to regulated rates. PwC has then "grossed-up" its superimposed inflation for non-regulated rates to apply to all payments.

PwC notes that there have not been significant regulated rate increases for Medical since 2005. Because of this, PwC have allowed for a one-off significant 'catch-up' in 2011. If rate increases do not eventuate, PwC intends to 'roll-forward' this catch up until regulated rates do increase.

The superimposed inflation assumption is in addition to a labour cost index assumption. To the extent that there have not been significant increases in regulated rates for some time, future increases may include a 'catch-up' for labour cost increases as well. This would suggest that an even higher allowance for the 'catch-up' may be necessary.

Offsetting this, an absence of historical regulated rate increases is not a guarantee that regulated rates will be increased in future in order to 'catch-up'. To the extent that the public has accepted higher co-payments it may be unlikely that any future regulated rate increase includes a full increase for previous labour cost increases and superimposed inflation increases.

On balance, allowing for a catch-up in superimposed inflation only is not unreasonable. Overall, PwC's superimposed inflation selections are not unreasonable.

Elective Surgery

As noted above, services covered by regulated rates make up only a small proportion of overall elective surgery costs. PwC has estimated the superimposed inflation allowance for the payment types as a whole (that is, both regulated and non-regulated payments). PwC then estimated the proportion of the overall superimposed inflation allowance attributable to the allowance for future Cabinet-approved and regulated rate increases. This allocation was based on the proportion of costs due to regulated rates.

5 Risk Margins and GFC

This section comments on PwC's risk margin assumptions and, more broadly, the current global financial crisis.

5.1 Global Financial Crisis

The global financial crisis which began as a 'credit crunch' during late 2007 continues to impact insurance businesses. To varying degrees throughout the world, the expected impact is a slowdown in economic activity and a recession. However, there remains significant uncertainty around the length and severity of the downturn, the general economic outlook for 2009 and 2010 and the impact of the GFC/economic downturn on claims cost outcomes in New Zealand.

The typical actuarial approach to determining a central estimate of insurance liabilities is to assume no significant changes to the economic, social or legal environment. Clearly, the current and future economic situation, particularly the possibility of a recession, challenges this assumption.

In addition, projection methodologies generally assume no significant changes in claimant behaviour, such as propensities to claim. A tightening in economic conditions, including sharp increases in unemployment, may mean that significant changes in claimant behaviour do occur.

A central estimate is intended to reflect as closely as possible the likely future experience of the insurer. Therefore some consideration of whether environmental or behavioural changes are believed to be sufficiently strong to merit a change in central estimate basis is necessary.

The potential effects of the GFC on ACC's liabilities can be considered under two broad headings:

- Direct effects: A clearly measurable impact of the current crisis is the significant fall in interest rates since September 2008. This fall has been reflected in the yield curve and, consequently, in the discount rate adopted by PwC in their valuation basis (see Section 3). Interest rates have increased since PwC produced its December 2008 report, and this has resulted in a reduction in liabilities. Inflation assumptions used in PwC's review have also been revised. Other direct effects would include reductions in the investment income earned on ACC's assets, which affect funding levels and so are relevant to levy estimates.
- Indirect effects: Other impacts of the GFC as it relates to ACC's liabilities are less straightforward to measure and react to. Workers' compensation is often thought to be particularly susceptible to rising unemployment rates. For example, claims durations may lengthen and, should job redundancies occur, an increase in new claims may eventuate.

We asked PwC how they had allowed for the GFC in producing their estimates. Based on this discussion we note that:

- PwC's estimates reflect the direct effects of the GFC. Specifically, PwC's economic assumptions have been revised to reflect the current economic environment. Inflation assumptions have also been revised.
- PwC has considered the potential indirect effects of the GFC in producing its estimates. However, PwC has not made any changes to its methods or assumptions as a result of the GFC:
 - ▶ PwC noted that the GFC may have contributed to higher continuance rates for weekly compensation. However, PwC also notes that this payment type had been deteriorating prior to the GFC. PwC has revised its assumptions for weekly compensation, but this reflects the experience rather than PwC's views on the GFC.
 - ▶ PwC did not feel that the GFC would have a significant impact on other payment types. PwC noted that it is the number of accidents that drives changes in underlying claim costs. There is reason to believe that some types of accident occur less frequently during times of reduced economic activity.

At this stage in the economic downturn, it is difficult to gauge the likely strength of the downturn and its potential impact on ACC's claims outcomes. We believe that PwC's treatment of the GFC in producing its estimates is not unreasonable.

5.2 Risk Margins

PwC's estimated central estimates of liability are unbiased in a statistical sense, that is, is not intended to include margins for prudence or otherwise. In addition to the central estimate PwC include risk margins to increase the probability of sufficiency of the estimates. The risk margins are estimated so that each account has a probability of sufficiency of 75% on a stand-alone basis.

As a percentage of the central estimate, PwC's risk margin assumptions are unchanged since the December 2007 review. Averaging across all accounts, the risk margin is 12.6% (unchanged from December 2008). In dollar terms the estimated margin has increased from \$2.4 billion at 31 December 2008 to \$2.7 billion at 30 June 2009. The increase in risk margins reflects the increase in liabilities since December.

Risk margin percentages reflect the uncertainty of liabilities in an account. It is not necessary to revise risk margin assumptions at every review unless the uncertainty of the liabilities in an account is thought to have changed. PwC has recommended that the risk margin analysis be updated. This is because it has been some time since the last update, and the allowance for future Cabinet-approved and regulated rate increases may have changed the nature of the liabilities.

As in our previous report, we note that there is limited commentary and analysis of actual historical volatility with which to assess the overall result. In particular, it is not possible to tell how the exclusion of future Cabinet-approved and regulated rate increases was allowed for when PwC produced the current risk margins.

PwC implies that it did not revise its risk margins because there was a late change in scope. This is understandable. However, if time had been available PwC should have reviewed these assumptions. A review of assumptions would likely have resulted in a different result.

5.3 Recommendation

We recommend that risk margin analysis be updated before the next review of ACC's outstanding claims. This recommendation supports PwC's own recommendation.

We recommend that, when the risk margin analysis is updated, this analysis should be fully documented, including commentary and analysis of actual historical volatility.

6 Payment Types

6.1 Overview

**Table 6.1 – Movement in Liabilities between 31/12/08 and 30/6/09 by Account and Driver
(excluding Risk Margins)**

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Superimposed inflation	Economic Assumption s	Liability at 30/06/09	% change(*)	Proportion of Liability
Earners	4,079	94	177	-154	4,196	7%	20%
Employers	1,405	140	38	-49	1,534	13%	7%
Treatment Injury	1,623	109	263	-102	1,893	23%	9%
Motor Vehicle	5,386	423	527	-305	6,031	18%	29%
Non Earners	3,460	34	434	-195	3,733	14%	18%
Partnership Program	141	10	2	-2	151	9%	1%
Residual Non Work	1,087	87	58	-52	1,180	13%	6%
Residual Work	1,942	163	56	-83	2,078	11%	10%
Self Employed	312	17	8	-10	327	8%	2%
Total	19,434	1,078	1,562	-951	21,123	14%	100%

(*) Percentage change due to experience and model change only.

ACC's estimated liabilities at 30 June 2009 are \$21.1 billion (excluding risk margin). This compares to the projected 30 June 2009 liabilities at 31 December 2008 of \$19.4 billion, an increase of \$1.7 billion.

Of the increase of \$1.7 billion, \$1.6 billion was attributable to superimposed inflation as a result of the allowance for future Cabinet-approved and regulated rate increases. This was described in Section 4. Significant increases due to experience and other model changes were offset by favourable movements in investment returns since December.

Of the \$1.1 billion deterioration due to modelling experience:

- \$0.6 billion is attributable to Non-Fatal Weeklies.
 - ▶ While there have been some positive signs in the recent experience, long term continuance rates have been deteriorating for several years. This means that people are remaining on weekly compensation for longer than has previously been the case.
 - ▶ PwC has responded to the poor continuance rate performance by increasing its continuance rate assumptions. This means PwC anticipates claimants will remain on the scheme for longer than was previously assumed. Specifically, PwC has given more weight to the recent experience in selecting its assumptions, rather than taking an average over a longer period.
- \$0.2 billion is attributable to Social Rehabilitation – Serious Injuries.
 - ▶ Experience was broadly in line with expectations. However, PwC has strengthened its assumptions following further analysis. The increase is largely attributable to assumptions on short-term growth in care costs.

- \$0.2 billion is attributable to Elective Surgery.
 - ▶ This is attributable to changes in PwC's superimposed inflation assumptions, reflecting poor experience over a number of years. Note that this excludes changes in superimposed inflation assumptions due to the allowance for future Cabinet-approved and regulated rate increases.

At an account level, the increases are greatest for those accounts that have the highest proportion of Social Rehabilitation (Serious Injury) claims. These accounts are the Motor Account and the Treatment Injury Account. The Treatment Injury has the largest increase because the effect of the increase in liabilities for Serious Injury is combined with a significant increase in claim numbers.

Changes in economic assumptions were described in Section 3. This section focuses on experience, modelling, programs and other fee increases by payment type. Further details are set out in Appendices B to N.

6.2 Experience in June 2009 Quarter

PwC's actuarial valuation of ACC's outstanding claims liabilities at 30 June 2009 is based on data to 31 March 2009. PwC considered the experience between 31 March 2009 and 30 June 2009, and decided it was not necessary to adjust its estimates. The only adjustment was to use 30 June 2009 economic assumptions.

To support this decision, the PwC report shows actual and expected payments in the quarter to June 2009 (Section 25 of the PwC report). These show that payment experience was more favourable than expected for all payment types. In the aggregate, payments were 5% less than expected.

To supplement this analysis, we considered actual and expected numbers of actives in the June 2009 quarter. The results are summarised in Table 6.2 below.

Table 6.2 – Actual and Expected Active Claim Numbers – June 2009 Quarter

Payment Type	6 Months to March 09		
	Actual	Expected	% Difference
Non Fatal Weekly Compensation	66,107	65,693	1%
Social Rehabilitation	24,057	26,968	-11%
Medical	713,356	703,408	1%
Elective Surgery	20,171	23,374	-14%
Vocational Rehabilitation	35,137	34,711	1%
Fatal Weekly Compensation	12,421	15,015	-17%
Independence allowance	31,784	36,028	-12%
Lump Sums	NA	NA	NA
Total	903,033	905,197	0%

In the short term, active numbers can be a better indicator of liability adequacy than payments. It is unfortunate that the data available does not separately identify seriously injured claimants of social rehabilitation. Table 6.2 indicates that active numbers were either better than expected or close to expected.

We conclude that PwC's decision not to update its projections should not have had a material impact on liability estimates.

6.3 Social Rehabilitation (Appendices B and C)

Actual underlying claims experience was similar to expected although a larger number of claims were reclassified to "serious injury" compared with expected. PwC has responded to experience and continued to refine their underlying assumptions including:

- future projections that include further reclassification to serious injury
- PPAC and continuance rates have been moved to reflect recent experience
- Capital payment assumptions reflect differences by Account as well as injury type.

PwC has undertaken a detailed investigation into drivers of past payment increases over and above inflation. They have broken the drivers into carer's hourly fee rate increases, transfers between private and agency based care and program increases.

The results of PwC's analysis is to extend slightly their high short term superimposed inflation assumptions so that they gradually decline to long term assumptions at 2015 for drivers other than fee rates and 2020 for fee rates.

PwC has reacted to the instruction to allow for future Cabinet-approved and regulated rate increases by including an additional 2% superimposed inflation out to 2019 and 1% p.a. thereafter, specifically in relation to carers' hourly fee rates.

By far the largest movement in the liability has been in respect of the future superimposed inflation assumption increases. In particular, \$1,257 million of the \$1,444 million increase to the liability for social rehabilitation for serious injury relates to the additional component of superimposed inflation introduced to cover fee rate cost pressure on fee rates.

The NSIS continues to manage catastrophic injuries. Their internal monitoring reports and summarised information used in their decision making would be an invaluable addition to the information PwC use in assessing future liability and superimposed inflation allowances. It is crucial that in the future, PwC be granted access to this source of information.

6.4 Non Fatal Weeklies (Appendix D)

The estimated liability for Non-Fatal Weeklies is approximately 30% of the ACC total. This is therefore one of the most significant payment types in terms of estimated liabilities.

Long term continuance rates have been deteriorating for several years. This means that people are remaining on weekly compensation for longer than has previously been the case. Another cost driver in recent years has been an increase in the number of people coming on to the weekly compensation scheme. However, the number of new claimants appears to have stabilised recently. In particular, recent experience has been better than expected by PwC.

ACC has responded to the poor continuance rate performance by starting a Long Term Claims Project. ACC expects initial results from the initiative by September 2009.

PwC has responded to the poor continuance rate performance by increasing its continuance rate assumptions. This means PwC anticipates claimants will remain on the scheme for longer than was previously assumed. Specifically, PwC has given more weight to the recent experience in selecting its assumptions, rather than taking an average over a longer period. This has resulted in an increase in the estimated liabilities for this payment type. PwC has not explicitly anticipated the results of the Long Term Claims Project within its estimates.

PwC's assumptions are not unreasonable. However, if the deterioration observed in recent years continues then future costs will be higher than PwC's estimates. We also would see merit in PwC continuing to investigate the continuance rates applicable to a 'core' set of claimants that will remain on weekly compensation over the long term after ACC successfully complete their current long term claim initiative.

6.5 Elective Surgery (Appendix J)

This payment type represents approximately 7% of ACC's total liabilities.

Elective surgery is facing significant cost pressures, the causes of which are difficult to contain:

- ACC is paying for procedures where the original injury is only contributing a small amount to the requirement for surgery, or has not contributed to the need for surgery at all. Examples include degenerative joint procedures for knees and shoulders.
- ACC feels it is increasingly becoming a provider of last resort for elective surgery, and doctors are using ACC as a means to avoid public hospital waiting lists.
- The referral process for diagnostic imaging services may be setting an expectation of surgery, whereas alternative treatments may be available.

ACC has changed its budgeting approach for elective surgery, and this had led to increases in treatment waiting lists. However, waiting lists are not explicitly included in PwC liability estimation methodology. We recommend that changes in waiting lists should be reflected in the estimated liabilities.

PwC has increased its superimposed inflation assumptions. We feel it was appropriate for PwC to strengthen these assumptions. However, the increase may not have been sufficient. Factors that suggest a higher estimate may have been appropriate include the actual superimposed inflation rate in the most recent years, difficulties in addressing underlying cost pressures and the need to consider ageing.

In addition, we would suggest that PwC investigate whether an alternative modelling approach is more suitable for this payment type. In particular, payments in the tail may not be fully captured by continuance rates and PPACs in the context of ACCs budgeting approach.

6.6 Other Payment Types

We do not have any significant comments to make for other payment types. Detailed analysis of the experience and results for other payment types is included in the Appendices.

6.7 Legislative Changes

For the 30 June 2008 review, PwC relied on legislative costings and program change costings produced by the ACC. The PwC June 2008 report did not contain sufficient documentation of this reliance or of the verification and validation processes employed by PwC to assess the reasonableness of those costings.

The PwC December report notes that PwC has received some information from ACC on these costing, but has been unable to verify all the assumptions.

We understand that ACC undertook additional work on these costings, that this work largely confirmed the original costings, and that PwC was satisfied with the additional analysis. However, this analysis has not been documented in PwC's report. It is important that details of the impact of any legislative changes be quantified and documented.

6.8 Valuation Methods

We note that many of the valuations use a "payments per active claim" approach. This is most appropriate where a single claimant continuously receives a payment month after month or year after year. There are some payment types where the payments for year to year do not relate to the same claims (for example elective surgery). It would be worth PwC considering alternative valuation methods for these payment types and in

particular investigating any links between these payment types and the larger weekly or social rehabilitation payments.

Specific adjustments to the methodology should be considered for Non-Fatal Weeklies and Elective Surgery.

- For Non-Fatal Weeklies, we strongly suggest PwC investigate and document claimant dynamics in an attempt to better understand changes in continuance rates. Refer to Appendix D for further details.
- For Elective Surgery, we recommend PwC explicitly include waiting lists within its estimation methodology. Refer to Appendix J for further details.

7 Recommendations and Suggestions

This section sets out our recommendations and suggestions for PwC's valuation at 30 June 2009. We have categorised as "recommendations" the areas we believe the current approach or report is deficient and where we require further information to carry out our review. "Suggestions" are areas that, while not imperative, are considered worthy of further consideration by PwC.

7.1 Recommendations

1. Risk Margins - We recommend that risk margin analysis be updated before the next review of ACC's outstanding claims. This recommendation supports PwC's own recommendation. We recommend that, when the risk margin analysis is updated, this analysis should be fully documented, including commentary and analysis of actual historical volatility.
2. Non fatal weekly compensation – that PwC further attempt to refine their understanding of underlying continuance rates for claims that will remain on benefit even after successful completion of ACC's current long term claims project.
3. Social rehabilitation serious injury – NSIS provide PwC with their internal monitoring reports so that PwC may understand the impact of NSIS decisions more fully and respond in their future valuation estimates.
4. Independence allowance and lump sums - From the valuation report, it is not clear which future claims relate to the outstanding claims, and which relate to future accident years. It would be good if PwC could be clearer about this.
5. Elective Surgery - We recommend PwC explicitly include waiting lists within its estimation methodology.
6. Elective Surgery - We recommend that PwC specifically consider the impact of ageing in the superimposed inflation analysis and document the results of this work.
7. Non-regulated fee rates - PwC's estimates should include a provision for future rate increases where ACC's rates have moved away from market rates. ACC should ensure that it monitors rate pressures in order that these provisions can be estimated.

7.2 Suggestions

1. Non-Fatal Weeklies - We strongly suggest PwC investigate and document claimant dynamics in an attempt to better understand changes in continuance rates.
2. Elective Surgery - We suggest PwC review its superimposed inflation estimate. Factors that suggest a higher estimate may have been appropriate include the actual superimposed inflation rate in the most recent years and difficulties in addressing underlying cost pressures. We have included consideration of ageing as a recommendation.

3. Elective Surgery - We suggest ACC undertake a cost-benefit analysis of its budgeting procedures for elective surgery. This would consider, amongst other matters, the impact of waiting periods on weekly compensation costs and the ultimate cost of surgery.
4. As a general comment across the whole report, we found that:
 - (a) There was not a lot of commentary on trends in the experience and rationale for the selection of valuation assumptions, although the level of commentary continues to increase compared to PwC's previous reports. It would be helpful if the report (or appendices) contained more information comparing experience to the adopted valuation assumptions and commentary on the rationale for the selections.
 - (b) Greater disclosure of undiscounted as well as discounted liability estimates would be helpful for the reader.

8 Reliances and Limitations

8.1 Distribution and Use

This report is being provided for the sole use of the Department of Labour (the Department) for the purposes stated in Section 1 of this report. It is not intended, nor necessarily suitable, for any other purpose. This report should only be relied on by the Department for the purpose for which it is intended.

We understand that the Department may wish to:

- Provide a copy of the report to the ACC, Ernst and Young (in their capacity as auditor to the ACC) and PwC.
- Publish this report on its website.

Permission is hereby granted for such distribution on the condition that the entire report, rather than any excerpt, be distributed. No other distribution of this report is permitted without our prior written consent.

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.

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.

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 purposes 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.

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

8.2 Data and Other Information

Finity was provided with PwC's valuation report that is the subject of this review. We have relied on the accuracy and completeness of all data and other information (qualitative, quantitative, written and verbal) provided to us for the purpose of this report. We have not independently verified or audited the data. It should be noted that if any data or other information is inaccurate or incomplete, we should be advised so that our advice can be revised, if warranted.

8.3 Nature of the Review

This quality assurance review is a review for reasonableness. It should be noted that the quality assurance review has not provided (nor is it intended to provide) an independent estimate of the liabilities for ACC. Nor is this quality assurance review intended to provide verification that each of the detailed calculations underlying the calculation of the liabilities is correct. The review does not extend to providing a guarantee of PwC's advice.

It is not possible to put a value on insurance liabilities with certainty. As well as difficulties caused by limitations in the historical information, outcomes remain dependent on future events, including legislative, social and economic forces. Deviations are normal and are to be expected. Whilst the quality assurance review may act to increase the confidence in the judgements made in selecting assumptions, it does not reduce the inherent uncertainty of the eventual outcome.

Part III Appendices

A Methodology

This section includes our commentary on PwC's adopted valuation methodologies.

A.1 Payments Per Active Claim Method

Quarterly Payments per Active Claim models are adopted for valuing the following payment types:

- Non fatal weekly benefits
- Fatal weekly benefits – dependants and spouses are modelled together. Adjustments are made to allow for spouse capitalisations
- Medicals – split into short term (consisting of GPs, physiotherapists and radiologists) and other
- Social rehabilitation non serious injury – excluding capital
- Vocational rehabilitation
- Elective surgery
- Independence allowance (modified – see Section A.3 below).

Active claims are defined as claims that received at least one payment of the type being valued in the quarter. There is a separate model for each account, although the assumptions adopted for each of the work accounts are the same, as are the assumptions for each of the earners accounts.

The expected number of active claims in the first 30 development years (i.e. duration post injury) were projected based on valuation assumptions derived from historic trends in the number of active claims. The number of active claims beyond development year 30 were set after considering the age profile of currently active claims, and future discontinuance assumptions allow for retirement and death only.

Past payments are inflated as described in Section 3.2. Payments per active claim (PPAC) in current values are calculated and valuation assumptions selected.

Seasonality is allowed for in the active claims and payments.

Allowance is made for future inflation and discounting (see section 3). Allowance for superimposed inflation for each payment type is discussed Appendices B to O.

A.2 Payment Decay Method

The payment decay method is adopted for the following payment types:

- Social rehabilitation non serious injury – capital
- Other rehabilitation – separately for backdated attendant care and non backdated attendant care.

This method involves analysis of the decay in total payments by duration from accident.

A.3 Individual Claim Projection

Individual claim projection is used to produce estimates for Social Rehabilitation (Serious Injury) and Independence Allowance payment types.

Social Rehabilitation for Seriously Injured Claimants

An individual claim model is adopted for valuing social rehabilitation for seriously injured claimants. Serious injury is defined by injury type (see Appendix B).

Splitting out serious injuries in the valuation is a sensible approach given the differences in the shape and duration of the payments in question and the improvements in projections potentially generated by obtaining detail on individuals' age, attendant care requirements and other personal details.

For "established" accident periods, PwC project future attendant care costs for each currently active individual claim allowing for:

- Age
- Injury
- Current payments.

Discontinuance is incorporated for higher than population mortality. This loading differs by injury with more severe injuries receiving a heavier loading.

For less mature accident years, payments are projected based on the mix of injuries and reflecting historical averages for each injury. We understand that other claimant characteristics such as age are also taken into account.

Allowance is made for yet to be reported claims (IBNR) for which historical average assumptions are adopted.

Independence Allowance

PwC used a variant of the PPAC method, with payments per claim determined on an individual claims basis to take account of their injury severity. This is a refinement to PwC's methodology for this payment type compared to the previous review. The standard PPAC methodology is not thought to be appropriate because of changes in legislation over time, claimants' option to capitalise, and change in the injury mix profile over time. It is reasonable to adapt the methodology to reflect these features of the experience.

A.4 Payments per Claim Settled

PwC used a payment per claim settled approach for lump sums separately for asbestos related and non asbestos related claims. The method involves first estimating the number of future claims for each accident period. The estimated future liability is obtained by multiplying this by an assumed average claim cost. This amount is then inflated and discounted to the valuation date.

A.5 Ambulance and Bulk Billing

PwC's estimated provision is 2% of the total paid for this payment type in the year prior to the review. We note that this payment type only covers the cost of emergency transport within the first 48 hours of an accident occurring. We understand that these claims are paid shortly after the ambulance transport is provided, which results in a low level of outstanding claims. The costs of ambulance treatment more than 48 hours after an accident are generally paid indirectly by ACC through partial funding of Public Health Acute Services (PHAS).

A.6 Claims Handling Expenses

PwC estimate claim handling expenses as a proportion of future claim payments. Separate assumptions are made by category of expense, account and duration since injury.

A.7 Changes since December 2008 Valuation

There have been no changes in methodology since the December 2008 valuation. PwC is now allowing for future Cabinet-approved and regulated rate increases. Further details are given in Section 4.

A.8 Conclusion

The methods adopted for each payment type are appropriate. However, specific adjustments should be considered for Non-Fatal Weeklies and Elective Surgery.

- For Non-Fatal Weeklies, we suggest PwC investigate and document claimant dynamics in an attempt to better understand changes in continuance rates. Refer to Appendix D for further details.
- For Elective Surgery, we recommend PwC explicitly include waiting lists within its estimation methodology. Refer to Appendix J for further details.

B Social Rehabilitation for Seriously Injured Claims – Non Capital

B.1 Active Claim Numbers

The National Serious Injury Service (NSIS) continues to identify existing claims and is responsible for categorising “serious injury”. This has led to further increases in the number of serious injury claims than was previously allowed for.

PwC project numbers of active claims (the most significant and sensitive assumption to assessed liability) by considering the following:

- Starting number of active serious injury claims
- Mortality
- Discontinuance (but remaining a serious injury)
- Reactivation of previously discontinued claims
- Reclassifications between serious and non-serious injury and
- New claims.

Because the initial number of serious injury claims has risen the liability has also increased. We note that for historical injury years, the level of payments made to claims reclassified as serious injury is a direct input into the valuation models. Since the claims that have been recently reclassified as serious injury are generally at the lower end of injury severity (for serious injury claims) the liability does not increase proportionately to the increase in claim numbers.

The numbers of active claims at March 2009 (3,995) was close to (102% of) the expected numbers based on PwC’s projections made at September 2008. Within the sub components of PwC’s projections:

- A net 87 claims greater than expected discontinued for reasons other than mortality and reclassification
- Actual deaths and new claims were close to expected
- Reclassification between non-serious and serious injury resulted in a net additional 113 serious injury claims.

PwC note that ACC had previously advised not to expect further transition to serious injury. However, a review by ACC in March 2008 resulted in the transfer noted above. ACC now suggest that further claims may be found that should be reclassified to serious injury in the future but that the rate will be considerably lower than has been the case recently. Moreover, there is an expectation of a momentum shift to reclassification back to non-serious injury in situations where the claimant is coping sufficiently well with the level of injury sustained and close management by NSIS is no longer considered necessary.

B.2 Claim Payments

Payments in the period are in line with expectations. When payments on deaths and new claims are excluded, actual payments in the six months to March 2009 were \$110.5 million actual versus an expected amount of \$110.4.

Given the underlying variability in payments that are possible within six month time periods this result is pleasing but should not in itself be viewed as an abatement of previously observed poor experience. Factors to be considered here include:

- Processing delays of services by agencies or ACC could mask the true cost of the March 2009 six month period.
- PwC's expected level of payments does incorporate 5% p.a. superimposed inflation.
- Period on period volatility does exist and trends over longer time periods are important to take into account.

The Motor Vehicle, Non-Earners and Treatment Injury Accounts represent 77% of actual and expected payments for the six months to March 2009. For these accounts actual payments were 97% of expected.

Across all Accounts, newer accident periods are performing more favourably than accidents from periods prior to 2001. This may be a logical outcome of the impacts achievable by NSIS in the short term as the older accidents are likely:

- (a) Yet to be fully reviewed by NSIS and have their care programs updated
- (b) To have greater inertia to change.

B.3 Valuation Approach

For this review PwC has completed more thorough analysis of historical increases in care packages. This has been driven by:

- ACC providing better, detailed information provided on fee rates for home based rehabilitation (agency and private care).
- Liabilities now incorporating best estimates for future fee rates (previous estimates incorporated allowance for future LCI only increases).

In all other respects, the valuation approach adopted by PwC remains unchanged from previous reviews.

B.4 Growth in Payments

PwC has been able to drill down into the drivers of historical poor payment experience and has quantified contributions from:

- Impacts other than from past fee rate increases:
 - ▶ Transfer to more expensive agency based care from private care
 - ▶ Increase in the number of hours of care provided
- Past hourly fee rate increases.

The assessment of these drivers is appropriately based on claims more than four years post accident date so that issues relating to stabilisation of injury and care requirements do not confuse conclusions drawn.

Actual fee rates between 2006 and 2009 were made available to PwC. PwC assume LCI as an approximation for rate increases that occurred before 2006. PwC also comment that there was little in the way of rate increases for several years prior to 2006 and so it may be that zero fee rates changes would also be a reasonable assumption for those periods. If this alternate assumption were adopted the measurement of superimposed inflation attributable to impacts other than from past fee rates in 2005 and 2006 would be assessed to be higher than indicated in PwC's report.

PwC measure growth in payments over and above fee rate increases averaging 3.8% over the last five years; PwC's assumption for this in the previous valuation was 5%. If PwC assumed rates increases between 2004, 2005 and 2006 were zero instead of LCI, then the average actual increase over the five years would have been measured at around 5% per annum (with 2005 increased from 1.8% to 3.3% and 2006, increased from 3.9% to 6.9%).

The difference between the two views on past increases over and above historical fee rate changes is not material in the context of measuring contributions to cost drivers. This new, more detailed fee rate information made it possible for PwC to confirm the reasonableness of their previously assumed short term superimposed inflation allowance of 5% per annum.

Similar to conclusions of previous reviews the bulk of the historical poor performance remains driven by claims where care packages are being paid at a level below the average for their injury. Whether this feature of "below average" claims is related to private care (lower rate than agency) moving to agency or a more general increase in hours of care is not stated by PwC. However, PwC were able to split the 6.7% above fee rate payment increase for the 2009 year between transfer to agency care (+4.0%) and increasing care packages (+2.7%) so it may be that both are contributing.

B.5 Transfer to Agency Care (+4.0% in 2009)

PwC's assessment of the historical level of and cost impacts of transfers seem reasonable. Transfer from private to agency care is assumed to be associated with a 55% cost increase; this is the difference between the hourly fee rates at present. Transfer from non-care to agency care is assumed to increase care package costs by 35%, broadly equivalent to an

average of the measured impact of these types of transfers over the previous two years. This suggests that those receiving non-care are at the least severe end of the injury spectrum. A 35% increase translates roughly to increasing annual costs from around \$16,000 pa to around \$21,000 pa whereas the overall average payment for agency based care last year was \$115,000.

The assumptions chosen for future transfers to agency care appear reasonable considering historical experience and the expected dynamic due to recent withholding tax changes. PwC's assumption for total cost changes due to the transfer implicitly assume no one-off changes to hours of care between private and agency based providers. Maintaining hours seem reasonable noting that increases in care packages are allowed for separately.

The impact of transfers to agency based care is a superimposed inflation rate of 3.9% in 2009 reducing to 0.3% in 2020. Based on the discussion presented by PwC this appears reasonable.

B.6 Growth in Hours of Care (+2.7% in 2009)

PwC separate out the pure effect of growth in the hours or level of care by allowing for both historical fee rate changes and also for claims that transferred from private care or non-care to agency based care. Between 2008 and 2009 increases to the level of care provided inflated care costs by 2.7%. PwC has further analysed the contribution by the main provider of care showing that the vast majority resulted from agency based care (2.6% of the 2.7%).

PwC's selected future growth rates in the short term are consistent with that observed in the two years to 2009 and are reasonable.

In terms of fully describing the historical drivers of cost increases in this category it would be useful to interrogate the "NSIS Monitoring Tool" referred to in PwC's report. We would envisage using this information to understand the likelihood of program changes moderating going forward.

B.7 Fee Rate Increases (+8.2% p.a. over past 5 years)

For this review PwC has been instructed to allow fully for all future fee rate increases including those that require Cabinet approval and that previously had not been included.

For social rehabilitation this change results in future costs increasing at a faster underlying rate than LCI. PwC has documented their approach which is to assume hourly rates increase above LCI by 2.0% until 2010 and then at 1% above LCI thereafter. This allows for a continuation of the trend in attendant carer hourly rates closing the gap to average weekly earnings.

B.8 Total Projected Growth in Care Costs

Total historical and projected growth in care costs is depicted in the table below:

Table B.1 – Historical and Projected Growth in Care Costs

Year	2005	2006	2007	2008	2009	2010	2011	2012
<i>Transition to agency Growth in care hours</i>					3.9%	3.7%	2.7%	1.3%
					2.7%	2.2%	2.3%	2.2%
Growth in payments on active claims	1.8%-3.3%	3.9%-6.9%	6.9%	-0.6%	6.7%	6.0%	5.0%	3.5%
Rate increases > LCI*	3.5%-5%	2% - 5%	5.0%	5.0%	5.0%	0.0%	2.0%	2.0%
Private carer regulations							1.0%	
Above LCI inflation	6.8%	8.9%	11.9%	4.4%	11.7%	6.0%	8.0%	5.5%
LCI	2.5%	3.2%	3.2%	3.4%	3.3%	2.0%	2.0%	2.5%
Total Growth in Care Costs per Claim	9.3%	12.1%	15.1%	7.8%	15.0%	8.0%	10.0%	8.0%

*2005 to 2009 = approximate average over past 5 years

In total, the greater than LCI inflationary pressure assumed by PwC is around 6% in the short term (reducing to 2% long term). This compares with an approximate five year average to 2009 of 8% to 9%. The main difference between the historical and projected above LCI inflation relates to carers' hourly fee rates. Based on the analysis and arguments described by PwC we do not feel that the assumptions adopted by PwC for future fee rates are unreasonable.

In addition, the high growth observed in the 2009 year is almost entirely driven by changes from private to agency based care which is in turn a direct result of changes to withholding tax arrangements. There are early indications that this rate of transfer is abating.

Conclusion

Based on the information in PwC's report plus discussions between ACC, PwC and ourselves we are satisfied that the overall level of superimposed inflation is appropriate for social rehabilitation for these claims at this time.

We support PwC's long term rate being different to a short term superimposed inflation assumption. The short term assumption is supportable by recent experience and does not appear unreasonable. However, there is no abatement in the historical level of superimposed inflation over recent years and PwC currently assume reversion to substantially lower long term rates in three years time. We support PwC reviewing the future duration of higher short term superimposed inflation should experience continue at current levels for the remainder of 2009 and beyond.

B.9 Other Assumptions

Short term assumptions of actives, discontinuance and new claims have responded to recent experience and appear reasonable.

B.10 NSIS

The approach adopted by NSIS is continuing to evolve; most recently we have been advised that management of continuing claims will proceed differently for claimants in a reasonably stable injury management stage compared with claimants in some state of lifestyle flux such as:

- Leaving school or home
- Requesting a program change
- Other transition arrangement has been requested.

The description provided to us of the approach being adopted by NSIS for claims management is consistent with our understanding of best practice management of catastrophically injured claims. Key to maintaining favourable outcomes is for NSIS to continue with consistency and confidence in decision making in which will be aided by consistent application of functional measures (FIM, FAM, wee FIM or ICAP) to segment injuries and assess appropriate case programs.

We have been advised that for all claims, NSIS has maintained a record of the impact of their intervention on claimants' programs. However, at this stage we have not been provided with these reports. PwC has also advised that they have not been provided with NSIS internal management reporting with regard to highlighting successful interventions/program design.

We believe that it is crucial that NSIS or other internal ACC actuarial reporting on the results of NSIS interventions be made available to PwC for their assessment of liability at future dates.

B.11 Liability Estimates

The 30 June 2009 outstanding claims liability projected from 31 December 2009 for Social Rehabilitation for Serious Injury (excluding Capital) is \$6,520 million. The same liability projected from 31 December 2008 was \$5,439 million. The PwC report explains the \$1,080 million difference to that projected from the June 2007 in their report. The following tables summarise the reasons for the increase.

Table B.2 – 30 June 2009 Liability, Social Rehab Serious Injury – Non Capital (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	541	118	-35	623	22%	10%
Employers	88	17	-6	100	19%	2%
Treatment Injury	797	256	-61	992	32%	15%
Motor Vehicle	2,135	586	-152	2,569	27%	39%
Non Earners	1,488	378	-106	1,760	25%	27%
Partnership Program	0	0	0	0	0%	0%
Residual Non Work	232	60	-15	277	26%	4%
Residual Work	146	48	-10	184	33%	3%
Self Employed	12	3	-1	15	25%	0%
Total	5,439	1,466	-386	6,520	27%	100%

(*) Percentage change due to experience and model change only.

Of the non-economic driven increases to non-capital liability of \$1,466 million, the vast majority (\$1,257 million) relates to allowing for future fee rate increase over and above LCI (described in Section 4).

We believe that the valuation assumptions now adopted by PwC reflect a central estimate of the future claim payments associated with this payment type.

B.12 Social Rehabilitation, Serious Injury - Capital

For this review, PwC has introduced differences in capital costs by Account (as well as by injury previously adopted). The assumptions adopted by PwC appear reasonable.

The following tables summarise the projected and revised liability for Capital payments.

Table B.3 – 30 June 2009 Liability, Social Rehab Serious Injury - Capital (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	120	-4	-6	110	-3%	11%
Employers	24	2	-1	25	8%	3%
Treatment Injury	106	37	-8	136	35%	14%
Motor Vehicle	415	-18	-21	376	-4%	39%
Non Earners	206	2	-11	197	1%	21%
Partnership Program	0	0	0	0	0%	0%
Residual Non Work	69	-2	-3	64	-3%	7%
Residual Work	46	1	-2	45	2%	5%
Self Employed	5	0	0	5	0%	1%
Total	992	19	-54	957	2%	100%

(*) Percentage change due to experience and model change only.

The revised liability is close to that projected from 31 December 2008.

B.13 Conclusion

In the context of removal of PwC's scope limitation which previously prevented projected fee rates increasing above LCI, we have concluded that the methodology and assumptions, including short and long term superimposed inflation, are appropriate. Based on our review we conclude the liability for this payment type is not unreasonable.

B.14 Recommendations

We continue to recommend that as NSIS or other internal ACC actuarial reporting on the results of NSIS interventions become available that they be passed on to PwC for their assessment of liability and (re)assessment of superimposed inflation.

C Social Rehabilitation for Non Serious Injuries

Social Rehabilitation for Non Serious Injuries values the provision of all of the same payments as Social Rehabilitation in the preceding section but for non-seriously injured claimants.

The valuation assumption for long term superimposed inflation has been updated for this review and is now consistent with that for Social Rehab for Serious Injuries. We believe this is appropriate.

C.1 Result

The 30 June 2009 outstanding claims liability for social rehab non capital, is \$577 million. The following table shows this liability as at 30 June 2009 (projected from 31 December 2008) by Account compared with the same estimate projected from 30 June 2008 data.

Table C.1 – 30 June 2009 Liability, Social Rehab Non Serious Non-Capital (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumption s	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	81	18	-4	95	22%	16%
Employers	34	9	-2	41	26%	7%
Treatment Injury	87	19	-5	101	22%	18%
Motor Vehicle	105	26	-6	125	25%	22%
Non Earners	112	10	-4	117	9%	20%
Partnership Program	4	1	0	4	25%	1%
Residual Non Work	20	9	-1	28	45%	5%
Residual Work	38	22	-3	57	58%	10%
Self Employed	7	2	0	8	29%	1%
Total	489	115	-27	577	24%	100%

(*) Percentage change due to experience and model change only.

Payments in the six month period were slightly greater than expected. Assumed payments per active claim have changed slightly since PwC's previous review to reflect this experience. However the larger impact resulting in the 30 June 2009 provision being higher than projected is the allowance for future Cabinet-approved and regulated rate increases.

Table C.2 – 30 June 2009 Liability, Social Rehab Non Serious Capital (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	35	-9	-1	25	-26%	4%
Employers	13	-1	0	11	-8%	2%
Treatment Injury	30	-1	-1	28	-3%	5%
Motor Vehicle	53	-1	-2	49	-2%	8%
Non Earners	24	-2	-1	21	-8%	3%
Partnership Program	4	0	0	4	0%	1%
Residual Non Work	15	2	-1	16	13%	3%
Residual Work	458	13	-20	450	3%	74%
Self Employed	3	0	0	3	0%	0%
Total	634	-1	-27	607	0%	100%

(*) Percentage change due to experience and model change only.

Overall experience and modelling changes for non serious capital payments were negligible.

C.2 Valuation Assumptions

Continuance Rates

The following charts show the continuance rates for various development quarters for all accounts combined.

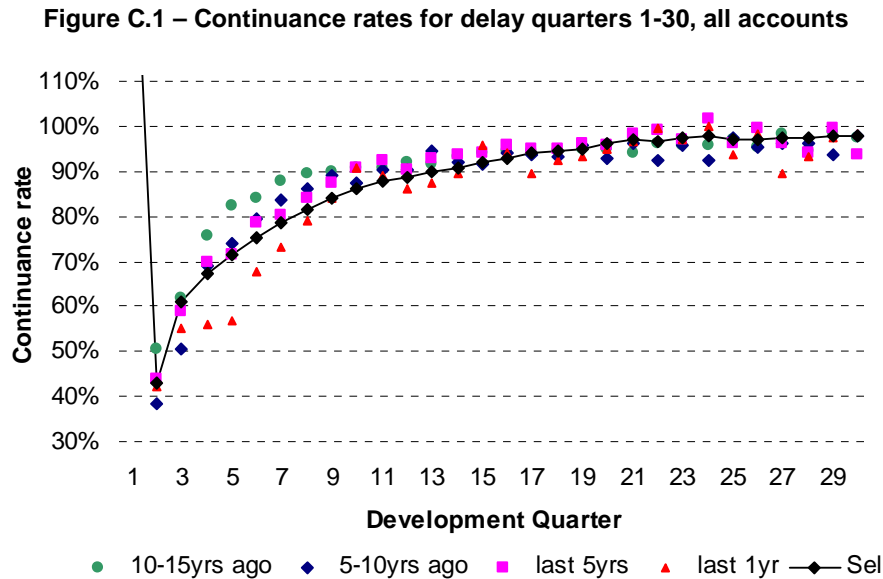
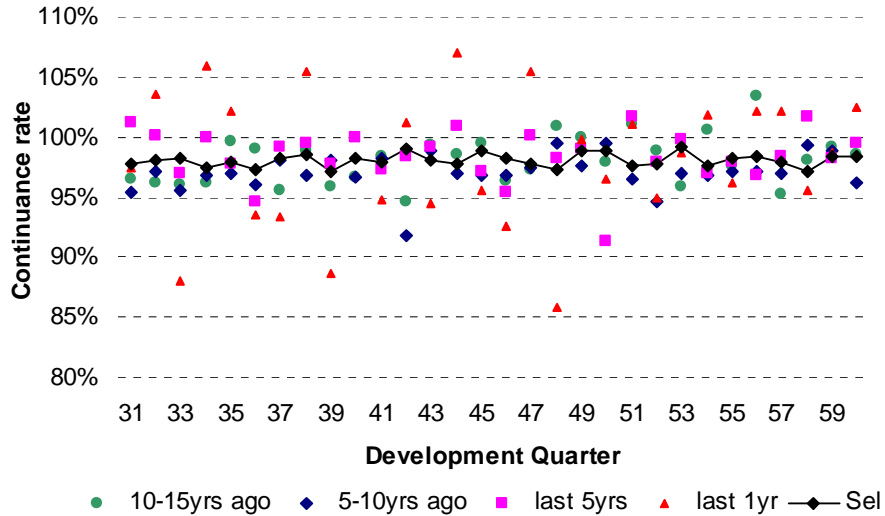


Figure C.1 above indicates that continuance rates for the early development quarters have been fairly stable over time though reducing from those 10 to 15 years ago. The selected rates appear reasonable.

Figure C.2 – Continuance rates for delay quarters 31-60, all accounts



In Figure C.2 above the actual experience is volatile and there is no discernable trend. The selections appear to be appropriate.

Figure C.3 – Continuance rates for delay quarters 61 and later, all accounts

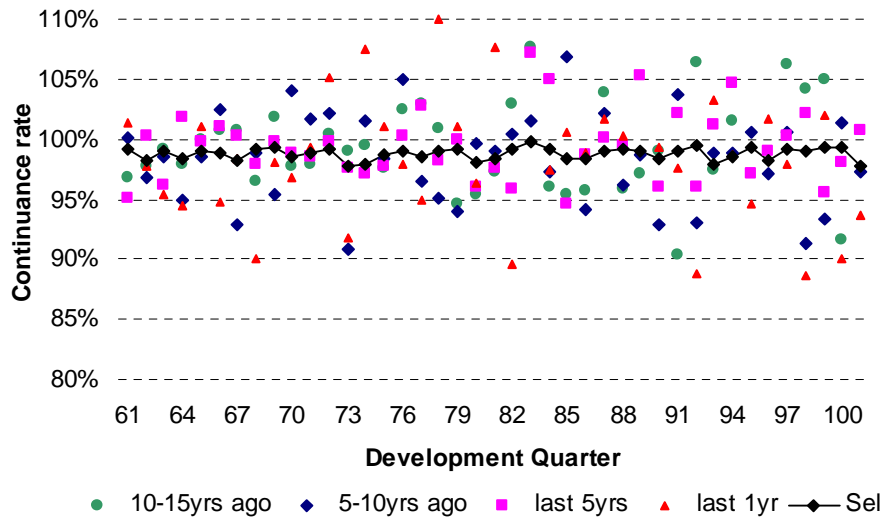


Figure C.3 also shows no clear trend in continuance rate experience over time. The selected rates for these later delay quarters are close to 100% and appear reasonable.

Overall we had no material concerns with the PwC continuance rates selected.

PPACs

The following charts show the PPAC assumptions for the same development quarter groupings as for continuance rates above, across all accounts.

Figure C.4 – PPACs for delay quarters 1-30, all accounts

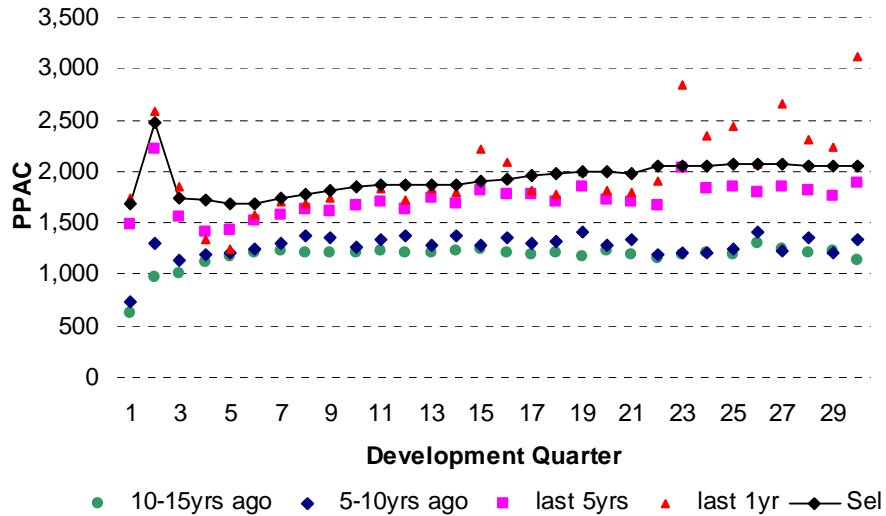


Figure C.4 illustrates that the level of PPACs has increased from 10-15 years ago. In fact the most recent year's experience is higher than the average of the last five years. PwC's selection is in line with the very recent experience.

Figure C.5 – PPACs for delay quarters 31-60, all accounts

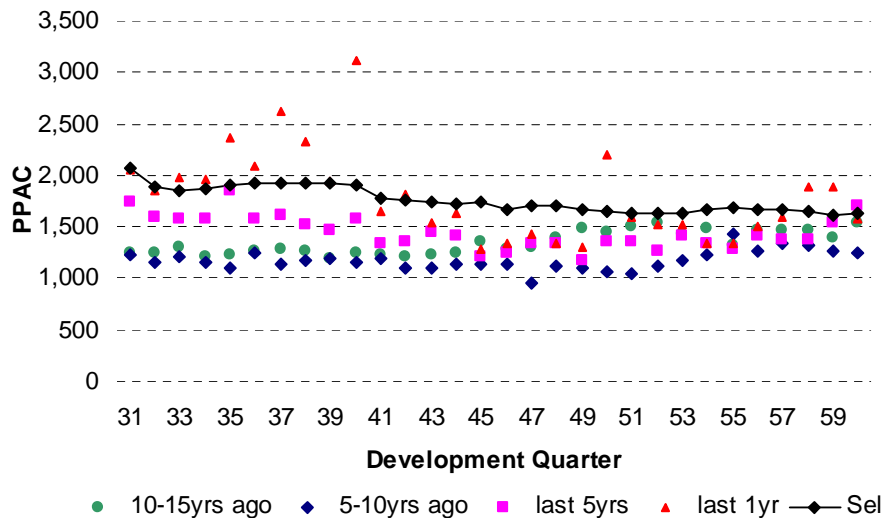


Figure C.5 shows that the recent experience is in line with PwC's assumptions.

Figure C.6 – PPACs for delay quarters 61 and later, all accounts

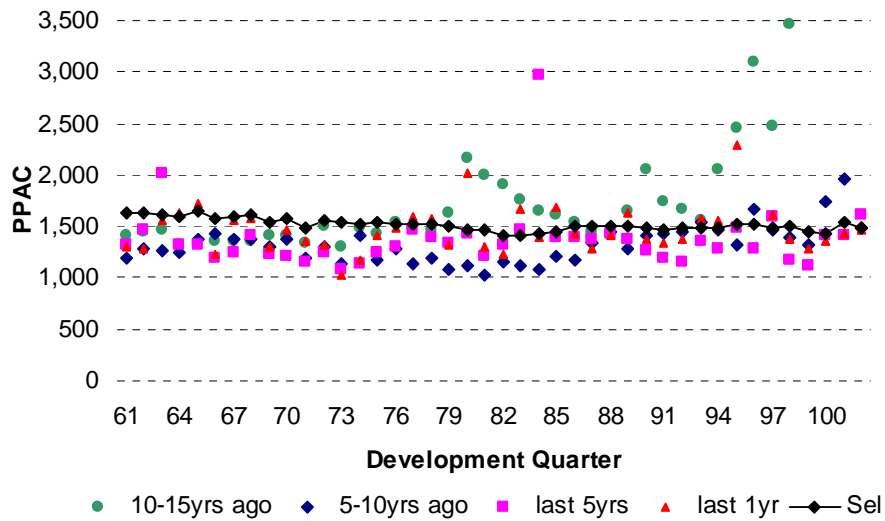


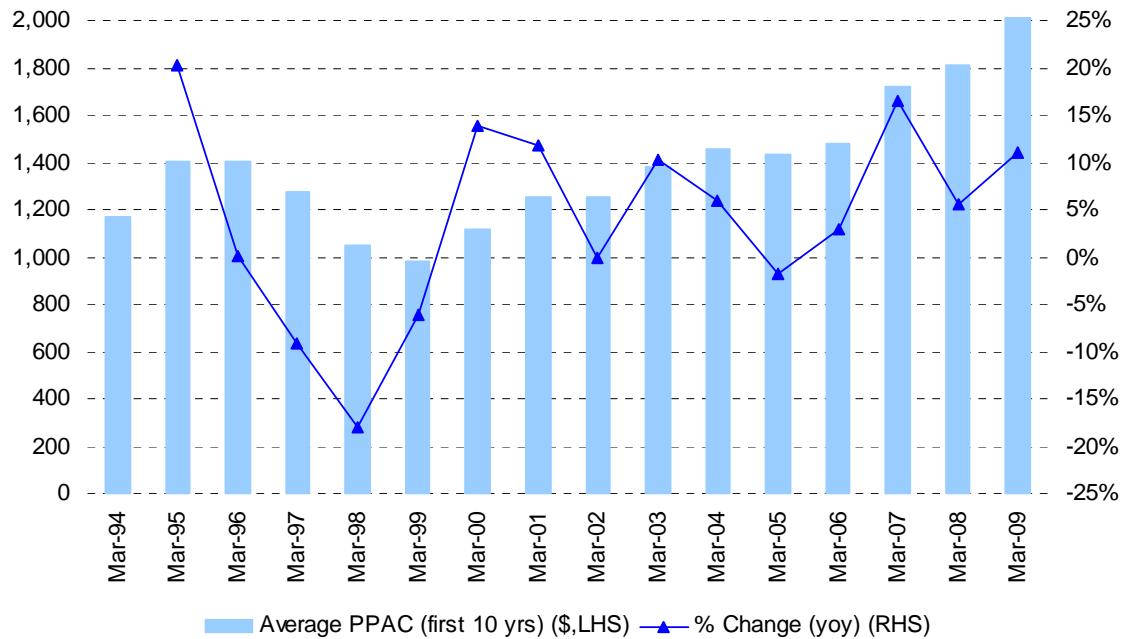
Figure C.6 shows similar experience regarding the levels of PPAC for different experience periods. PwC has selected PPACs in line with experience.

The average quarterly PPAC for social rehab non-serious stabilises at around \$1,500 in the long term. The selected amounts appear reasonable.

Superimposed Inflation

Figure C.7 below shows the average inflation-adjusted quarterly PPAC within a financial year for payments made between year 3 and year 10 after accident, across all accounts.

Figure C.7 – PPACs by payment year (3-10 years post accident), all accounts



If we measure superimposed as being the increase in the PPACs above, then superimposed inflation was:

- 7% p.a. over the last 10 years, and
- 7% p.a. average over the last five years.

Note that the inflation adjusted PPACs above do not allow for historical above inflation fee rate increases.

PwC select rates of 1.0% p.a. for 2010, 2.5% p.a. between 2011 and 2020 and 2.0% p.a. thereafter for non-capital and zero for non-capital.

Given the similarity in cost drivers in the long term between non-capital payments and the equivalent but for seriously injured claimants, we would expect the long term superimposed inflation assumption to be the same for both.

For capital payments, the profile of services is quite different between serious and non-serious. Non-serious claimants' payments are predominantly hearing aids which had previously spiked but are now showing more favourable experience. Serious injury claims capital requirements relate more to home and vehicle modifications and equipment for daily living which have the potential for longer term positive superimposed inflationary pressures. Different rates of long term superimposed inflation for capital between serious and non-serious claims is reasonable.

C.3 Conclusions

Based on our review we conclude that the methodology, assumptions and liability estimate for this payment type are not unreasonable.

C.4 Recommendations

Nil

D Non Fatal Weekly Benefits

Non fatal weekly benefit comprises income replacement payments made to claimants.

D.1 Results

The outstanding claims liability at 30 June 2009 for Non-Fatal Weeklies is \$6,261 million. This compares to the 30 June 2009 outstanding claims liability projected at 31 December 2008 of \$5,885 million. The following table shows the change in estimates from PwC's valuation.

Table D.1 – 30 June 2009 Non-Fatal Weeklies (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	1,646	4	-39	1,611	0%	26%
Employers	781	142	-23	899	18%	14%
Treatment Injury	279	12	-9	282	4%	5%
Motor Vehicle	1,531	245	-67	1,708	16%	27%
Non Earners	333	2	-13	322	1%	5%
Partnership Program	85	12	-1	96	14%	2%
Residual Non Work	411	33	-13	431	8%	7%
Residual Work	658	96	-19	735	15%	12%
Self Employed	159	22	-4	177	14%	3%
Total	5,885	566	-189	6,261	10%	100%

(*) Percentage change due to experience and model change only.

The estimated liability for Non-Fatal Weeklies is approximately 30% of the ACC total. This is therefore one of the most significant payment types in terms of estimated liabilities.

Excluding the effect of changes in economic assumptions, the liabilities have deteriorated by 10% since the 31 December 2008 estimates were produced. The deterioration is largely due to an increase in PwC's continuance rate assumptions. The changes in continuance rate assumptions are a response to recognise fully the recent experience for claims that continue to receive payments for more than five years after accident.

The deterioration is greatest for the Work-related accounts and the Motor Vehicle account.

D.2 Key Findings

- Long term continuance rates have been deteriorating for several years. This means that people are remaining on weekly compensation for longer than has previously been the case.

- Another cost driver in recent years has been an increase in the number of people coming on to the weekly compensation scheme. However, the number of new claimants appears to have stabilised recently. In particular, recent experience has been better than expected by PwC.
- ACC has responded to the poor continuance rate performance by starting a Long Term Claims Project.
 - ▶ ACC expects initial results from the initiative by September 2009.
- PwC has responded to the poor continuance rate performance by increasing its continuance rate assumptions. This means PwC anticipates claimants will remain on the scheme for longer than was previously assumed.
 - ▶ Specifically, PwC has given more weight to the recent experience in selecting its assumptions, rather than taking an average over a longer period.
 - ▶ This has resulted in an increase in the estimated liabilities for this payment type.
 - ▶ PwC has not projected further deteriorations in continuance rates.
 - ▶ PwC has not explicitly anticipated the results of the Long Term Claims Project within its estimates.
 - ▶ PwC's assumptions are not unreasonable. However, if the deterioration observed in recent years continues then future costs will be higher than PwC's estimates.

D.3 Cost Drivers

Introduction

We have structured this section as follows:

- Summary of historical experience, separately for:
 - ▶ Claim Notifications
 - ▶ Claim Durations
 - ▶ Average Claim Costs
- Description of ACC's response – the Long Term Claims Project

Historical Experience

Broken down to the simplest interpretation, there are three key matters to consider when reviewing non-fatal weekly compensation:

1. How many new claims are being notified
2. How long claimants are receiving payments for

3. What the average amount paid to each claimant is

Over recent years, liabilities for this payment type have increased because:

1. The number of new claims is increasing.
2. Claimants are receiving payments for longer than was previously the case.

We note that these changes have a compounding effect, that is, there are more claims, and the cost of each claim is more expensive.

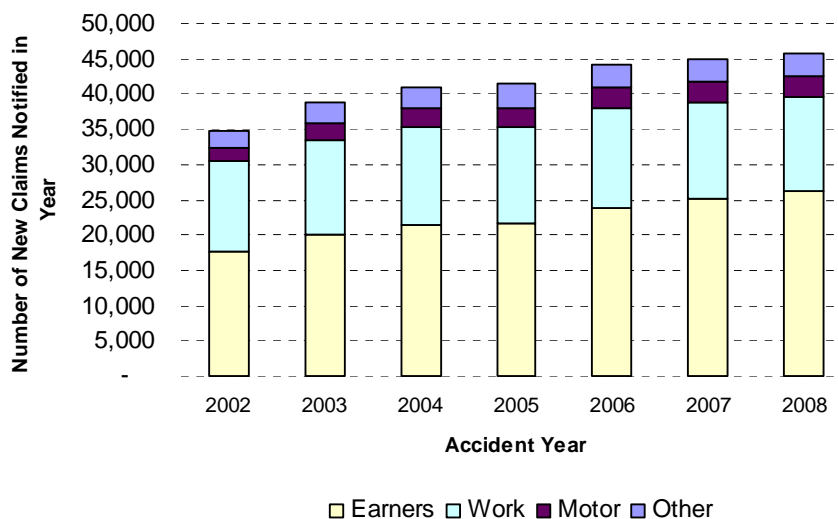
The most recent experience shows that, in the nine months to June 2009, the number of new claims was lower than expected. However, the number of new claims remains high compared to previous years. In addition, continuance of the older claims has continued to be worse than expected.

Payments are typically linked to pre-claim earnings, and have been broadly in line with PwC’s expectations in recent months. We consider each of the drivers in more detail below.

Claim Notifications

Figure D.1 summarises the number of new Non-Fatal weekly claims notified in recent accident years. Specifically, the numbers underlying the chart are the number of active Non-Fatal weekly claims at the end of the first development quarter, for each of the quarters in the accident year.

Figure D.1 – Number of Claim Notifications – By Accident Year



As shown in Figure D.1, the number of new claims has increased significantly in recent years. We separately show claim notifications for Earners, Work, Motor and all other accounts, and note that notifications have increased for every account.

Figure D.2 provides more detail on the number of claims notified in recent accident quarters.

Figure D.2 - Number of Claim Notifications – Recent Accident Quarters

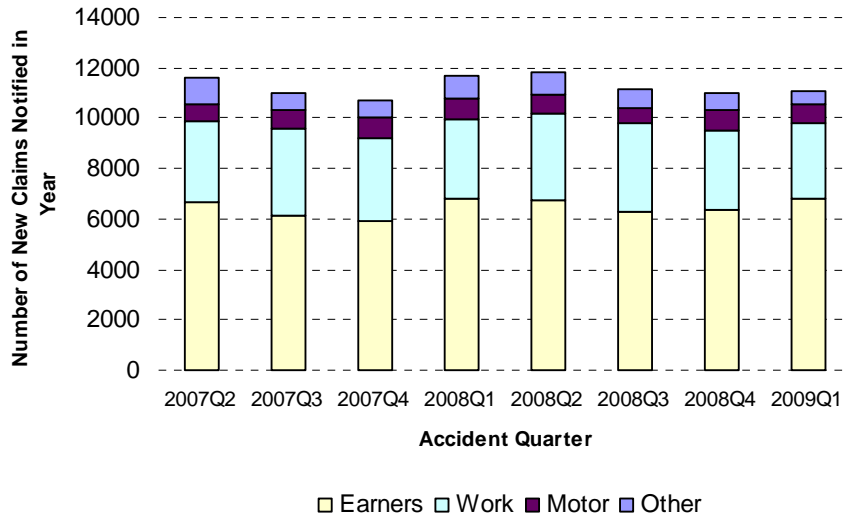


Figure D.2 shows that the number of new claims reported appears to have stabilised recently. In particular, recent experience has been better than expected by PwC in this regard. However, while experience may be better than expected, claims notifications remain higher than they were several years ago.

Claim Durations

Figure D.3 shows the proportion of claims that have continued to receive payments for more than a year. The figure is based on actual data for historical periods and PwC projections for future periods.

Figure D.3 – Proportion of Claims Continuing for More Than One Year

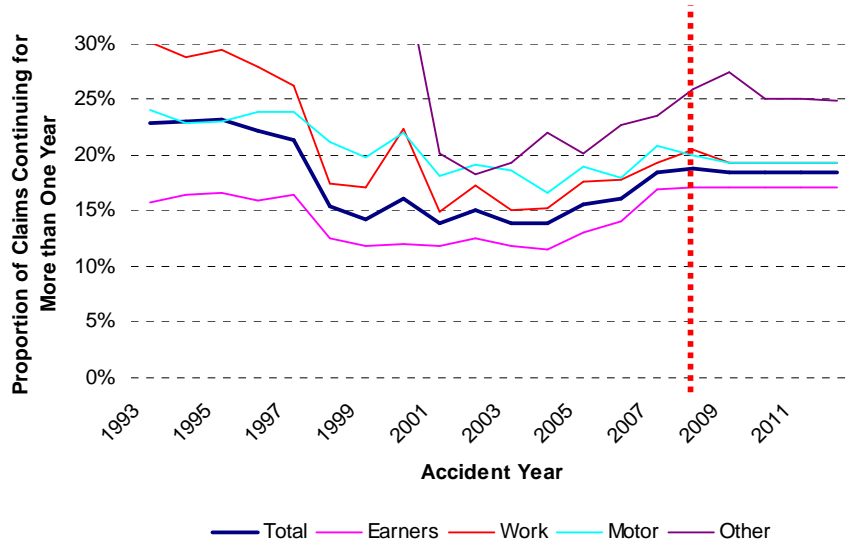
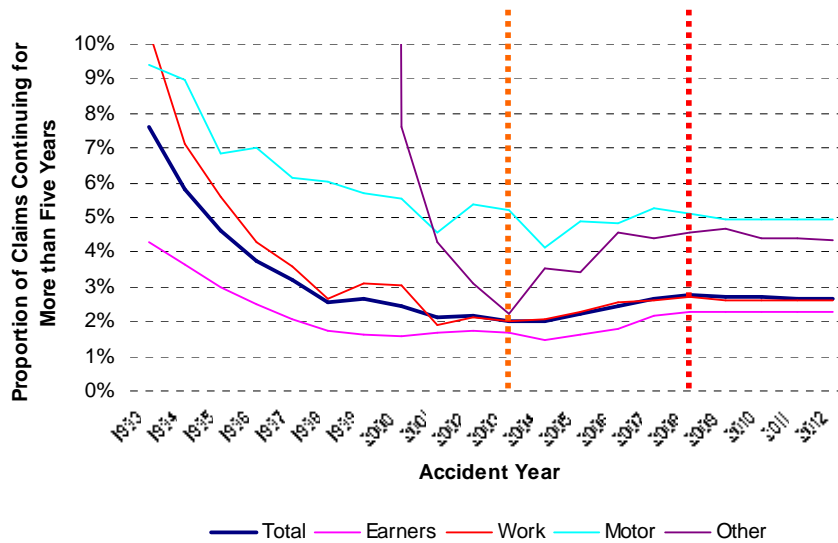


Figure D.3 shows that, since 2006, the proportion of claimants receiving benefits for longer than a year has increased following seven or eight years of lower and stable experience. On a total basis, the probability continuing for more than a year has increased from a low of 14% in 2004 to 18% at present. The same trend is evident for each account. However, the proportion receiving benefits for longer than one year is lower than was the case in 1997 and prior accident years.

Continuance rates have also deteriorated at durations beyond one year. Figure D.4 shows the proportion of claims that have continued to receive payments for more than five years. The figure is based on actual data for historical periods and PwC projections for future periods. Specifically, the 2003 and prior figures will be based entirely on actual data, the 2009 and post figures will be based entirely on PwC projections. The figures between 2003 and 2009 are based on a combination of actual and projected results.

Figure D.4 – Proportion of Claims Continuing for More Than Five Years



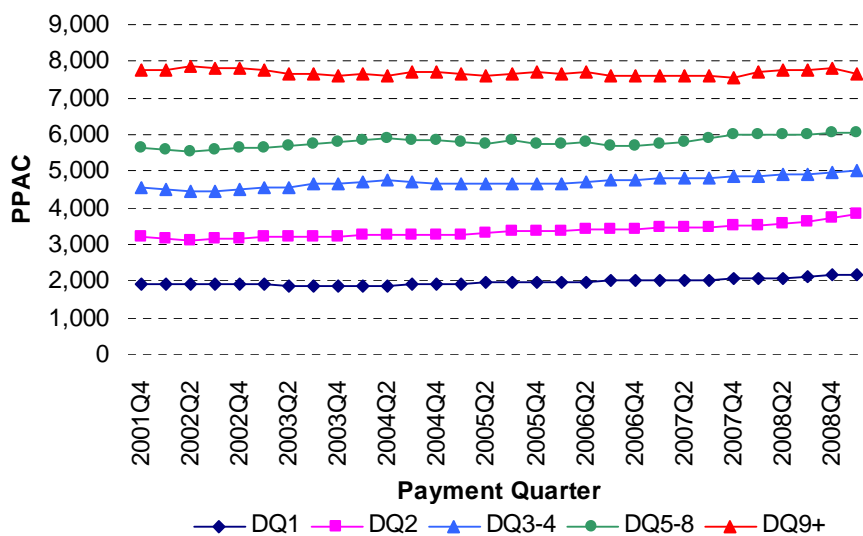
Our comments on Figure D.4 are similar to our comments on Figure D.3. The proportion of claimants receiving benefits for longer durations has increased. However, the proportion receiving benefits for long durations remains lower than it was in the mid-1990s, before ACC initiated a tail reduction project.

We comment on PwC’s assumptions in Section D.4 below.

Average Claim Costs

Figure D.5 summarises the average payments for this account over recent years. We have graphed the annual rolling average for each development quarter.

Figure D.5 – Payments per Active Claim



After adjustment for wage inflation the PPACs have increased only moderately over the period shown. Note that deteriorating continuance rates will also appear as PPAC deterioration in the chart above, with more claims receiving payment for the full quarter rather than just part of a quarter. This means that PPACs have not been the predominant cost driver for this payment type.

ACC Response – Long Term Claims Project

ACC has initiated a Long Term Claims project to address the poor experience for this payment type. We have discussed this project with ACC to better understand ACC's plans.

ACC has noted that, once an individual has been on weekly compensation for more than five years, they are unlikely to ever return to work. ACC will more actively manage claims of more than two and a half years (30 months) duration to attempt to return claimants to work. We understand that some long term claimants may not have been actively managed in the past.

ACC has established a team of claim managers for this project. The team will undertake structured file reviews for most people who have been claiming weekly compensation for more than 30 months (the exceptions being those most seriously injured). The team will then consider whether the claimant remains eligible for weekly compensation, or consider ways to return the claimant to work.

ACC piloted the project on a small sample of claims. ACC was satisfied by the pilot results, which resulted in a number of claimants leaving the scheme. As a result of the pilot, a full project was initiated effective 1 July 2009. ACC expected to see initial results from the project by September 2009. Experience of the pilot and the initial months of the scheme should be used to set expectations for all claim managers on the project.

Greater focus on long term claims has the potential to reduce claim liabilities. Examining claims of more than 30 months duration should help to address legacy problems. If the project is successful, it would be appropriate to start actively managing claims earlier, after not more than 24 months on weeklies.

D.4 Valuation Assumptions

Introduction

This section contains our review of PwC's assumptions. We also make more general comments on PwC's approach.

Continuance Rates

The following charts show the continuance rate experience and PwC's assumptions for all accounts combined. For the experience, we have show the averages across the last

year, the last five years, the five years before that (i.e. 5 to 10 years ago), and the five years before that (i.e. 10 to 15 years ago).

Figure D.6 – Continuance Rates for All Accounts – Development Quarters 1 to 30

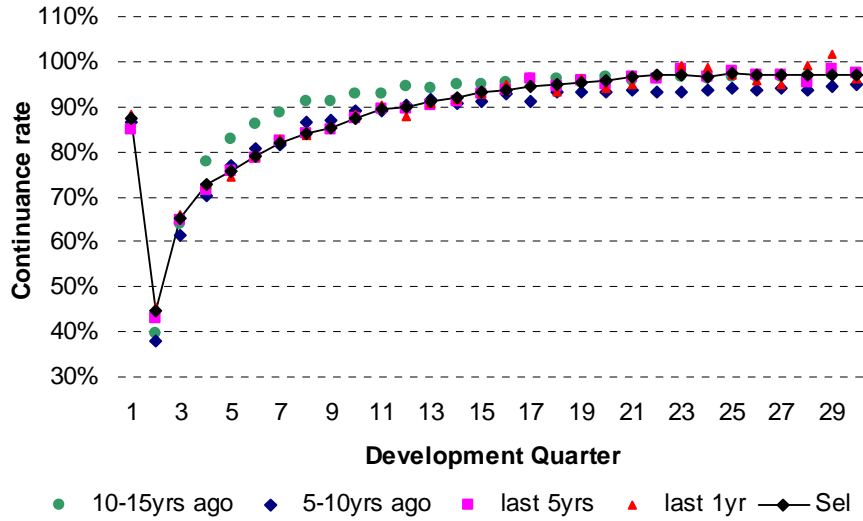


Figure D.7 - Continuance Rates for All Accounts – Development Quarters 31 to 60

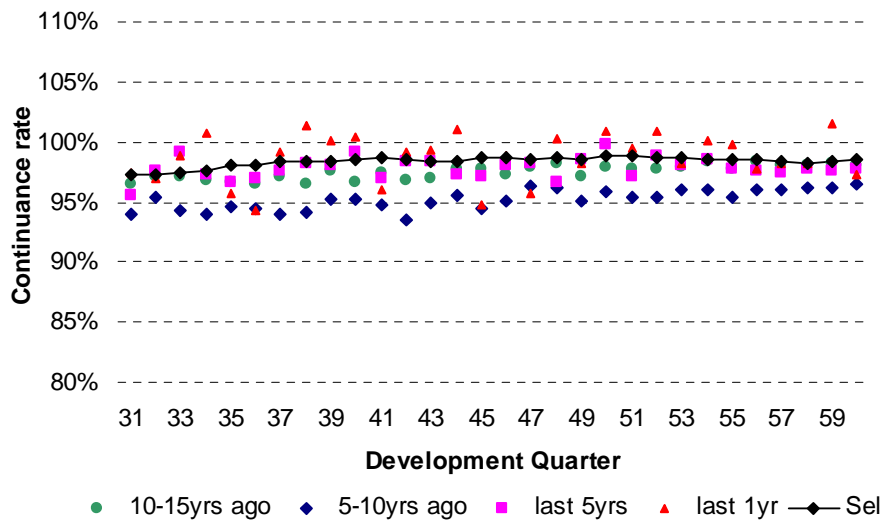
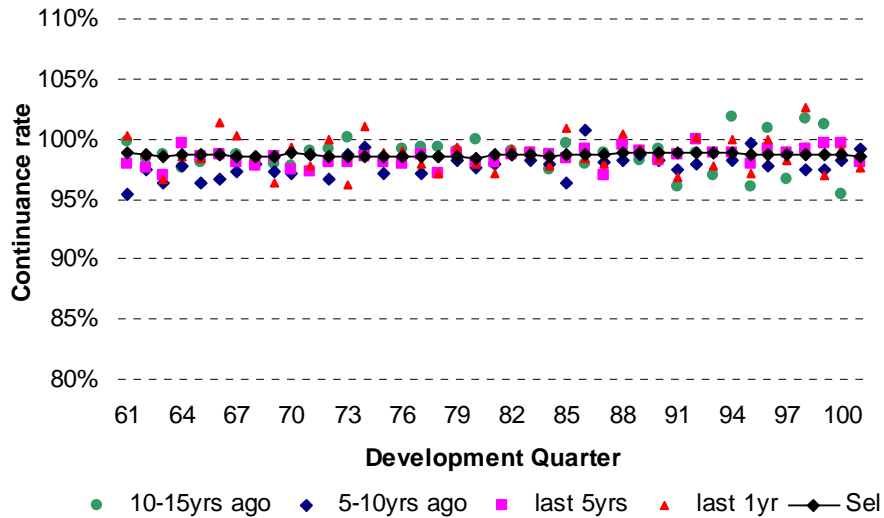


Figure D.8 - Continuance Rates for All Accounts – Development Quarters 61 to 100



We commented on trends in continuance rates in Section D.3. For early development periods (development quarters 4 to 20) continuance rates are now much lower than they were 10 to 15 years ago. However, for later development periods (development quarters 20 to 60), the continuance rates now are higher than they were 5 to 10 years ago. In the tail (development quarters 60+) continuance rates are close to 100%. This suggests that after five years claimants are unlikely to return to work – discontinuance then occurs only when claimants reach retirement age or die.

Higher continuance rates mean that people on weekly compensation are taking longer to return to work (if, indeed, they return to work at all). PwC has responded to the deterioration in experience by increasing its continuance rate assumptions over a number of valuations. Because the experience has continued to deteriorate, PwC has now responded more strongly to the experience. Specifically, PwC has given more weight to the recent experience in selecting its assumptions, rather than taking an average over a longer period (that is, PwC was previously lagging the deteriorating trend).

PwC has assumed future continuance rates that are broadly consistent with recent experience. PwC’s assumption is not unreasonable. However, if the deterioration observed in recent years continues then future costs will be higher than PwC’s estimates.

PwC include a sensitivity assuming continuance rates continue to deteriorate. The sensitivity considers claimants more than 60 months post accident, and assumes that the negative trends in continuance rates continue for another 5 years. This scenario results in an increase in estimated liabilities of \$2.0 billion. This represents a possible, albeit unlikely, scenario and demonstrates the uncertainty inherent in ACC’s liabilities.

PPACs

The following charts show the PPAC experience and PwC's assumptions for all accounts combined.

Figure D.9 – PPACs for All Accounts – Development Quarters 1 to 30

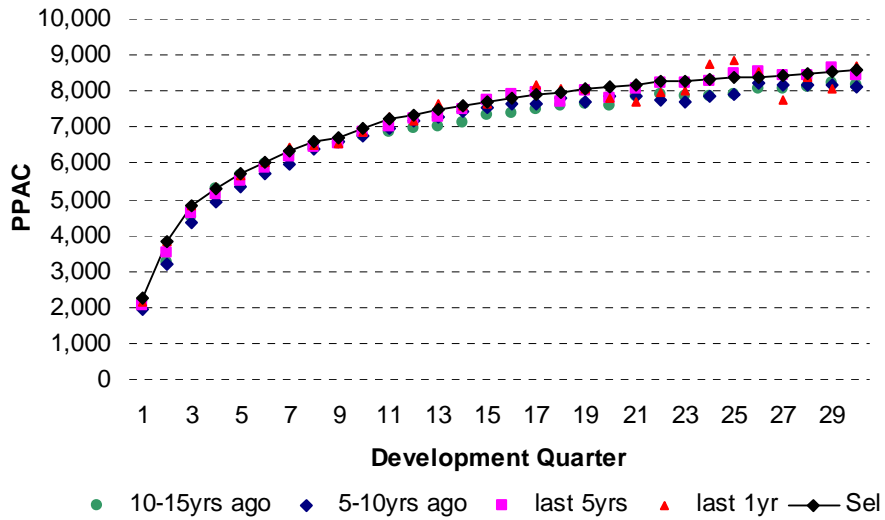


Figure D.10 - PPACs for All Accounts – Development Quarters 31 to 60

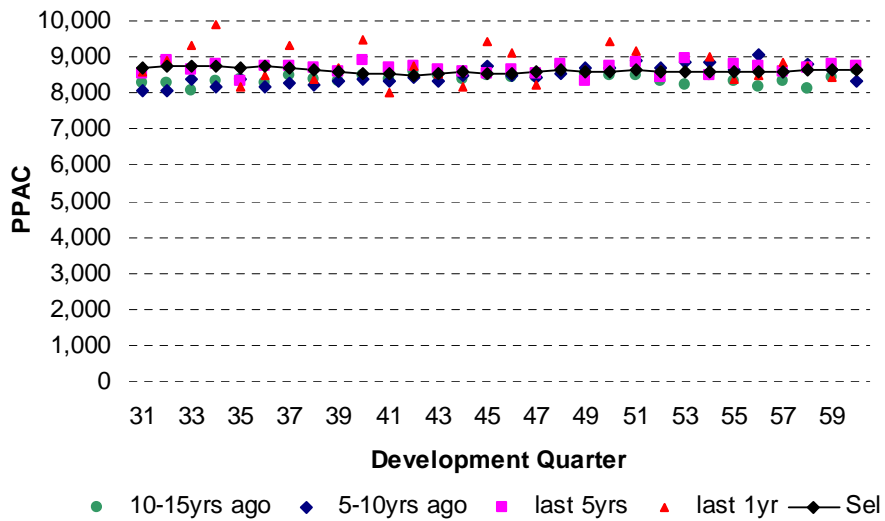
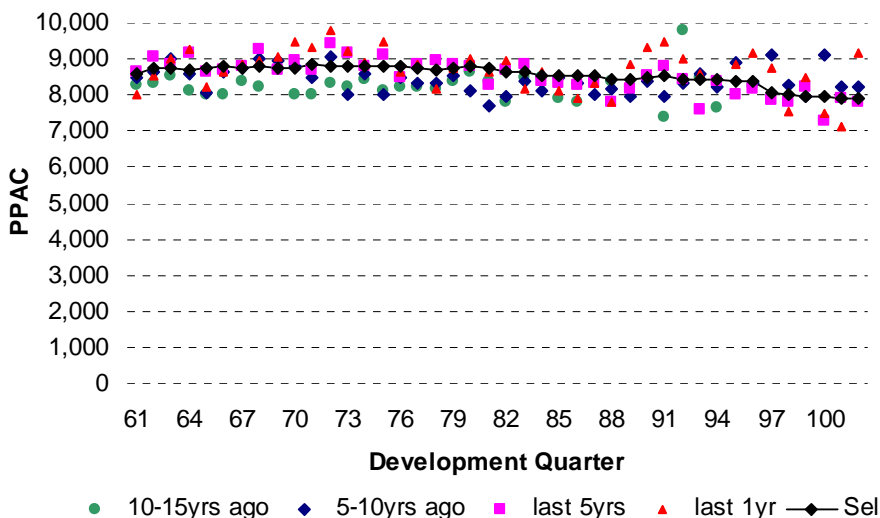


Figure D.11 - PPACs for All Accounts – Development Quarters 61 to 100



Payments are typically linked to pre-claim earnings. This means that payments per active claim are generally more predictable than continuance rates. We note that reduction in selected PPACs after development quarter 80 appears to be a consistent feature of the historical experience. PwC’s assumptions are in line with historical experience.

Finity Comment

PwC has not explicitly anticipated the results of the Long Term Claims Project within its estimates. However, as noted above, PwC has assumed future continuance rates that are broadly consistent with recent experience. An alternative assumption would have been that the deterioration observed in recent years continues.

More generally, PwC’s current methodology may not have adequately captured the claimant dynamics of this payment types. Claimant dynamics refers to individual claimant behaviour, and the factors that cause individuals to remain on or exit from the scheme. PwC bases its continuance rate assumptions on recent historical experience. As claimants have tended to remain on the scheme for longer periods, PwC has increased its continuance rates. However, in the absence of commentary on claimant dynamics, it is difficult to understand reasons for changes in actual experience over time.

We strongly suggest PwC investigate the claimant dynamics of non-fatal weekly compensation and document the results of this analysis within its reports. Two specific dynamics that may merit explicit examination are:

- “Perpetual” claimants – Based on discussion with ACC, we understand that many long term claimants of weekly compensation are likely to continue receiving payments until they reach retirement age or die. This category would include claimants that have such serious injuries that return to work is inconceivable. The

assumptions used to estimate liabilities for this group could reflect its specific claim characteristics, rather the average experience of previous generations of claimants.

- “Sticky” claimants – more generally, it would be useful to examine and document the nature of discontinuance of long term claimants. It may be that temporary movements are distorting longer-term trends. For example, temporary transitions may occur when people move back on to the scheme while waiting for elective surgery.

PwC’s current methodology essentially represents a “top-down” approach, considering the average of the historical experience for this portfolio. Investigating the claimant dynamics of this payment type would permit a “bottom-up” approach to estimation, or confirmation of top-down assumptions, considering the characteristics of different groups of claimants.

This analysis should be linked closely to the long term claim project, so that the findings from file reviews inform the actuarial basis. This bottom-up approach will become crucial if and when ACC’s long term claim initiatives start to take effect. At that point, it would be inappropriate for PwC to move aggregate continuance rates towards average experience.

D.5 Conclusions

PwC has assumed future continuance rates that are broadly consistent with recent experience. PwC’s assumption is not unreasonable. However, if the deterioration observed in recent years continues then future costs will be higher than PwC’s estimates. It is therefore important the ACC’s Long Term Claims project addresses the deterioration in continuance rates.

We conclude that the methodology and assumptions are appropriate. Based on our review we conclude the liability for this benefit is not unreasonable.

D.6 Recommendations

None

D.7 Suggestions

As described in our conclusion above (Section D.5), we strongly suggest PwC investigate and document claimant dynamics in an attempt to better understand changes in continuance rates.

This bottom-up approach will become crucial if and when ACC’s long term claim initiatives start to take effect. At that point, it would be inappropriate for PwC to move aggregate continuance rates towards average experience.

E Fatal Weeklies

The payment type refers to weekly benefits payable to spouses and/or dependants following a fatality. Most of the recipients of dependant benefits are children, and so payments typically cease when the child becomes an adult. Spouse benefits for accidents after 31 March 1992 are payable for a maximum of 5 years, or until the youngest dependent child of the deceased reaches 18 year of age. For accidents prior to 31 March 1992, spouse benefits are payable until the retirement date of the deceased. Certain claimants have the option of capitalising their benefits to receive a lump sum rather than weekly payments.

PwC revised its methodology at December 2008 for this payment type to include Death Benefit Lump Sums within this payment type. These payments were previously modelled as part of Other Rehabilitation. Another revision to PwC's approach is to model spouse and dependent claims in aggregate. It is appropriate for PwC to group small payment types with similar characteristics. The methodology has not changed between December 2008 and June 2009.

The outstanding claims liability for Fatal Weeklies is \$497 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$520 million at 31 December 2008. The following table shows the change in estimates from PwC's valuation.

Table E.1 – 30 June 2009 Fatal Weeklies Liability (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	185	2	-6	181	1%	36%
Employers	33	-2	-1	30	-6%	6%
Treatment Injury	14	-1	0	13	-7%	3%
Motor Vehicle	183	1	-6	178	1%	36%
Non Earners	8	0	0	8	0%	2%
Partnership Program	1	0	0	1	0%	0%
Residual Non Work	28	-2	-1	25	-7%	5%
Residual Work	58	-4	-2	52	-7%	10%
Self Employed	9	-1	0	8	-11%	2%
Total	520	-7	-16	497	-1%	100%

(*) Percentage change due to experience and model change only.

Excluding the effect of changes in economic assumptions, the overall result is in line with PwC's prior expectations. Payments and active claim numbers were as expected overall, and very close by account.

- The estimated liability for Fatal Weeklies is approximately 2% of the ACC total.
- Over 70% of the estimated liability is in respect of the Motor and Earners accounts.

E.1 Cost Drivers

The scope of cover has increased in recent years to include payment for deaths arising from suicide. We understand from ACC that this has resulted in an increase in active claim numbers.

PwC has noted that there has been a significant increase in Treatment Injury claims in the last four years. Payments for Treatment Injury claims have increased by 230% over this period, and now total approximately \$1 million per quarter. This increase is attributed to change in payment rules for the Treatment Injury account. PwC advises that these changes, which occurred in 2005, have broadened access to benefits more than was originally anticipated.

E.2 Valuation Assumptions

Continuance Rates

Figure E.1, Figure E.2 and Figure E.3 compare PwC's selected continuance rates with historical observations over a number of different periods. Note that the later figures do not start at 0%.

Figure E.1 - Continuance Rates for All Accounts – Development Quarters 1 to 30

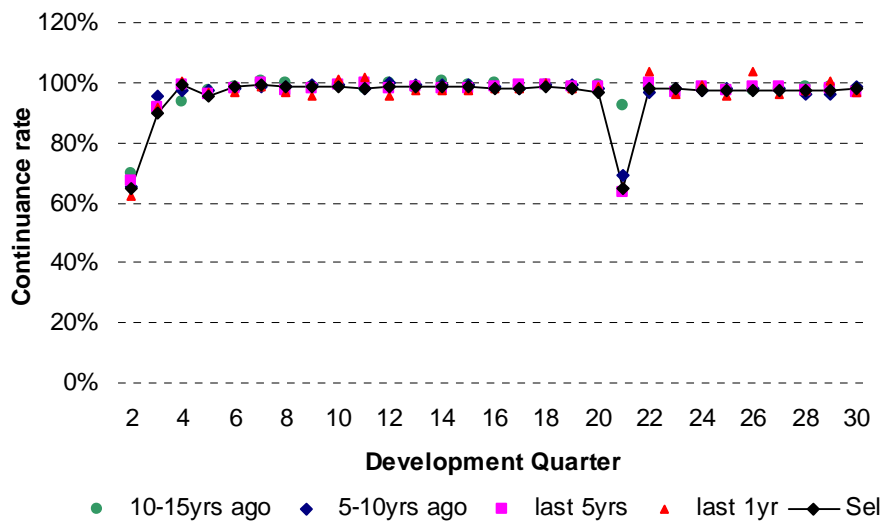


Figure E.2 - Continuance Rates for All Accounts – Development Quarters 31 to 60

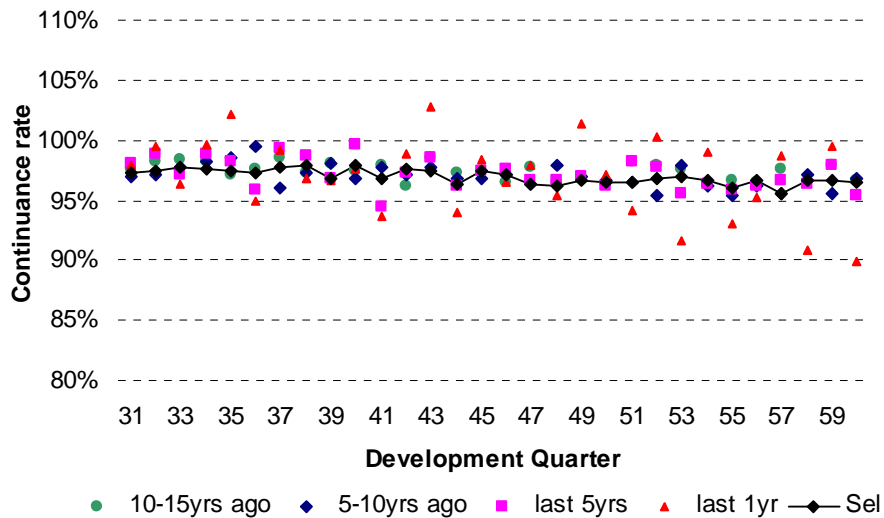
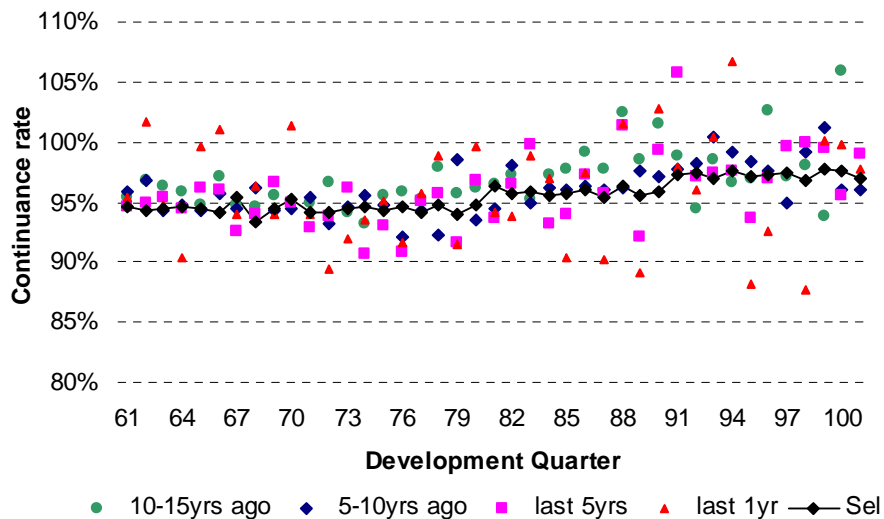


Figure E.3 - Continuance Rates for All Accounts – Development Quarters 61 to 100



We make the following observations:

- Continuance rates tend to be quite stable at just under 100% in the initial 30 quarters. There is a drop in continuance rates at 5 years, which reflects the 5 year limit on weekly payment for the majority of spouses. PwC’s selections reflect this feature of the experience.
- At later quarters the continuance rates are more volatile. This is because there are fewer individuals claiming at later durations.

PPACs

Figure E.4, Figure E.5 and Figure E.6 compare historical PPACs to PwC's selections.

Figure E.4 - PPACs for delay quarters 1-30, all accounts

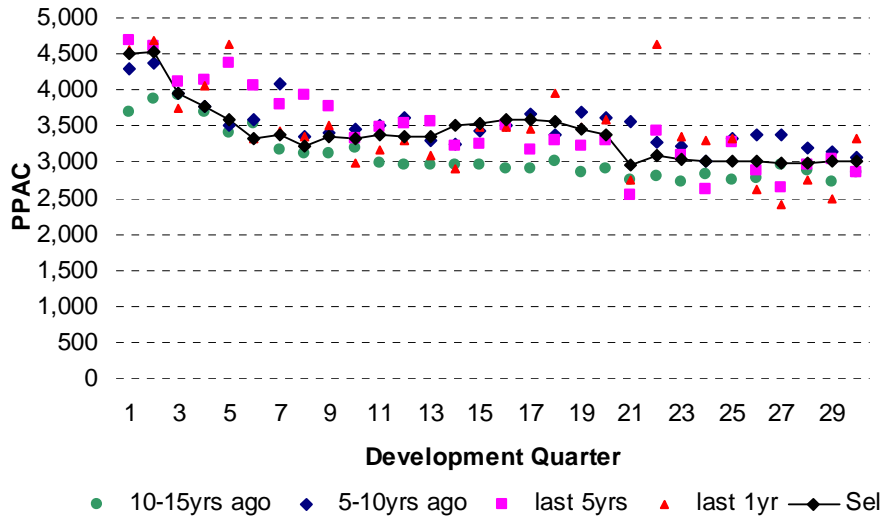


Figure E.5 - PPACs for delay quarters 31-60, all accounts

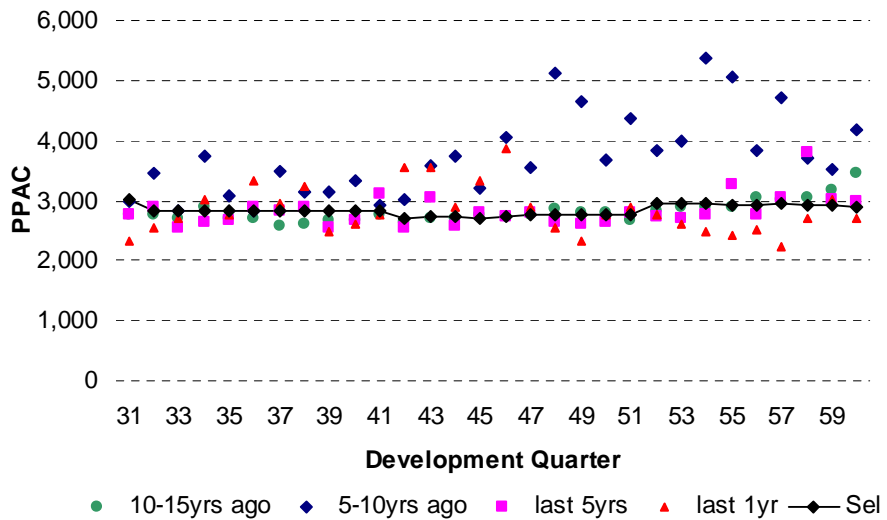
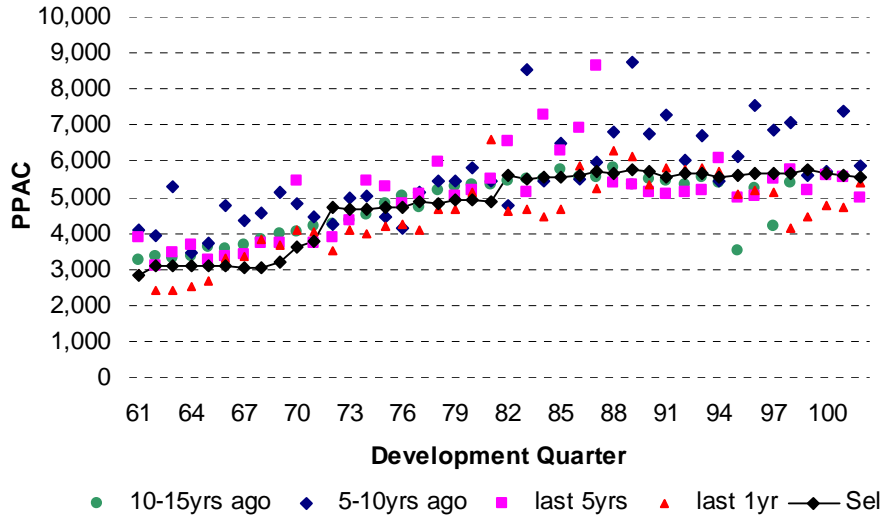


Figure E.6 - PPACs for delay quarters 61 and later, all accounts



The experience has been volatile in some quarters, which is due to the small number of claimants (particularly at late durations) together with the presence of capitalisations of benefits in the data. However, the overall level of PPAC's does appear to be quite stable. PwC's assumptions tend to be in line with the experience over the past few years, and are not unreasonable.

Superimposed Inflation

PwC removed the superimposed inflation allowance from this payment type at December 2008 (note that the December 2008 report accidentally noted that 0.5% superimposed inflation had been applied). Given the trend for PPAC's to reduce over time, removing the superimposed inflation allowance is not unreasonable.

E.3 Conclusions

We conclude that the methodology and assumptions are appropriate and not unreasonable.

Based on our review we conclude the liability for this benefit is not unreasonable.

E.4 Recommendations

None

F Independence Allowance

Independence Allowance is a periodic benefit paid to individuals with permanent impairment arising from personal injury, which could include a mental injury. The level of payments depends on the extent of the impairment, with the maximum benefit only payable to individuals with more than 80% impairment.

The Independence Allowance is only available for accident dates between 1992 and 2002. Lump Sums benefits were reintroduced for accidents on or after 1 April 2002. However, PwC has observed that claims continue to be received for accidents after 2002. Based on our previous discussions with ACC, we understand that the majority of claims reported after 2002 are in respect of sexual assault where the assault occurred before 1 April 2002 (referred to as sensitive claims). We understand that the Act deems the accident date of such claims to be the date the claim is reported, but Independence Allowance entitlement is based on the date of assault (see section F.2 below).

Claimants typically receive Independence Allowance until death. Recipients also have the option to capitalise their payment and receive a lump sum covering payments for a period of five years. After this time, claimants have the option to receive a further lump sum or return to weekly payments. The option to capitalise was introduced just over five years ago (in April 2003), so the first group of payments to receive a lump sum will now have been asked whether they wish to return to weekly payments.

We understand from PwC that the liability estimates do not include an allowance for claims with report dates after 30 June 2009. For example, the estimated liability does not include amounts in respect of individuals presenting with a sensitive claims in 2012 as a result of an assault in 2000. PwC's report includes some comments on claims for future accident periods, however costs in respect of these claims are not included in the estimated liabilities.

F.1 Results

The outstanding claims liability for Independence Allowance is \$769 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$782 million at 31 December 2008. The following table shows the change in estimates from PwC's valuation.

Table F.1 – 30 June 2009 Independence Allowance Liability (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptio ns	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	131	-3	-6	123	-2%	17%
Employers	16	-1	-1	15	-6%	2%
Treatment Injury	37	-1	-2	35	-3%	5%
Motor Vehicle	116	5	-5	115	4%	16%
Non Earners	377	-13	-16	348	-3%	47%
Partnership Program	3	-1	0	1	-33%	0%
Residual Non Work	22	1	-1	22	5%	3%
Residual Work	75	1	-3	73	1%	10%
Self Employed	4	0	0	4	0%	1%
Total	782	-13	-34	735	-2%	100%

(*) Percentage change due to experience and model change only.

Excluding the effect of changes in economic assumptions, PwC have made only minor changes to assumptions so the results across all accounts are broadly in line with PwC's prior expectations. Actual numbers of reported claims were lower than expected, as were numbers of active claims and payments.

- The estimated liability for Independence Allowance is approximately 4% of the ACC total.
- Just under half of the estimated liability is in respect of the Non Earners account.

F.2 Valuation Assumptions

Continuance Rates

Claimants typically receive Independence Allowance until death, and so continuance rates for existing claimants are largely based on mortality assumptions. The mortality assumptions assume a rate of 150% of standard population mortality. The loading to standard mortality is calibrated to the discontinuance rates observed in the data.

Recipients of Independence Allowance have the option to capitalise their payment and receive a lump sum covering five years of benefits. PwC assume that a proportion of claimants will choose to capitalise in each quarter, and adjusts its calculations accordingly. Claimants have been able to choose to capitalise since April 2003, and so the first tranche of individuals have recently come to the end of the five year capitalisation periods. PwC's valuation basis assumes that all surviving claimants that have capitalised will recapitalise every five years.

At the June 2009 valuation, not all eligible claims had recapitalised – PwC has suggested that this may be a timing issue (recapitalisations are simply taking longer than expected) and has retained the assumptions that all claimants will recapitalise. It appears that around 90% of claims recapitalise within 6 months, with a much smaller number of claims recapitalising in the following 3 to 6 months. Those still outstanding are yet to respond to the ACC, and the ACC is investigating these claims.

Figure F.1, Figure F.2 and Figure F.3 compare PwC's selected continuance rates to actual continuance rates over various periods.

Figure F.1 - Continuance Rates for All Accounts – Development Quarters 1 to 30

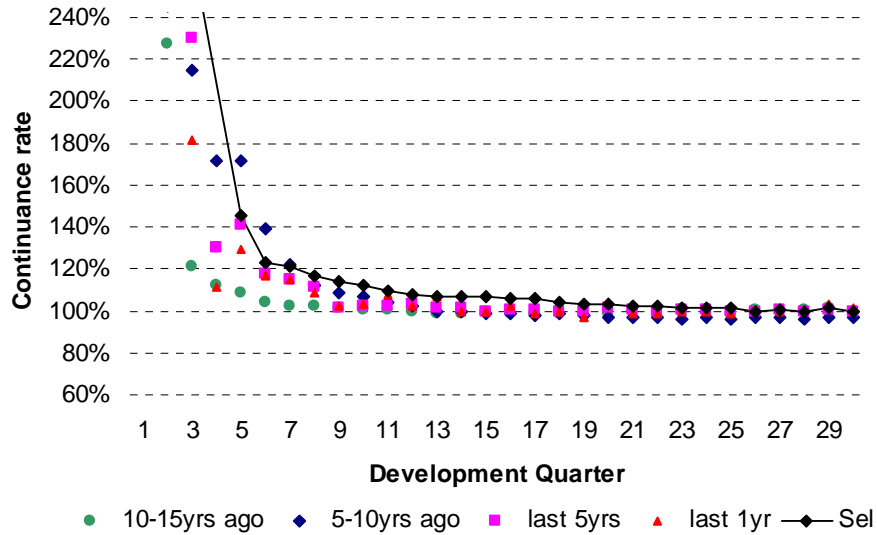


Figure F.2 - Continuance Rates for All Accounts – Development Quarters 31 to 60

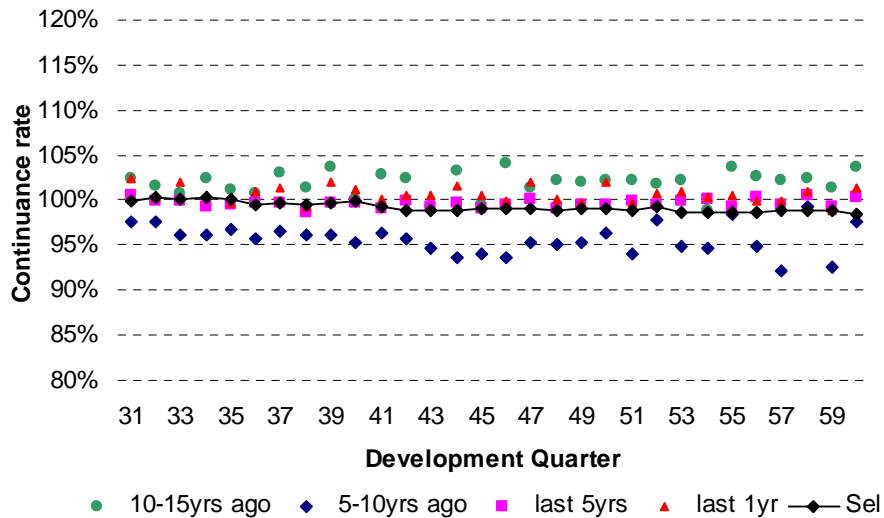
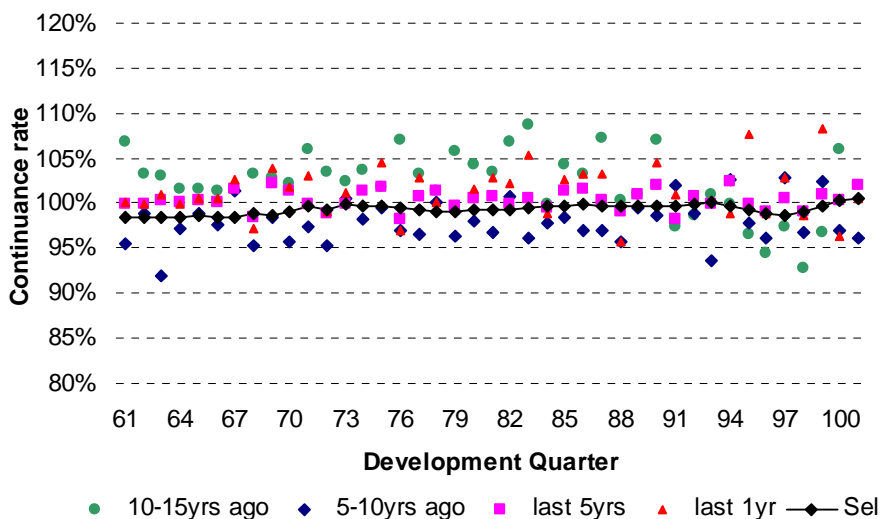


Figure F.3 - Continuance Rates for All Accounts – Development Quarters 61 to 100



The charts indicate the following:

- Historical experience has been volatile in the initial development quarters. This is to be expected because the number of new claims has reduced significantly since lump sum benefits were introduced.
- For the later development quarters, the selected rates are broadly in line with the average experience of the last 5 years (although there are some periods where the selections are consistently higher or lower for a number of quarters). The selected continuance rates are typically lower than those observed in the last year.

We note that the continuance rates for the early development quarters essentially represent a claim reporting pattern. Claims are reported over approximately the first 20 quarters, where continuance rates exceed 100%. Continuance rates are then around 100%, which is consistent with most claimants receiving Independence Allowance until death.

PPACs

The selected average claim amount for each claimant reflects the rate received over the last year and the average impairment score. The average impairment score of claimants in more recent accident years is typically lower than in older accident years (that is, recent injuries are typically less severe than those that have occurred in the past). In particular, the average impairment score on Non-Earners (the largest account) is reducing relatively quickly.

The charts below show historical PPACs by development quarter over a number of years.

Figure F.4 - PPACs for delay quarters 1-30, all accounts

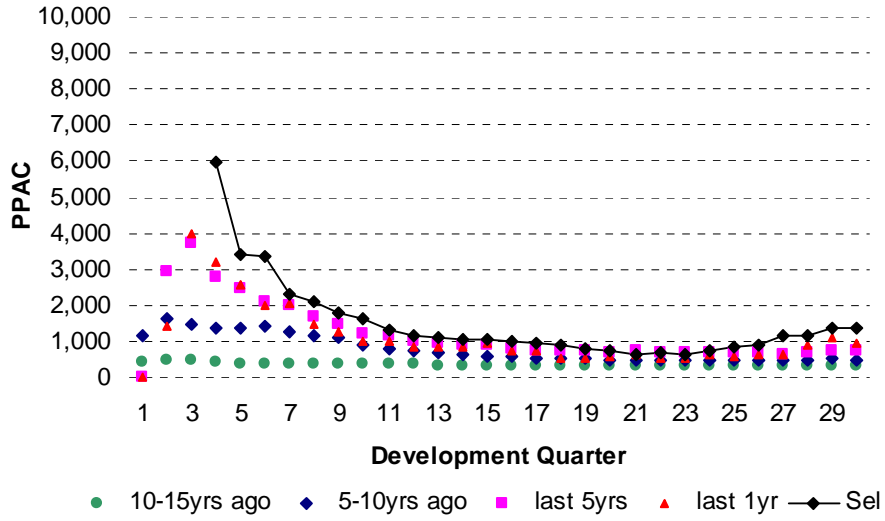


Figure F.5 - PPACs for delay quarters 31-60, all accounts

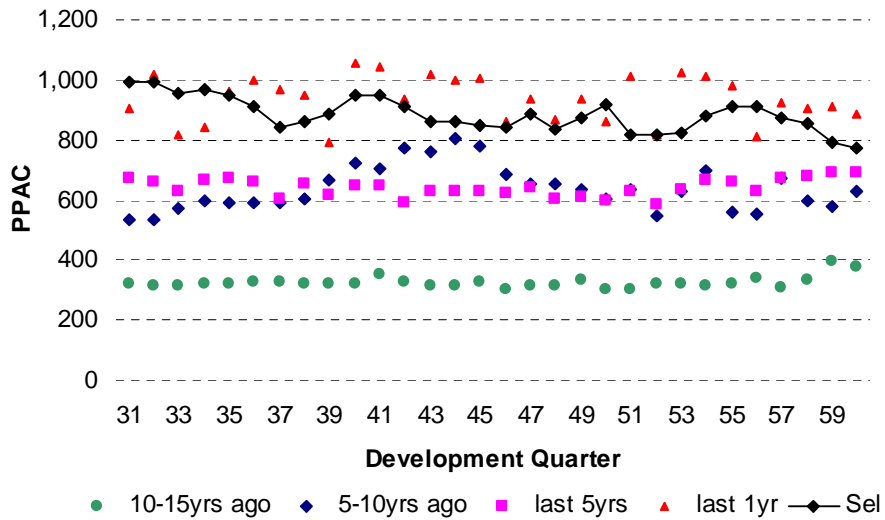
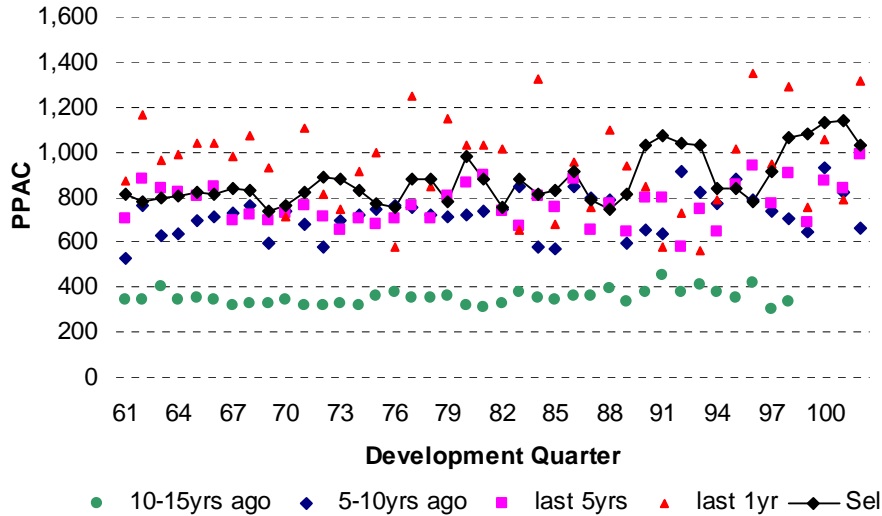


Figure F.6 - PPACs for delay quarters 61 and later, all accounts



We note that PPACs have tended to increase over time at all durations. For example, the averages from the last 5 years are typically higher than for 5-10 years ago, which are in turn higher than the averages of 10-15 years ago. However, the experience for later development periods is volatile. This will be, in part, because of recapitalisations, which has led to an increase in payments in the most recent 12 months.

The selected PPACs are broadly in line with the most recent years experience, and do not appear unreasonable.

Superimposed Inflation

There is no allowance for superimposed inflation for this payment type. We understand from PwC that future payments are indexed to CPI inflation.

Claim Types

Table F.2 below summarises 2008 Independence Allowance payments by claim type. The table is based on analysis undertaken by ACC and provided to us for a previous review. Only amounts in respect of claims reported after 2002 are included in the table.

Table F.2 – 2008 Payment by Claim Type – Claims Reported after 2002

Claim Type	Payment Amount (\$ millions)	Percentage
Sensitive Claims	3.42	93%
Treatment Injury	0.03	1%
Work-Related Gradual Process Disease	0.23	6%
Personal Injury Caused by Accident	0.01	0%
Total	3.67	100%

Table F.2 shows that the majority of post-2002 Independence Allowance claims are sensitive claims. Sensitive claims are mostly in respect of sexual assault. Other claims types are relatively insignificant, making up less than 10% of payments on post-2002 claims.

The dates on which an individual is regarded as suffering from an injury giving rise to each of these claim types is set out in Sections 36 to 38 of the Injury Prevention, Rehabilitation, and Compensation Act 2001. Although there are some differences in wording for each claim type, essentially it is the date that an individual seeks treatment that is taken as the date of occurrence. Claimants may be eligible for Independence Allowance where the event that caused the claim, for example, the sexual assault, occurred prior to 2002.

We understand ACC has interpreted the legislation to mean that liability estimates should be produced on a claims-made basis. This means that the liability estimates do not include an allowance for claims where the date the claimant seeks treatment is after 30 June 2009. For example, the estimated liability does not include amounts in respect of individuals presenting with a sensitive claims in 2012 as a result of an assault in 2000.

F.3 Uncertainty

PwC have assessed the impact of reducing discontinuance rates to 0%. This would increase the liability by about \$30 million, which is relatively small compared to this entitlement and ACC's overall liabilities.

The rate of recapitalisation has been slower than expected. Whether or not these individuals choose to recapitalise will impact the ACC's cashflows, but should not have a significant effect on estimated liabilities (since the lump sum amount should reflect the present value of future payments).

F.4 Conclusions

We conclude that the methodology and assumptions are appropriate. Based on our review we conclude the liability for this benefit is not unreasonable.

F.5 Recommendations

None

G Lump Sums – Excluding Asbestos

Individuals experiencing permanent impairment arising from personal injury are eligible to claim a lump sum. The amount of the lump sum depends on the extent of the impairment. Lump sums are payable for accidents occurring on or after 1 April 2002. Before this period claimants were entitled to apply for the Independence Allowance.

Assessments for lump sum payments begin once the injury has stabilised or within two years of injury, whichever is sooner. Therefore IBNR claims can arise from both reporting and assessment delays.

Gradual process claimants, for example, work related gradual process hearing loss claimants, may be eligible for lump sum payments. Asbestos related disease claims are reviewed separately.

We understand from PwC that part of the liability is estimated on a claims incurred basis, and part is estimated on a claims made basis. The liability does not include an allowance for mental injury claims, gradual process claims, and treatment injury claims where treatment or incapacity had not yet commenced at 30 June 2009. However, the liability includes an allowance for physical injuries (and mental injuries brought about by physical injuries), where the injury occurred before 30 June 2009, regardless of whether the claim has been reported or the claimant had begun receiving treatment by 30 June 2009.

G.1 Results

The 30 June 2009 outstanding claims liability for Lump Sums (excluding asbestos) is \$179 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$189 million at 31 December 2008. The following table shows the change in estimates from PwC's valuation.

Table G.1 – 30 June 2009 Lump Sum (excluding asbestos) Liability (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	35	-1	0	34	-3%	19%
Employers	29	-2	-1	26	-7%	15%
Treatment Injury	30	-1	0	29	-3%	16%
Motor Vehicle	38	0	0	37	0%	21%
Non Earners	46	-2	-1	43	-4%	24%
Partnership Program	2	0	0	2	0%	1%
Residual Non Work	0	0	0	0	0%	0%
Residual Work	2	0	0	2	0%	1%
Self Employed	6	-1	0	5	-17%	3%
Total	189	-8	-2	179	-4%	100%

(*) Percentage change due to experience and model change only.

The estimated liability for Lump Sums (excluding asbestos) is approximately 1% of the ACC total.

There has been a small reduction in estimated liabilities, driven by a reduction in expected claim numbers. This is in line with the actual number of claims reported in the six months to March 2009 being 12% less than expected. In the previous six months, six months to September 2008 claim reports were 5% higher than expected. This volatility is likely due to the payment type being fairly small.

G.2 Cost Drivers

The comments in this section consider both Independence Allowance and Lump Sum payment types, including asbestos claims.

Since this benefit type was introduced, the annual number of Lump Sum claims reported has increased from less than 200 in 2003 to over 1,500 in 2009.

In their 30 June 2008 report, PwC was estimating that over 3,000 claims will be reported in 2012. The most recent PwC report estimates a lower number of 2012 claims (just under 2500) but assumes slightly higher average costs.

Over time there have been increases in the scope of cover provided for gradual process claims. This has resulted in additional costs for ACC, although the amounts are not significant in the context of ACC's total liabilities. For example, at our June 2008 review we noted that the *Priddle* decision (see Appendix H) and subsequent changes to legislation have allowed some claimants to choose between lump sums and Independence Allowance.

ACC had estimated that changes to the legislation would result in it declining fewer individuals making lump sum claims for gradual-process diseases.

G.3 Valuation Assumptions

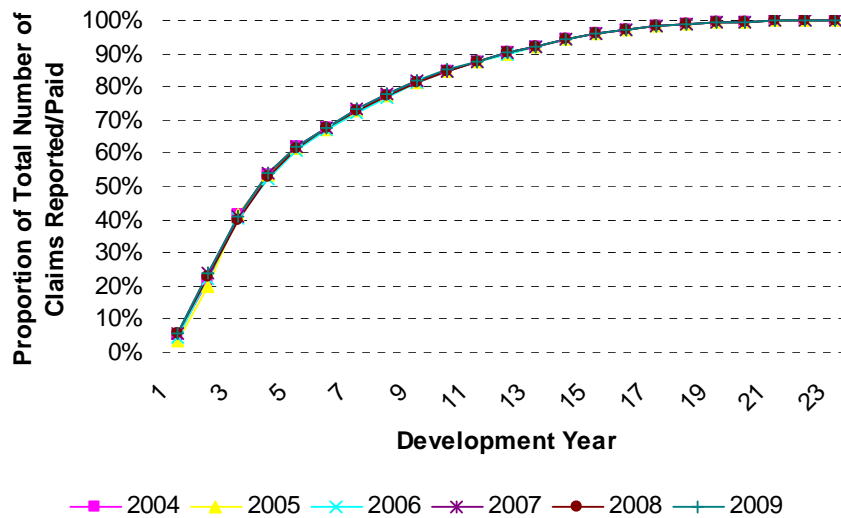
Superimposed Inflation

There is no allowance for superimposed inflation. Claims are inflated in line with consumer price inflation.

Future Claim Numbers

Figure G.1 below shows the claim reporting patterns implied by PwC's projections, considering all accounts combined. For each development period the graphs express the number of claims reported to date as a percentage of the total expected number of claims for the accident year. Actual numbers of claims are used for historical development periods, and estimated numbers used for future periods.

Figure G.1 – Lump Sum (ex asbestos) Reporting/Payment Pattern



PwC’s assumptions are similar to those adopted for the previous review. PwC has assumed that over 20% of claims will have been paid within 2 years of the accident date, and approximately 60% of claims will have been paid after 5 years. Development year means the number of years since the accident date. We understand that the meaning of accident date depends on the type of claim:

- for mental injury claims, gradual process claims, and treatment injury claims it is the date of first treatment or incapacity, which is not necessarily the actual date of accident
- for other claims, including physical injury claims, the accident date is the actual date when the accident occurred.

Chart 20.11 of PwC’s report shows that the number of claims by report / payment year is expected to grow strongly, as the payment type matures. However, it is not clear what proportion of these claim numbers relate to the outstanding claims liability, and what relates to future accident years.

Average Claim Size

Chart 20.14 of PwC’s report shows that average claim sizes in recent years have typically been approximately \$16,000 to \$18,000. PwC’s assumptions for future years allow for some increase in payments, and are in the range of approximately \$18,000 to \$20,000, although it is not clear what proportion of all outstanding claims relate to these future payment years. No analysis is provided in the report on the impairment distribution, although we understand from the model description that PwC does analyse the impairment mix.

Basis of Estimates

Table G.2 below summarises 2008 Lump Sum payments by claim type (including asbestos-related claims). The table is based on analysis undertaken by ACC and provided to us. Only amounts in respect of claims reported after 2002 are included in the table.

Claim Type	Payment Amount (\$ millions)	Percentage
Sensitive Claims	0.9	2%
Treatment Injury	4.6	12%
Work-Related Gradual Process Disease	9.8	26%
Personal Injury Caused by Accident	22.4	60%
Total	37.6	100%

Table G.2 shows that the majority of post-2002 Lump Sum claims are related to accidents.

Approximately one quarter of lump sum payments are in respect of gradual process claims. We do not know exactly what proportion of the gradual process payments are in respect of asbestos-related diseases, because the payments shown in PwC's previous reports are not exactly comparable with the payments in Table G.2. However, based on total asbestos related payments (which we assume are all gradual process claims) it appears that more than three quarters of the gradual process lump sums in 2008 were in respect of asbestos-related diseases.

From Table F.2 we noted that gradual process claims represented only a small proportion of post-2002 Independence Allowance claims (6%). This likely reflects the ability of certain gradual process disease claimants to obtain a lump sum benefit. For diseases that cause a reduction in life expectancy (for example, mesothelioma), the Lump Sum award would be substantially higher than the cost to ACC of providing Independence Allowance.

The dates on which an individual is regarded as suffering from an injury giving rise to mental injury, a gradual process claim, or a treatment injury are set out in Sections 36 to 38 of the Injury Prevention, Rehabilitation, and Compensation Act 2001. Although there are some differences in wording for each claim type, essentially it is the date that an individual seeks treatment that is taken as the date of occurrence.

We understand ACC has interpreted the legislation to mean that, for mental injury claims, gradual process claims, and treatment injury claims, liability estimates should be produced on a claims-made basis. This means that the liability estimates do not include an allowance for claims where the individual seeks treatment after 30 June 2009. For example, the estimated liability does not include amounts in respect of individuals presenting with an asbestos related claim in 2012 as a result of asbestos exposure in 1970.

G.4 Uncertainty

There is limited commentary on uncertainty for this payment type. This likely reflects the relatively small size of the liabilities compared to other payment types. We note that the effect of any change in assumptions for this payment type is unlikely to be significant in the context of the total liabilities of ACC.

The main driver of uncertainty is the number of future claims yet to be reported.

G.5 Conclusions

Because historical data for this payment type is limited, there is more than the usual level of uncertainty regarding the development assumptions. In addition, the limited data means that a wider range of assumptions might be considered reasonable than would normally be the case. Based on our experience of similar schemes, together with our review of the limited historical data, we believe that the assumptions are not unreasonable.

Based on our review we conclude the liability for this benefit is not unreasonable.

G.6 Recommendations

From the valuation report, it is not clear which future claims relate to the outstanding claims, and which relate to future accident years. It would be good if PwC could be clearer about this.

H Lump Sums – Asbestos

Typically it is only possible to claim a lump sum payment for events occurring on or after 1 April 2002. Asbestos related claims that are currently being reported will arise from exposure long before 2002. The New Zealand Court of Appeal ruling in 2006 (*Estate of Priddle and ors v Accident Compensation Corporation* [2006] NZCA 297) ruled that individuals with asbestos related disease were entitled to claim a lump sum rather than impairment allowance. The ability of these claimants to obtain lump sums was confirmed by the Injury Prevention, Rehabilitation, and Compensation Amendment Act 2008.

PwC considers asbestos lump sums separately from other lump sum payments. Separate analysis is appropriate given that the claims are likely to have significantly different characteristics.

We understand from PwC that the liability estimates do not include an allowance for claims where the diagnosis occurs after 30 June 2009. For example, the estimated liability does not include amounts in respect of individuals presenting with mesothelioma or other asbestos related diseases in the future, unless the date of diagnoses was prior to 30 June 2009. We understand from PwC that asbestos lump sum claims must be lodged prior to the death of the injured individual. The time between death and diagnosis for mesothelioma is typically less than a year, which further limits the scope for IBNR claims.

Because of this, there are very few claims outstanding, and the outstanding claims liability for lump sum asbestos claims is small.

PwC's report includes some comments on claims for future accident periods, however costs in respect of these claims are not included in the estimated liabilities.

H.1 Results

The 30 June 2009 outstanding claims liability for Lump Sums (asbestos) is \$8 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$9 million at 31 December 2008. The following table shows the change in estimates from PwC's valuation.

Table H.1 – 30 June 2009 Asbestos Lump Sum Liability from 31 December 2008 (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Residual Work	9	0	0	8	-1%	100%
Total	9	0	0	8	-1%	100%

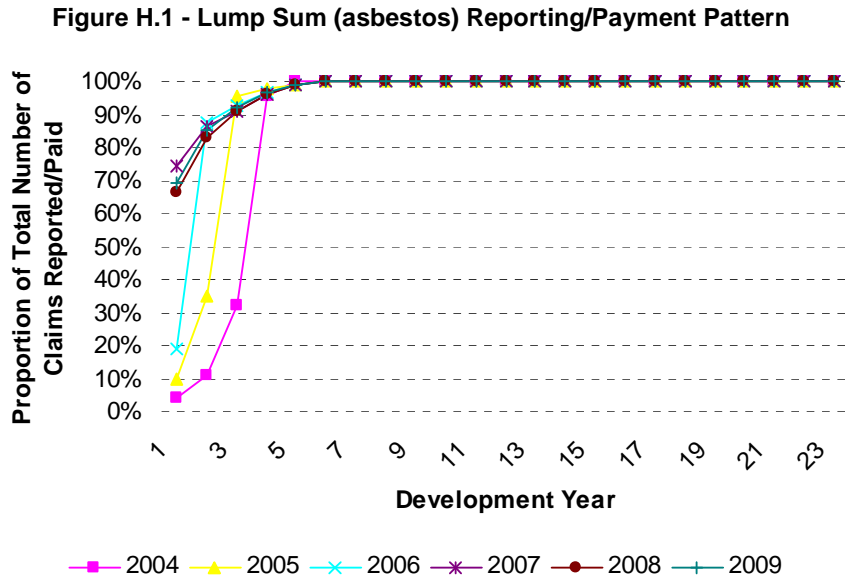
(*) Percentage change due to experience and model change only.

The number of claims reported in the six months to March 2009 was as expected.

H.2 Valuation Assumptions

Future Claim Numbers

Figure H.1 below shows the claim reporting patterns implied by PwC's projections. For each development period the graphs express the number of claims reported to date as a percentage of the total expected number of claims for the accident year. Actual numbers of claims are used for historical development periods, and estimated numbers used for future periods.



The reporting / payment pattern is very quick, and this is because PwC only allows for claims where the date of diagnosis is prior to 30 June 2009. PwC does not allow for claims where the date of exposure is prior to 30 June 2009 but the claimant has not yet been diagnosed.

H.3 Conclusions

Based on our review we conclude the liability for this benefit is not unreasonable.

H.4 Recommendations

None

I Vocational Rehabilitation

Vocational rehabilitation provides benefits to help a claimant obtain and maintain employment.

I.1 Result

The 30 June 2009 outstanding claims liability for Vocational Rehabilitation is \$226 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$251 million at 31 December 2008. The following table shows the change in estimates from PwC's valuation:

Table I.1 – 30 June 2009 Vocational Rehab Benefits (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	93	-7	-2	84	-8%	37%
Employers	39	-2	-1	36	-5%	16%
Treatment Injury	5	1	0	6	20%	3%
Motor Vehicle	55	-4	-2	49	-7%	22%
Non Earners	32	-3	-2	27	-9%	12%
Partnership Program	2	0	0	2	0%	1%
Residual Non Work	5	0	0	5	0%	2%
Residual Work	12	-1	0	10	-8%	4%
Self Employed	6	0	0	6	0%	3%
Total	251	-18	-8	226	-7%	100%

(*) Percentage change due to experience and model change only.

This is a relatively small payment type, representing approximately 1% of ACC's total liabilities.

Over the six months to March 2009, active claims and payments were higher than expected. Over the three months to December 2008, the experience was significantly higher than expected, and PwC increased the liability by \$23 million in the December update. In the three months to March 2009, claims and payments have been in line with expected, so PwC has reduced the liability by \$18 million, essentially reversing most of the December increase.

PwC attributed the higher than expected number of active claims to the 'Work Hardening Programme' held in 2006 and staff and vendor training in 2007. Legislative changes introduced in 2008 gave greater access to this benefit type.

I.2 Cost Drivers

The following two graphs show the number of active vocational rehabilitation claims and the payments per active claim. We have graphed the annual rolling average for each development quarter (delay since accident).

Figure I.1 – Active Claims

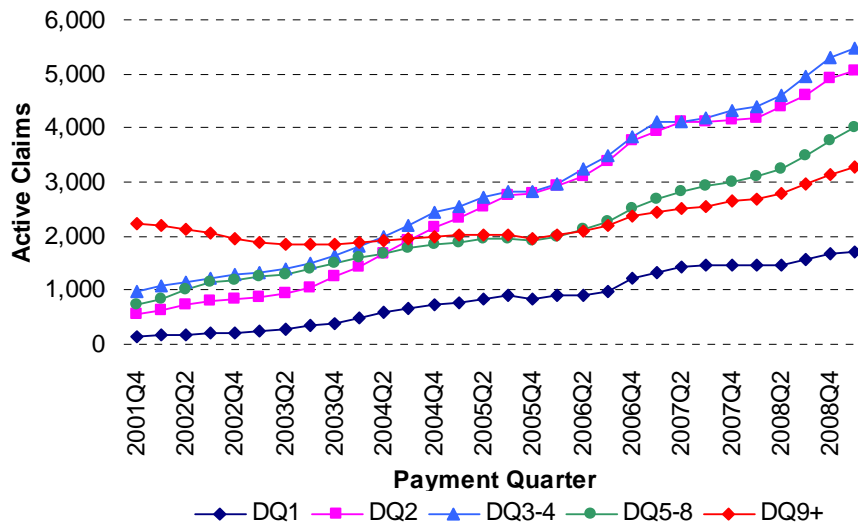
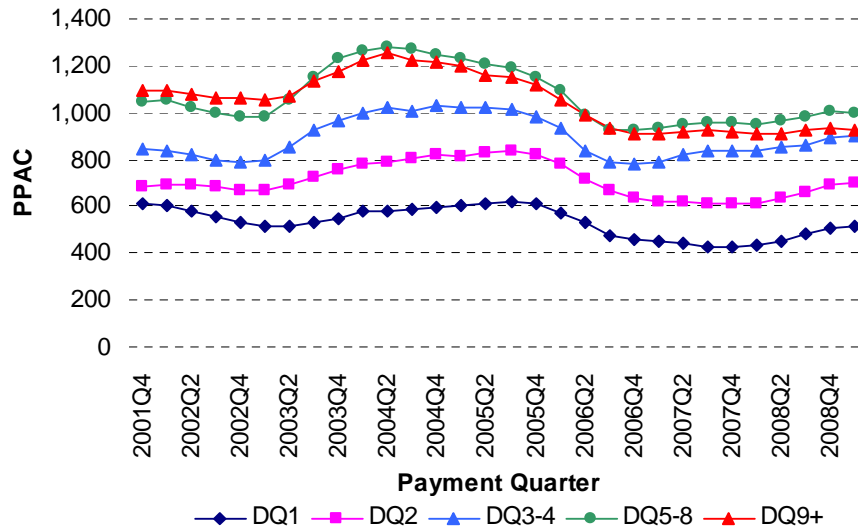


Figure I.2 – Payments per Active Claim



Although this is one of the smaller payment types, we note that there has been a significant increase in the number of active claims in recent years. The number of active claims is therefore the key driver of Vocational Rehabilitation costs and should be closely monitored. The legislative changes would appear likely to further increase in number of active claimants.

Legislative Changes

The Injury Prevention, Rehabilitation, and Compensation Amendment Act 2008 granted ACC the discretion to provide assistance for longer periods, or to individuals above normal retirement age. For our June 2008 review, we were provided with copies of memos produced by ACC documenting their cost estimates for these changes. Although ACC had applied a reasonable method, the level of detail did not allow us to say whether ACC's estimates were appropriate. At the June 2009 valuation, PwC has retained this cost estimate.

Participation

PwC notes two initiatives that may have increased the awareness and participation in ACC's Vocational Rehabilitation programs:

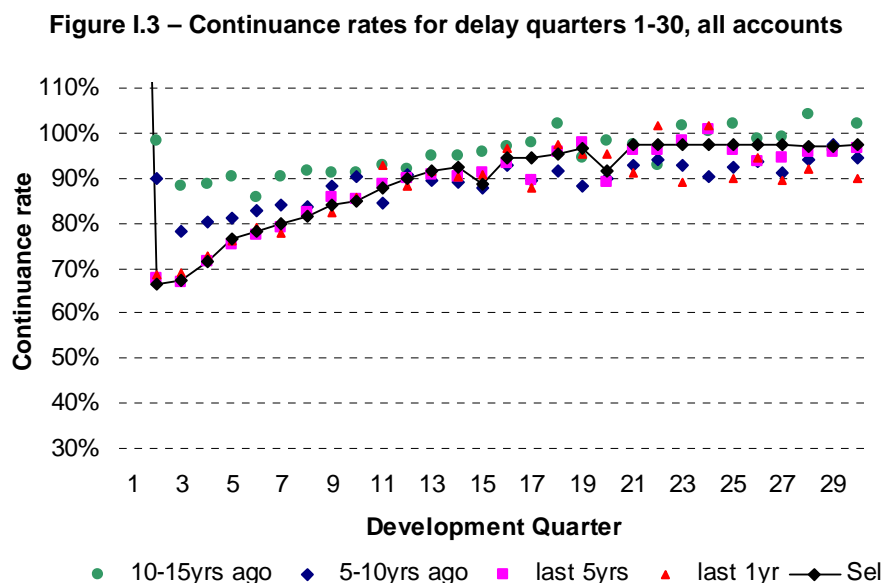
- The Work Hardening Program held in early 2006
- Service development and training of vendors in late 2007.

Increases in participation in Vocational Rehabilitation have the potential to reduce overall costs for ACC by returning claimants to employment. For this payment type, it is important for ACC to monitor not only the costs but the results achieved.

I.3 Valuation Assumptions

Continuance Rates

The following charts show the continuance rates for various development quarters for all accounts combined.



The chart above indicates that continuance rates for the early development quarters have trended down over time. PwC have selected continuance rates near or in line with this recent experience that are not unreasonable.

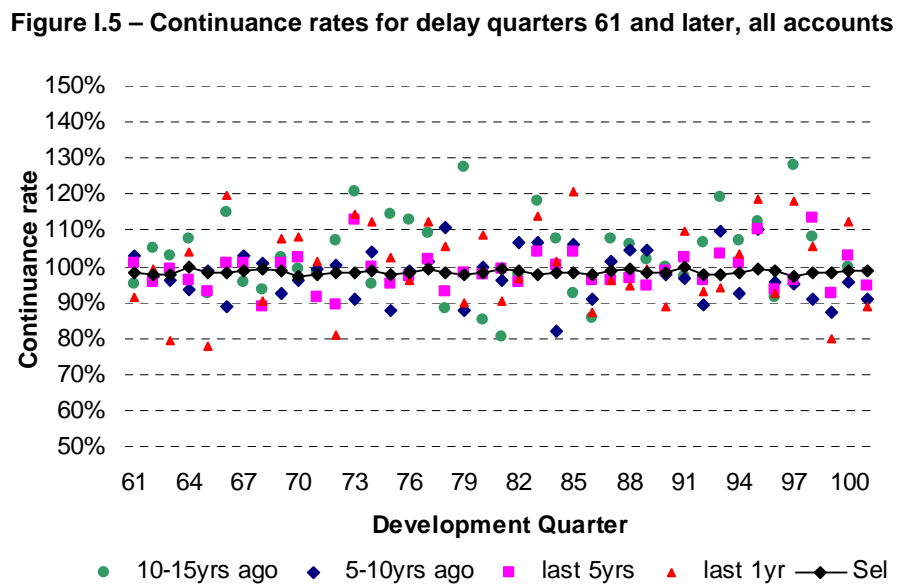
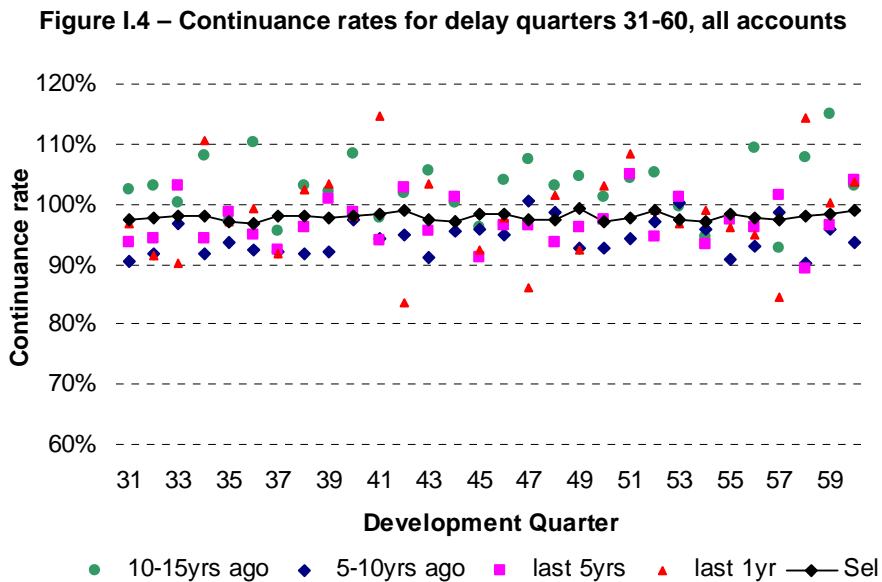


Figure I.4 and Figure I.5 above show considerable volatility in actual experience, and so it is difficult to identify trends. The selected rates appear to be broadly reasonable based on the range of continuance rates shown.

PPACs

The following charts show the PPAC assumptions for the same development quarter groupings as for continuance rates above, across all accounts.

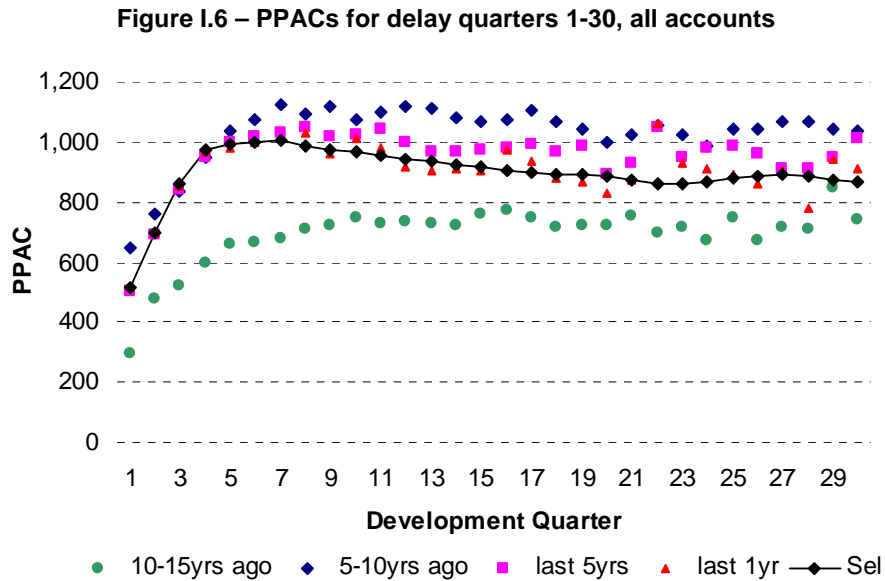


Figure I.6 illustrates two important points regarding PPAC experience for the earlier development quarters:

- The payment per active claim in the first year is lower than later quarters, steadily increasing after which payments tend to stabilise.
- The level of PPACs has been reducing for the past 10 years. There appears to be an increase in PPACs from when Vocational Rehabilitation benefits were introduced until 1999 or 2000. From there, PPACs have tended to be flat or falling slightly.

Figure I.7 – PPACs for delay quarters 31-60, all accounts

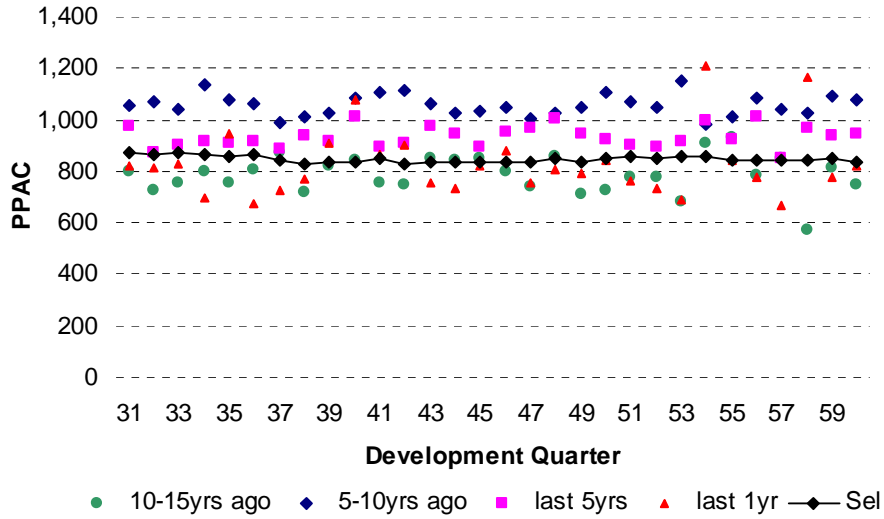


Figure I.8 – PPACs for delay quarters 61 and later, all accounts

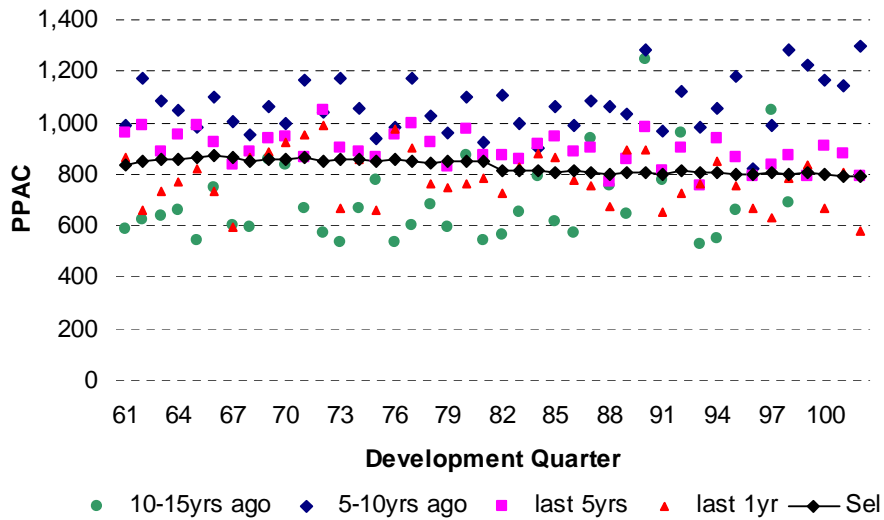
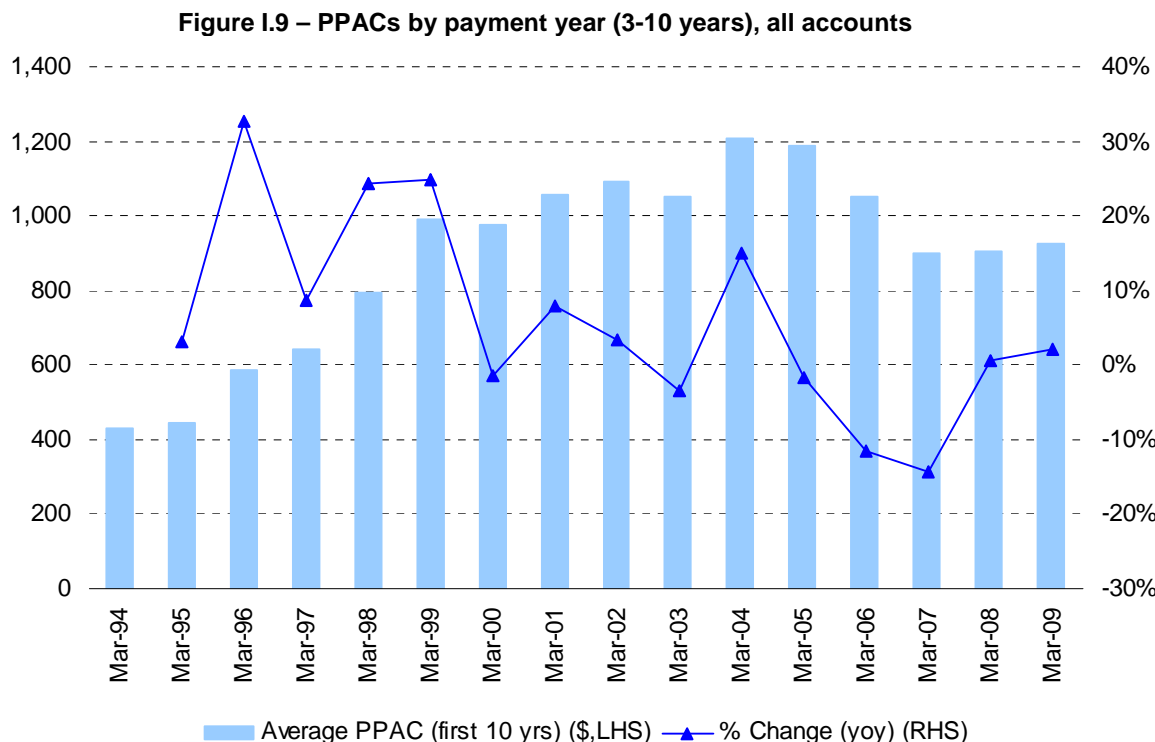


Figure I.7 and Figure I.8 shows similar experience regarding the shifting levels of PPAC for different experience periods, as per Figure I.6. There is also no notable trend over the development quarters shown.

Beyond quarter 30, the development assumptions typically lie between the one year average and the five year average. Overall the selections do not appear unreasonable.

Superimposed Inflation

There is no allowance for superimposed inflation in PwC's estimates. We have analysed the payment data to assess superimposed inflation. The following chart shows the average inflation-adjusted quarterly PPAC within a financial year for payments made in the first 10 years after accident, across all accounts.



If we measure superimposed as being the increase in the PPACs above, then superimposed inflation was:

- 0% since the year 1999
- -5% in the last five years.

An assumption of nil superimposed inflation is not unreasonable.

I.4 Conclusions

Liabilities reduced on this account, although the reduction was essentially a reversal of an increase in liabilities put through at the December 2008 update.

The methodology, assumptions, and liability estimate for Vocational Rehabilitation are not unreasonable.

I.5 Recommendations

None

J Elective Surgery

This payment type comprises of benefits for inpatient elective surgery procedures.

J.1 Result

The outstanding claims liability at 30 June 2009 for Elective Surgery is \$1,444 million. This compares to the 30 June 2009 outstanding claims liability projected at 31 December 2008 of \$1,283 million. The following table shows the change in estimates from PwC's valuation.

Table J.1 – 30 June 2009 Elective Surgery Benefits (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	449	66	-22	493	15%	34%
Employers	99	15	-4	109	15%	8%
Treatment Injury	83	28	-6	106	34%	7%
Motor Vehicle	203	39	-13	229	19%	16%
Non Earners	210	36	-10	237	17%	16%
Partnership Program	15	0	0	15	0%	1%
Residual Non Work	101	18	-7	113	18%	8%
Residual Work	90	25	-6	108	28%	7%
Self Employed	32	3	-1	34	9%	2%
Total	1,283	230	-70	1,444	18%	100%

(*) Percentage change due to experience and model change only.

This payment type represents approximately 7% of ACC's total liabilities.

Excluding the effect of changes in economic assumptions, the liabilities have deteriorated by 18% since the 30 December 2008 estimates were produced. The deterioration is largely due to an increase in PwC's superimposed inflation assumptions.

The increase in superimposed inflation was largely in response to cost pressures for this payment type. PwC has attributed \$60 million of the superimposed inflation increase to the inclusion of an allowance for future Cabinet-approved and regulated rate increases (refer to Section 4).

The Treatment Injury account experienced the largest increase in liabilities. This is due to a higher than expected number of active claims on this account.

J.2 Key Findings

- Elective surgery is facing significant cost pressures, the causes of which are difficult to contain.
- ACC has changed its budgeting approach for elective surgery, and this had led to increases in treatment waiting lists.

- ▶ However, waiting lists are not explicitly included in PwC liability estimation methodology. We recommend that changes in waiting lists should be reflected in the estimated liabilities.
- PwC has increased its superimposed inflation assumptions:
 - ▶ We feel it was appropriate for PwC to strengthen these assumptions. However, the increase may not have been sufficient.
 - ▶ Factors that suggest a higher estimate may have been appropriate include the actual superimposed inflation rate in the most recent years, difficulties in addressing underlying cost pressures and the need to consider ageing.

J.3 Cost Drivers

Introduction

We have structured this section as follows:

- Summary of historical experience - changes in the number of active claims and payments per active claim.
- Discussion of the underlying cost pressures for this payment type, and how ACC is attempting in address these pressures.

Historical Experience

The following two graphs show the number of active elective surgery claims and the payments per active claim. We have graphed the annual rolling average for each development quarter (delay since accident).

Figure J.1 – Active Claims

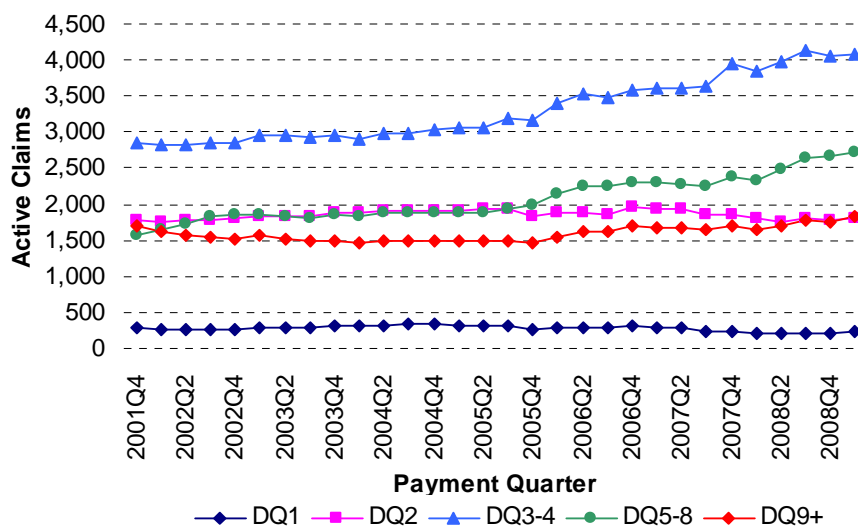
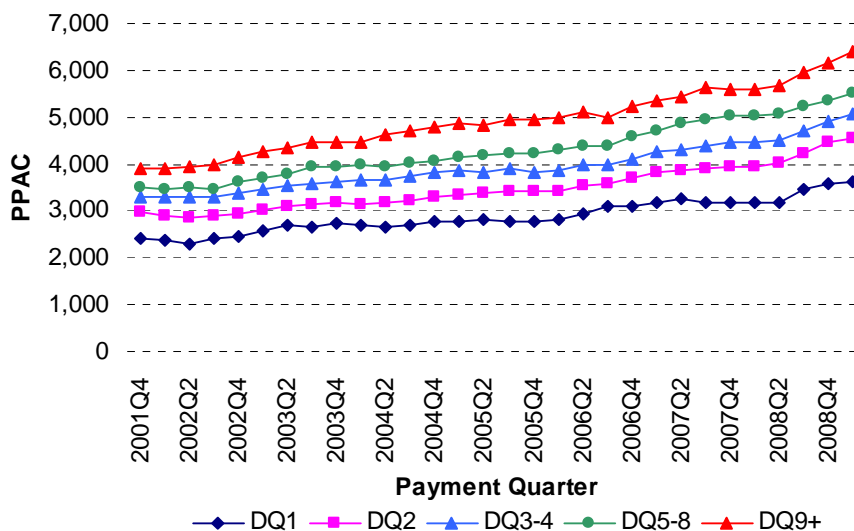


Figure J.2 – Payments per Active Claim



The number of active claimants for this payment type has increased although, for most development quarters, the increase is fairly small. The main cost driver for this payment type is the level of payments per active claim. We have previously noted that ACC initiated fee increases of 16% for this payment type, effective 1 July 2008.

We commented in our previous reports that PwC’s long term superimposed inflation assumption appeared low relative to historical experience. PwC has now reviewed this assumption, and we comment on this under Section J.4 below.

Through the superimposed inflation assumption, PwC’s estimates should include a provision for future rate increases where ACC’s rates have moved away from market rates. ACC should ensure that it monitors rate pressures in order that these provisions can be estimated.

Underlying Cost Pressures

We have discussed the underlying cost pressure for this payment type with ACC. The issues raised by ACC are:

- ACC is paying for procedures where the original injury is only contributing a small amount to the requirement for surgery, or has not contributed to the need for surgery at all. Examples include degenerative joint procedures for knees and shoulders.
- ACC feels it is increasingly becoming a provider of last resort for elective surgery, and doctors are using ACC as a means to avoid public hospital waiting lists.

- The referral process for diagnostic imaging services may be setting an expectation of surgery, whereas alternative treatments may be available.

These issues are also noted in PwC's report. Previous PwC reports have speculated that costs may be increasing due to changes in the mix of surgeries being provided. Mix of surgeries has now been investigated by ACC, and is considered unlikely to be a significant cost driver.

Some of the cost pressures noted above represent unintentional increases in the scope of cover, and it is appropriate for ACC to take action on these. ACC's response has included greater use of clinical panels, and changes in budgeting procedures. We describe these responses below.

Clinical Panels

ACC uses clinical panels to investigate whether requested surgery falls within ACC's remit, that is, if the surgery is required because of an accident. The panels are focused on significant claim types, for example, shoulder surgery is a current priority. However, panels only consider a small proportion of cases. In addition, it can be difficult for panels to reach definitive conclusions on the cause of a medical problem. This inherent uncertainty over injury causes limits the effectiveness of clinical panels in reducing cost pressures.

Budgets

Most elective surgery is carried out under contracts between ACC and hospitals. Elective surgery is also available under regulated rates. We understand from ACC that regulated rates for elective surgery are significantly less than the contracted rates. As a result, services covered by regulated rates make up only a small proportion of overall elective surgery costs.

Because most elective surgery is carried out under contracts, ACC is able to control the amount spent on elective surgery in any given year. ACC sets an annual budget for elective surgery, and allocates part of that budget to each hospital. Once a hospital has exhausted its budget, it is likely to stop treating ACC patients. This results in an increase in the number of people waiting for surgery. We understand from ACC that waiting times for surgery have increased since the budgeting arrangements were changed.

Although ACC has set hospital budgets for a number of years, it has recently tightened its budgeting process. In previous years hospitals that had exhausted individual budgets could access additional funds to continue treating ACC patients. These additional funds are no longer available.

ACC's new budgeting process appears able to control the costs of elective surgery within any given year. However, budgeting alone cannot address the underlying cost pressures. Rather, the current process will likely result in a postponement of payment for surgery as

patients join waiting lists. PwC does not explicitly capture waiting lists within its valuation methodology, and we comment further on this below (in Section J.4).

In addition to issues relating to liability, longer waiting lists for elective surgery have the potential to increase ACC's weekly compensation costs. Individuals may claim weekly compensation for longer if they require elective surgery before returning to work. In addition, we understand that the complexity of the surgery required can increase while individuals are on waiting lists. This can result in additional cost pressures. ACC may wish to undertake a cost-benefit analysis on the impact of the current budgeting process.

J.4 Valuation Assumptions

Introduction

We comment separately on:

- PwC's methodology
- The selected Continuance Rate and PPAC assumptions
- PwC's superimposed inflation assumptions.

PwC Methodology (Waiting Lists)

PwC uses the PPAC methodology for this payment type. As noted above, ACC is controlling hospital budgets more tightly than was previously the case. This has resulted in longer waiting lists for elective surgery.

PwC notes that experience was "very unfavourable" in the December 2008 quarter and "very favourable" in the March 2009 quarter. PwC notes that this may be due to hospitals using up their budget in the December 2008 quarter, and then having fewer surgeries in the second half of the year due to budget constraints. PwC advises that a significant number of surgeries were booked in for the September 2009 quarter before the end of April 2009 (that is, claimants have had to join a waiting list).

PwC selects assumptions based on the historical data. This includes amounts that have been paid, but does not explicitly capture changes in the number of people waiting for surgery. PwC's liability may be understated as a result of not having explicitly allowed for waiting lists.

PwC notes that continuance rates for some periods are better than expected. PwC notes that it has not revised the assumptions "in recognition of the current cost pressures which exist on elective surgery waiting lists". It is possible that the effect of waiting lists and apparent improvements in continuance rates have an approximately offsetting effect. However, it is not possible to conclude this without explicitly capturing information on waiting lists within the valuation process.

Continuance Rates

The following charts show the continuance rates for various development quarters for all accounts combined.

Figure J.3– Continuance rates for delay quarters 1-30, all accounts

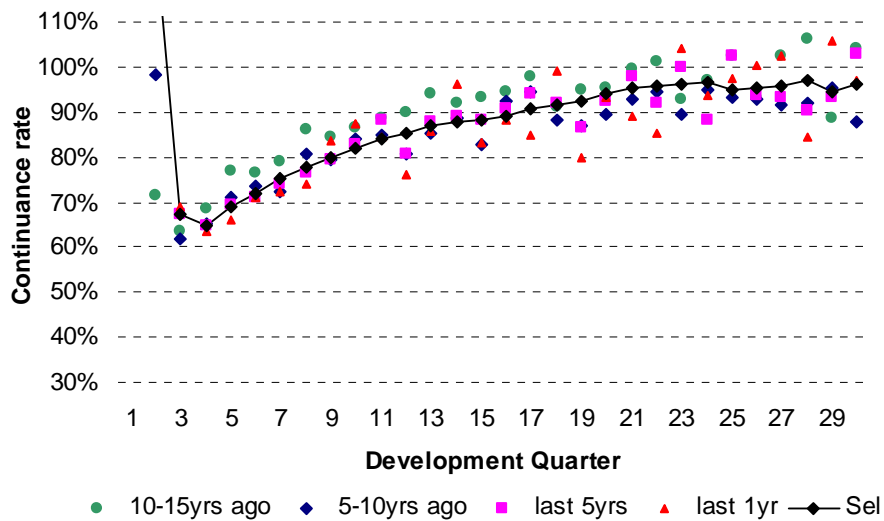


Figure J.4 – Continuance rates for delay quarters 31-60, all accounts

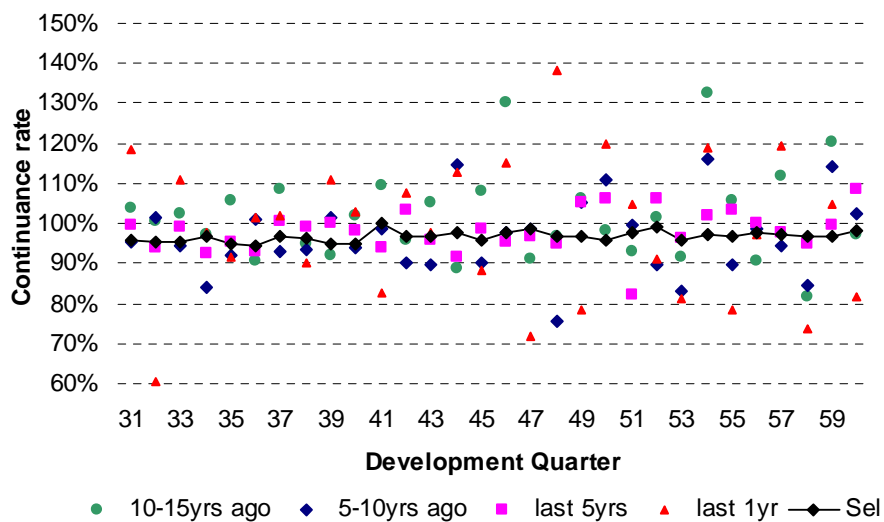
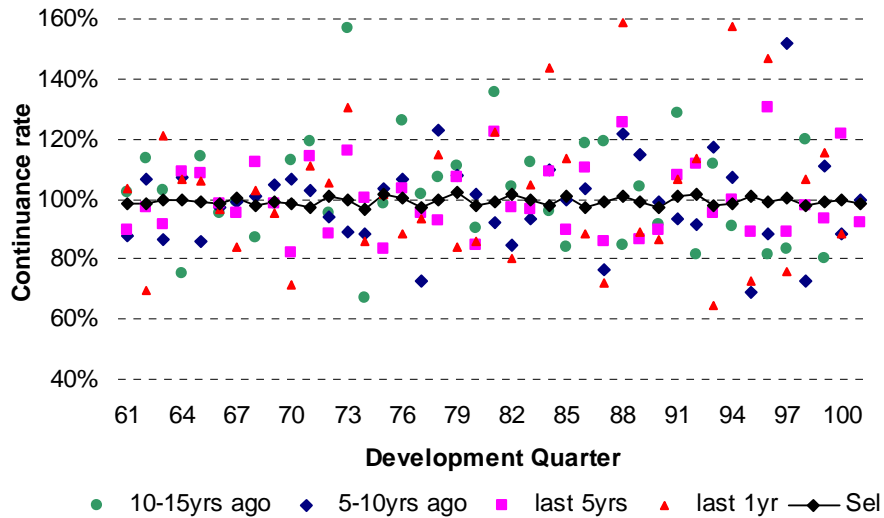


Figure J.5 – Continuance rates for delay quarters 61 and later, all accounts



A high proportion of payments are made in the first five years after accident. As shown in Figure J.3, continuance rates for the early development quarters have been fairly stable over time. For the later development quarters, Figure J.4 and Figure J.5 show no clear trend in continuance rate experience over time. The selected rates for these later delay quarters are all near 100% and appear reasonable compared to the historical data. However, as noted above, the historical data does not allow for waiting lists.

PPACs

The following charts show the PPAC assumptions for the same development quarter groupings as for continuance rates above, across all accounts.

Figure J.6 – PPACs for delay quarters 1-30, all accounts

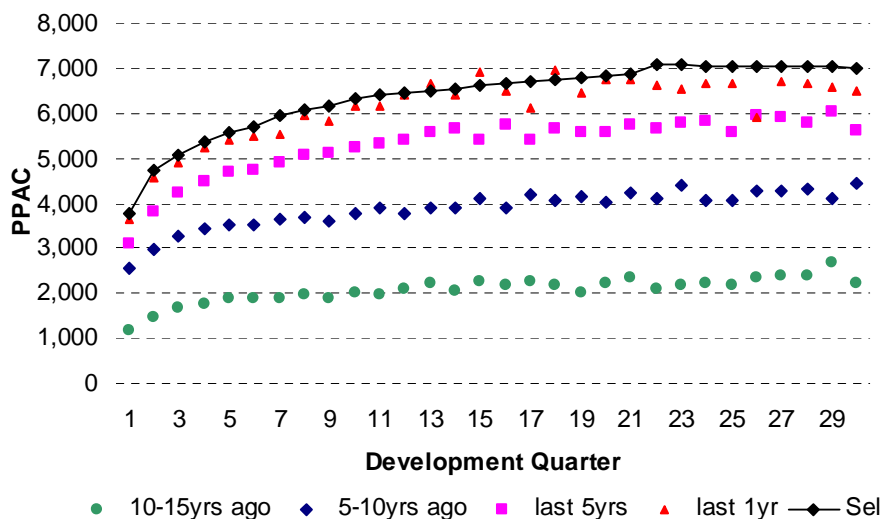


Figure J.6 illustrates two points regarding PPAC experience for the earlier development quarters for elective surgery:

- The level of PPACs has increased significantly from 10-15 years ago, beyond the level that would be expected due to “normal” inflation. This illustrates the requirement for the superimposed inflation allowance within the liability estimates.
- The payment per active claim is lower in earlier than later quarters, steadily increasing to about delay quarter 20, after which payments tend to stabilise.

Figure J.7 – PPACs for delay quarters 31-60, all accounts

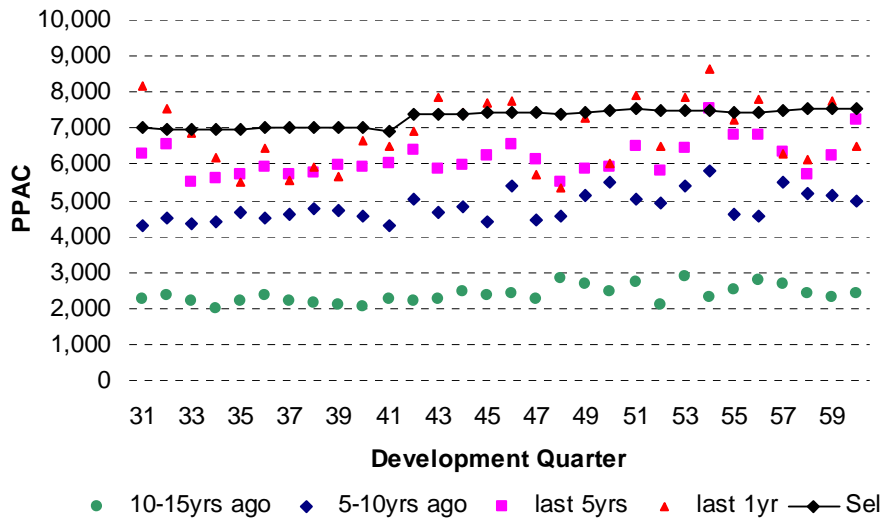


Figure J.8 – PPACs for delay quarters 61 and later, all accounts

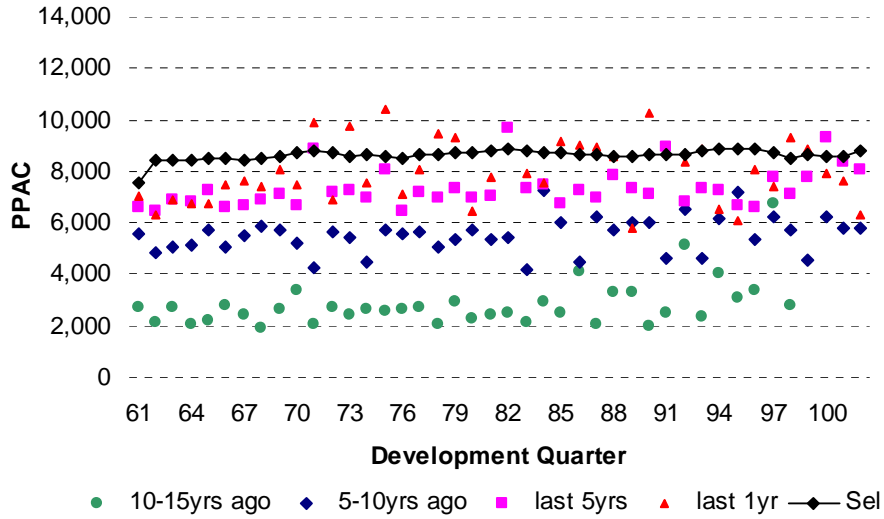


Figure J.7 and Figure J.8 show similar experience regarding the shifting levels of PPAC for different experience periods, as per Figure J.6.

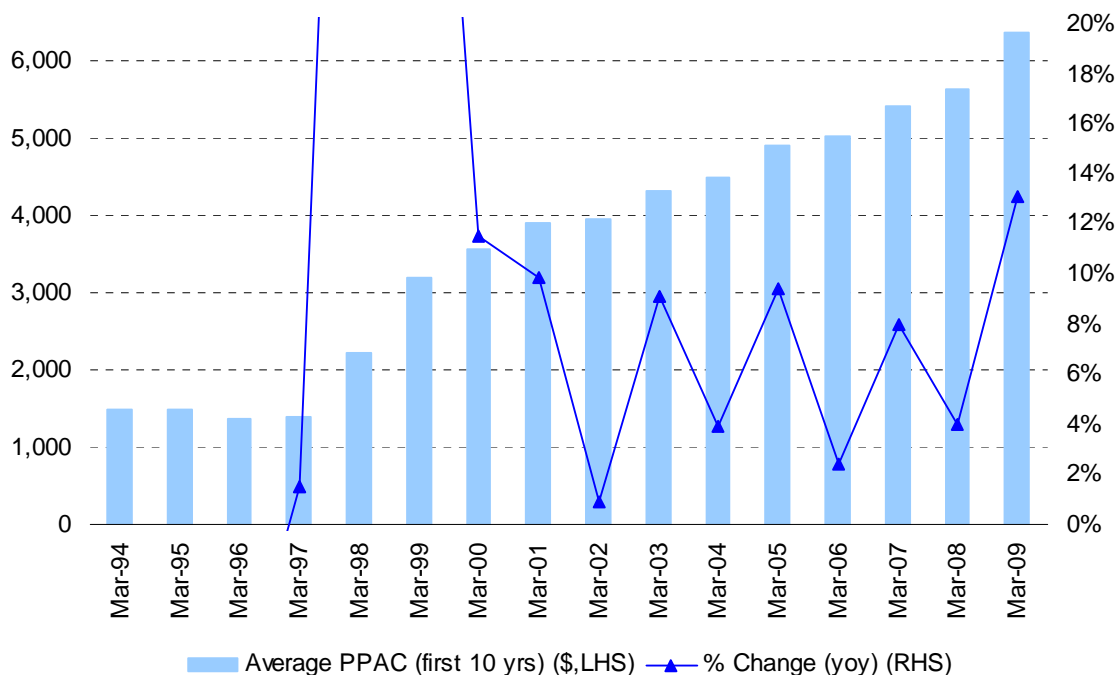
Payments per claim for this benefit are high relative to other benefits (e.g. vocational rehab). This reflects the greater expense expected for this type of rehabilitation. The selected amounts appear reasonable compared to the historical data. However, as noted above, the historical data does not allow for waiting lists.

Superimposed Inflation

Historical Experience

Figure J.9 below shows the average inflation-adjusted quarterly PPAC within a financial year for payments made in the first 10 years after accident, across all accounts.

Figure J.9 – PPACs by payment year (first 10 years), all accounts



If we measure superimposed as being the increase in the PPACs above, then superimposed inflation was:

- 12% p.a. over period 1995 to 2008
- 7% p.a. in the last five years.

There is clearly superimposed inflation present in the experience for elective surgery.

PwC Analysis

PwC considered two types of data, namely ACC’s historical claims experience and external health cost indices.

- Historical claims data indicates that ACC’s average surgery cost per claim has increased by 8% pa over the period since 2003. (Note that PwC has used a different inflation measure to the one shown in Figure J.9, however the results are similar):
 - ▶ The inflation rate was higher than average in the years since 2006. This is attributed to the budgeting arrangements in place at the time.
 - ▶ The Labour Cost Index (LCI) increased by an average of 3% over this period, indicating superimposed inflation of 4% to 5% per year.
- PwC examined the difference between the New Zealand LCI and two indices that relate more specifically to health costs. The indices considered were the health component of the LCI, and the health component of the Consumer Price Index (CPI):

- ▶ These indices suggested health costs superimposed inflation of 2% to 3% above LCI.

Based on this analysis, PwC's selected superimposed inflation assumptions are:

5% per year for the next five years	Based on examination of historical experience
4% per year for a further five years	
3% per year thereafter	Based on examination of health cost indices

Finity Comment

We noted in our previous reports that the long term superimposed inflation assumption appeared low relative to historical experience. We remain of this opinion despite the increase in the superimposed inflation assumption.

PwC has based its superimposed inflation assumption on the historical experience. However, we believe PwC may not have given enough weight to the most recent experience. In selecting the long term assumption of 3%, PwC may not have sufficiently considered the effect of ageing. In addition, it is not clear why superimposed inflation is expected to reduce from the current level given the difficulty in addressing the underlying claims cost drivers.

PwC's report shows that average surgery cost per claim has increased by 8% pa over the period since 2003. However, in the 2006-2008 years, PwC's measure of average surgery cost per claim has increased by around 10% pa. PwC notes that the budgeting arrangements in place between ACC and hospitals have tightened since this time (refer to comments above on budgets). As a result, PwC appears to have given less weight to this period in determining the short term superimposed inflation assumption.

As discussed above, ACC's new budgeting process appears able to control the costs of elective surgery within any given year. However, budgeting alone cannot address the underlying cost pressures which cause superimposed inflation. Once budgets have been exhausted individuals may join waiting lists, postponing the payment of a liability.

We listed examples of underlying cost pressures for this payment type with ACC. These included, for example, that ACC is paying for procedures where the original injury is only contributing a small amount to the requirement for surgery. We noted that ACC is trying to address these issues with measures such as clinical panels, but observed that underlying cost pressures are difficult to address. In the absence of evidence that ACC can address the current cost pressures, it is difficult to see how the rate of superimposed inflation can reduce from the current rate.

Health inflation indices such as those used by PwC reflect the overall inflation rate for New Zealand. When considering inflation for a subsection of the population, for example, active ACC claimants for a particular accident period, it is necessary to consider ageing. ACC has noted that it may be covering injuries that are the result of ageing rather

than accidents. As individuals age, demand for health services increases. This means that a higher superimposed inflation assumption may be required for longer durations from accident.

We have discussed this issue with PwC. We understand that PwC reflects aging primarily within its continuance rate assumptions. The continuance rate assumptions at late durations are said to allow for higher utilisation of services due to ageing. However, we understand that PwC has not explicitly considered the effect of aging for a number of years. In addition, we note that PwC's work on ageing is not documented in its report. We recommend that PwC specifically consider the impact of ageing in their analysis and document the results of this work.

J.5 Conclusions

ACC's new approach means that if demand for elective surgery exceeds the allocated budget, treatment is postponed until new budgets become available. This results in an increase in waiting lists. We believe PwC should have explicitly included individuals on surgery waiting lists within the liability estimate. By not allowing for the increase in waiting lists, PwC may have underestimated the liabilities.

We feel it was appropriate for PwC to increase the superimposed inflation assumptions. However, the increase may not have been sufficient. Factors that suggest a higher estimate may have been appropriate include the actual superimposed inflation rate in the most recent years, difficulties in addressing underlying cost pressures and the need to consider ageing.

We have made recommendations and suggestions that these matters be addressed. If PwC increased the superimposed inflation rate or included waiting lists explicitly, this would increase the estimated liabilities. Based on a scenario in PwC's December 2008 report, a 1% increase in superimposed inflation could increase the estimated liabilities by more than \$180 million. While this is a large amount, we note this is not material in the context of ACC's total estimated liabilities.

J.6 Recommendations

We recommend PwC explicitly include waiting lists within its estimation methodology.

We recommend that PwC specifically consider the impact of ageing in the superimposed inflation analysis and document the results of this work.

PwC's estimates should include a provision for future rate increases where ACC's contracted rates have moved away from market rates. ACC should ensure that it monitors rate pressures in order that these provisions can be estimated.

J.7 Suggestions

We suggest PwC review its superimposed inflation estimate. Factors that suggest a higher estimate may have been appropriate include the actual superimposed inflation rate in the most recent years and difficulties in addressing underlying cost pressures. We have included consideration of ageing as a recommendation.

We suggest ACC undertake a cost-benefit analysis of its budgeting procedures for elective surgery. This would consider, amongst other matters, the impact of waiting periods on weekly compensation costs and the ultimate cost of surgery.

K Other Rehabilitation

PwC changed its modelling methodology at the December 2008 review. Payments previously included in Other Rehabilitation are now included within other payment types. PwC has continued to use the new grouping for this June 2009 review.

The allocation to other payment types is as follows:

- Dental payments have been allocated to Medical Other
- Travel payments have been allocated to either Social Rehabilitation or Medical Other, depending on the reason for travelling
- Death benefits have been allocated to Fatal Weekly.

It is appropriate for PwC to group together similar payment types for modelling. We have reviewed the liabilities in the same categories used by PwC.

L Short Term Medical

Short term medical comprises GP, physiotherapy and radiology payments. PwC notes that “the vast majority of payments are made in the first couple of years after accident.”

L.1 Result

The projected 30 June 2009 outstanding claims liability for Short-Term Medical is \$323 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$301 million at 31 December 2008. The following table shows the change in estimates from PwC’s valuation:

Table L.1 – 30 June 2009 Short-Term Medical Benefits (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	119	6	-3	122	5%	38%
Employers	28	2	-1	30	7%	9%
Treatment Injury	9	2	-1	11	22%	3%
Motor Vehicle	39	7	-2	43	18%	13%
Non Earners	70	5	-2	73	7%	23%
Partnership Program	4	2	0	5	50%	2%
Residual Non Work	10	1	-1	11	10%	3%
Residual Work	15	5	-1	20	33%	6%
Self Employed	7	1	0	8	14%	2%
Total	301	32	-10	323	11%	100%

(*) Percentage change due to experience and model change only.

This is a small payment type making up approximately 2% of ACC’s total liabilities. While the liabilities are relatively small there are a large number of active claims (over one million active claims in the six months to September 2008).

Across all accounts and excluding the effect of changes in economic assumptions the estimated liabilities are in line with PwC expectations.

L.2 Valuation Assumptions

Continuance Rates

The following charts show the continuance rates for various development quarters for all accounts combined.

Figure L.1 – Continuance rates for delay quarters 1-30, all accounts

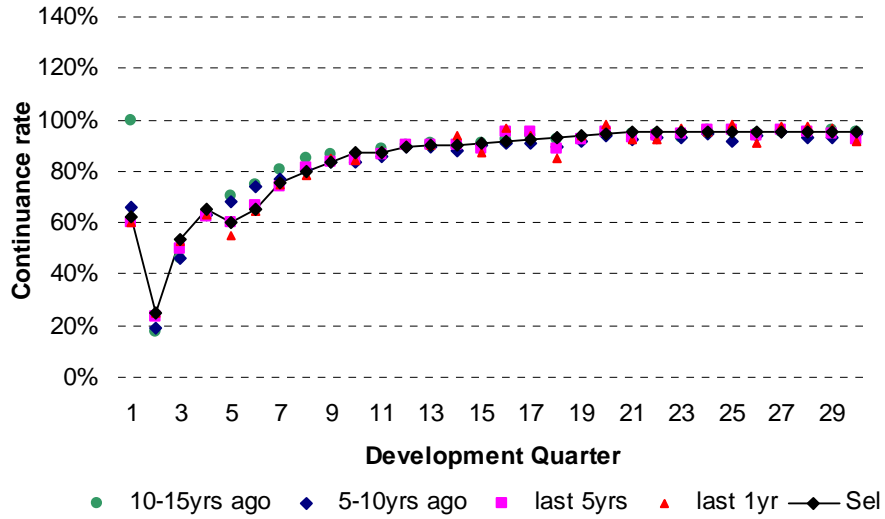


Figure L.2 – Continuance rates for delay quarters 31-60, all accounts

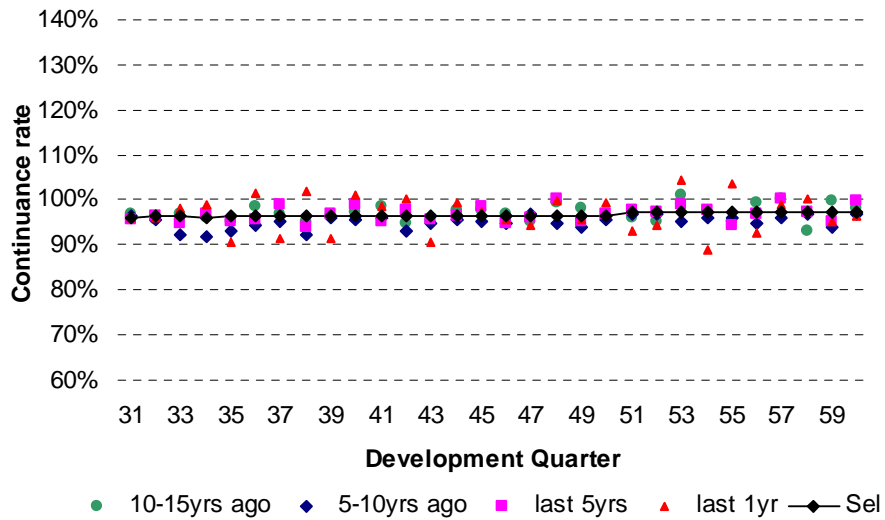


Figure L.3 – Continuance rates for delay quarters 61 and later, all accounts

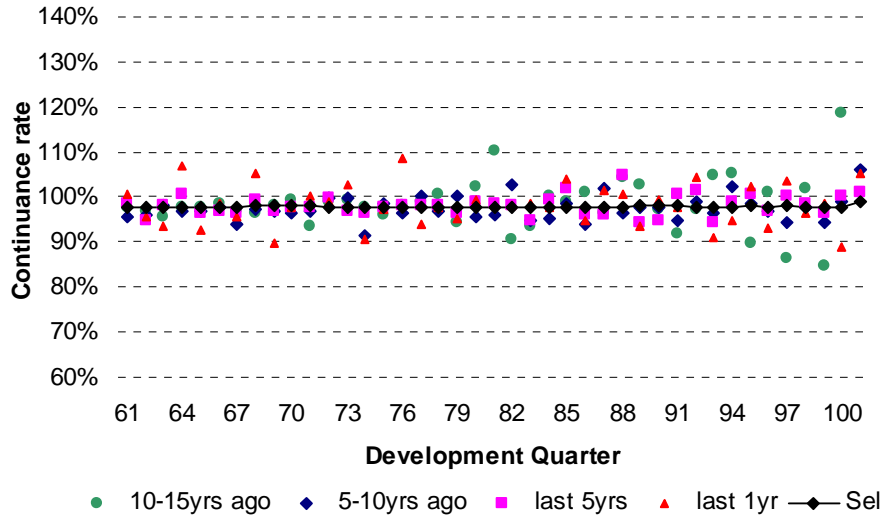


Figure L.1 above indicates that continuance rates for the early development quarters decreased from 10-15 years ago to more recent periods, where rates have been very stable. For later periods the experience is more volatile – however, given the short term nature of this payment type, the later periods are much less relevant. PwC have selected rates in line with recent experience.

PPACs

The following charts show the PPAC assumptions for the same development quarter groupings as for continuance rates above, across all accounts.

Figure L.4 – PPACs for delay quarters 1-30, all accounts

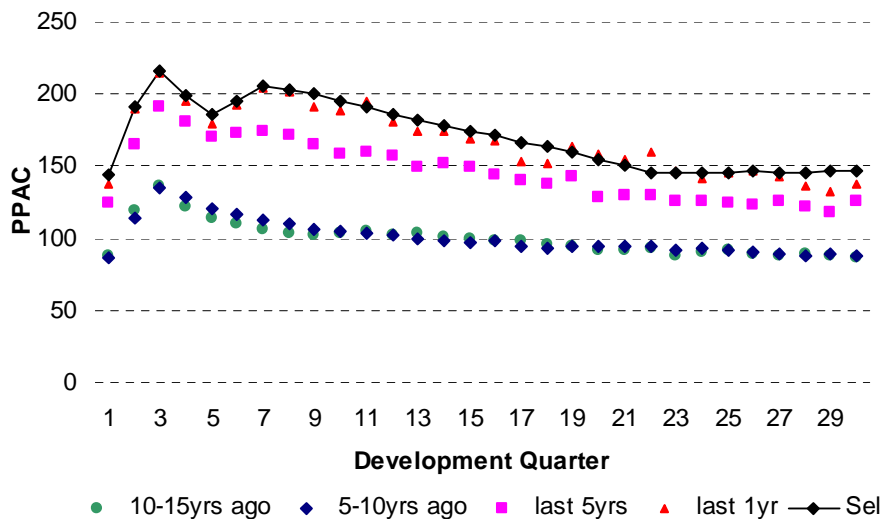


Figure L.5 – PPACs for delay quarters 31-60, all accounts

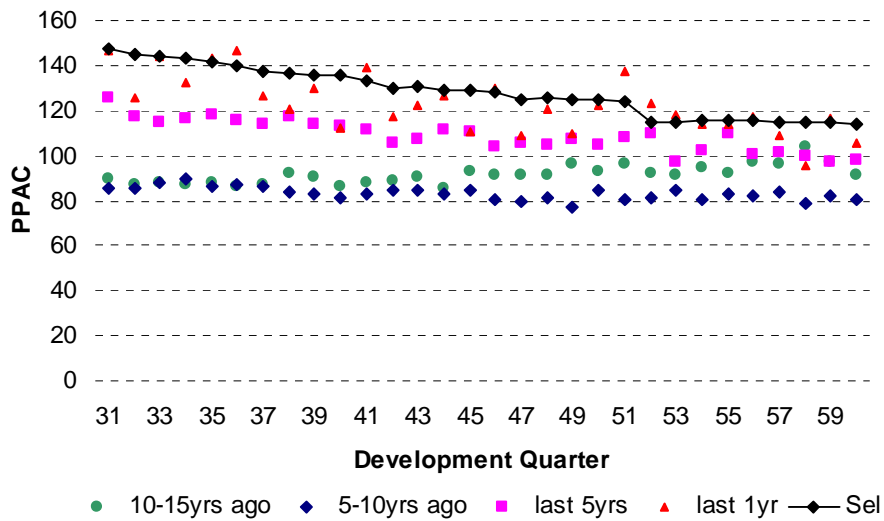
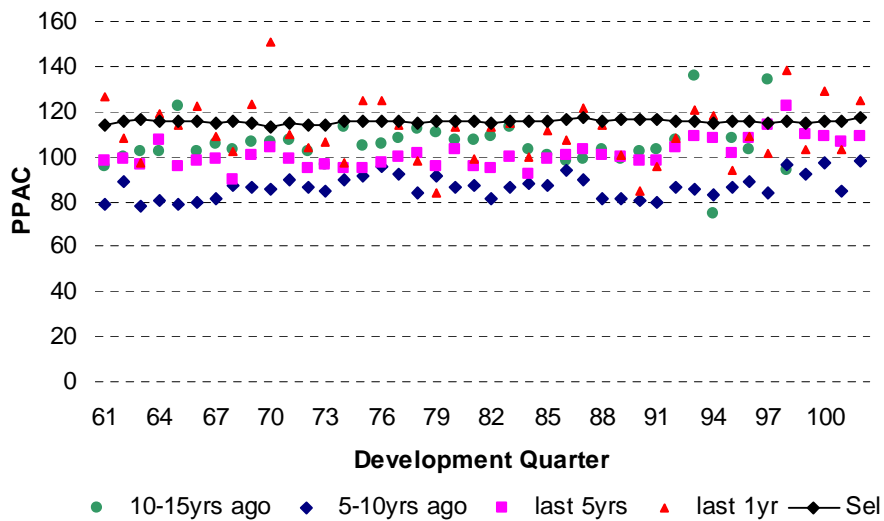


Figure L.6 – PPACs for delay quarters 61 and later, all accounts

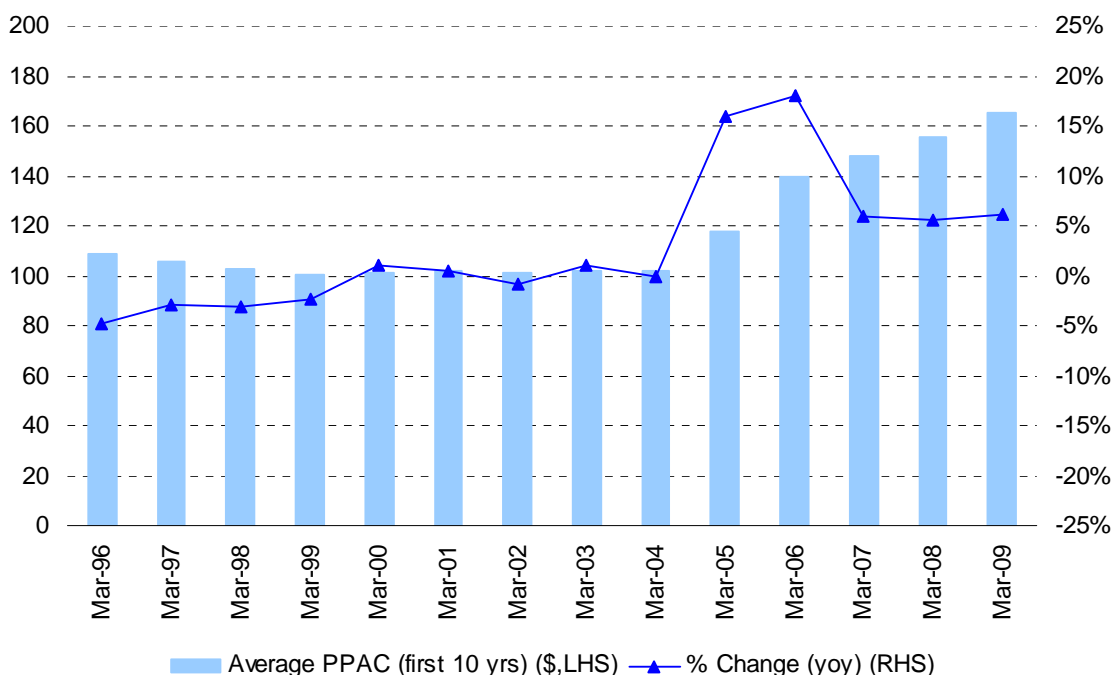


The general tendency has been for PPACs to increase over time, particularly at early durations. Given the short tail nature of Short Term Medical the tail assumptions are much less important than for other benefit types. PwC has selected rates in line with recent experience.

Superimposed Inflation

Figure L.7 below shows the average inflation-adjusted quarterly PPAC within a financial year for payments made in the first three to ten years after accident, across all accounts.

Figure L.7 – PPACs by payment year (1-10 years), all accounts



Because the vast majority of Short Term Medicals payments are made within the first two years, we analyse superimposed across payment years 1-10, rather than years 3-10 as we do for most other payment types. If we measure superimposed inflation as being the increase in these PPACs, then superimposed inflation:

- was quite stable at around 0% until 2004
- has increased quite substantially over the past five years
- overall, the 10 year average(including both the stable years and the more recent years) is an annual increase of 5%.

PwC has noted the recent experience is partly due to a one-off increase for physiotherapy costs due to the Endorsed Provider Network, and excluding this change the 10 years average would be between 3.5% and 4%, instead of 5%.

PwC has made the following superimposed inflation assumptions.

Table L.2 – Superimposed inflation assumptions for Short Term Medical

	2010	2011	2012	2013	2014+
--	------	------	------	------	-------

High utilisation of services	1.5%	1.5%	1.5%	1.5%	1.5%
Growth in non-reg costs	1.0%	1.0%	1.0%	1.0%	1.0%
Growth in regulated costs	0.0%	6.0%	1.0%	1.0%	1.0%
Current Total	2.5%	8.5%	3.5%	3.5%	3.5%
Previous	2.5%	2.5%	2.5%	2.5%	2.5%

The total long-term allowance of 3.5% consists of the following components:

- Higher utilisation of services results in superimposed inflation of 1.5% per year:
 - ▶ This applies to both regulated and non-regulated rates.
- Regulated costs comprise roughly 2/3rds of total payments:
 - ▶ The growth for regulated costs is assumed to be 1.5% per year in excess of LCI. This is based on the observed labour cost increases for health professionals since 2001.
 - ▶ So the regulated component contributes 1% to the overall superimposed inflation allowance, (that is, two thirds of 1.5%).
- Non-regulated costs comprise roughly 1/3rd of total payments:
 - ▶ The growth in excess of LCI in non-regulated costs is assumed to be 3% pa. This is higher than the regulated rates, in recognition of cost pressures on non regulated services, such as diagnostic imaging.
 - ▶ So the non-regulated component contributes 1% to the overall superimposed inflation allowance (that is, one third of 3.0%).

As there have not been significant rate increases since 2005, PwC have allowed for a one-off significant 'catch-up' in 2011. If rate increases do not eventuate, PwC intends to 'roll-forward' this catch up until regulated rate increases do increase.

L.3 Conclusions

We conclude that the methodology and assumptions are appropriate. Based on our review we conclude the liability for this benefit is not unreasonable.

L.4 Recommendations

None

M Other Medical

Other Medical benefits comprise all those medical benefits other than GP, physiotherapy and radiology (which make up Short-Term Medical).

M.1 Result

The 30 June 2009 outstanding claims liability for Other Medical is \$1,473 million at 30 June 2009. This compares to a projected 30 June 2009 outstanding claims liability of \$1,436 million at 31 December 2008. The following table shows the change in estimates from PwC's valuation.

Table M.1 – 30 June 2009 Other Medical Benefits (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)	Proportion of Liability
Earners	394	25	-19	399	6%	27%
Employers	119	-3	-6	111	-3%	8%
Treatment Injury	64	13	-4	73	20%	5%
Motor Vehicle	168	21	-10	179	13%	12%
Non Earners	434	44	-24	454	10%	31%
Partnership Program	11	1	0	11	9%	1%
Residual Non Work	66	15	-4	77	23%	5%
Residual Work	142	2	-8	136	1%	9%
Self Employed	37	-3	-2	32	-8%	2%
Total	1,436	115	-77	1,473	8%	100%

(*) Percentage change due to experience and model change only.

This payment type makes up approximately 7% of ACC's total liabilities.

The \$115m increase due to experience and model changes is primarily driven by the additional superimposed inflation loading for regulated rates.

M.2 Valuation Assumptions

Continuance Rates

The following charts show the continuance rates for all accounts combined.

Figure M.1 – Continuance rates for delay quarters 1-30, all accounts

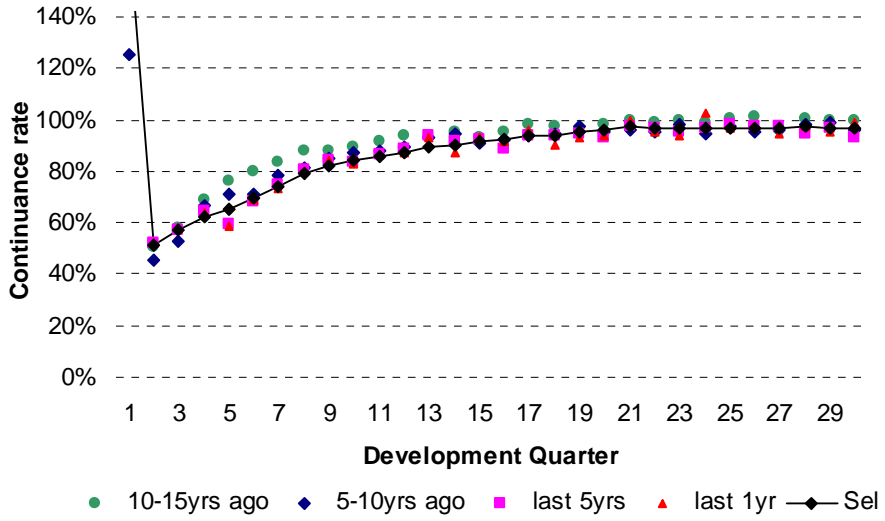


Figure M.2 – Continuance rates for delay quarters 31-60, all accounts

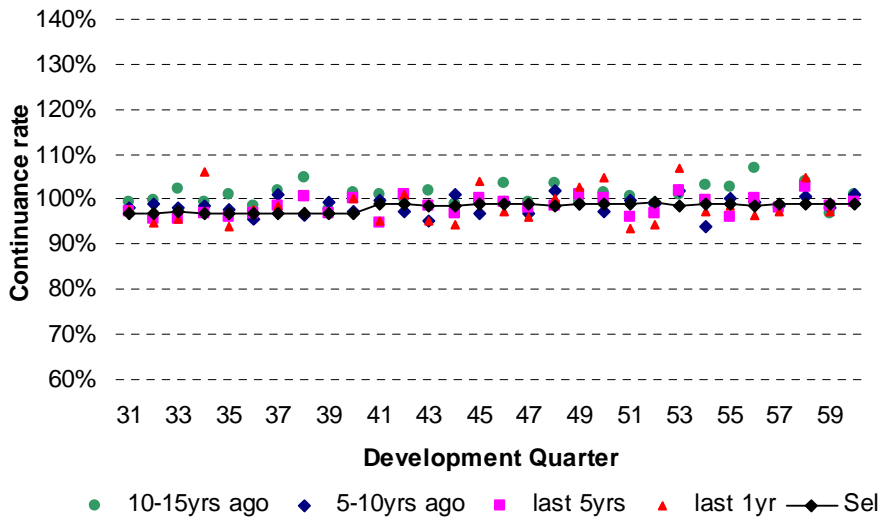
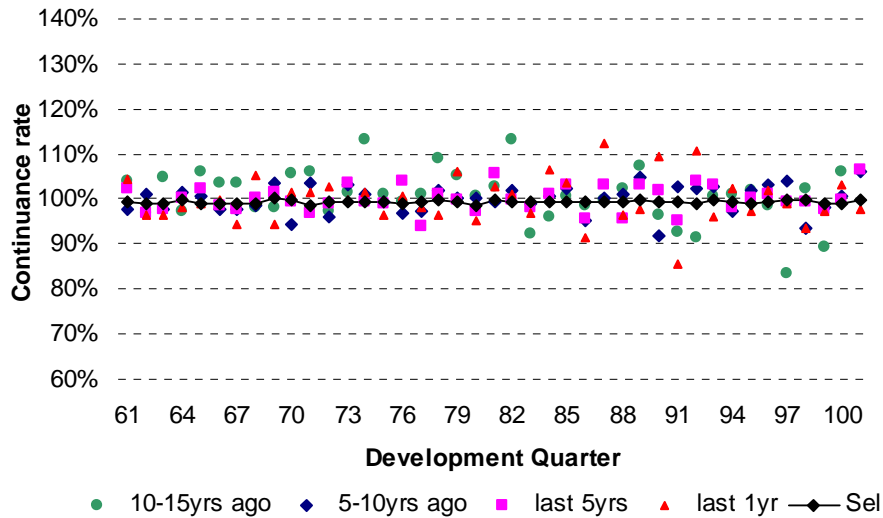
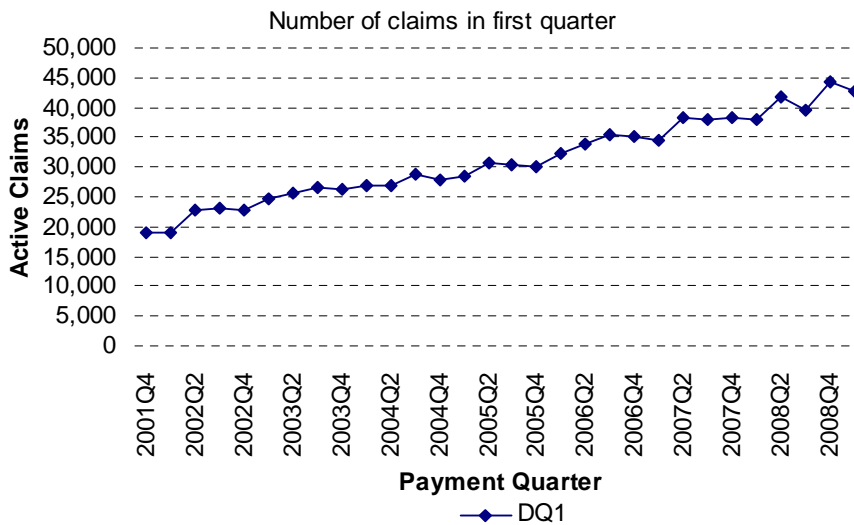


Figure M.3 – Continuance rates for delay quarters 61 and later, all accounts



Continuance rates for the early development quarters have trended down slightly over time. Continuance rates measure the number of claims that continue to measure a benefit. The overall cost will also be driven by the initial number of claims that receive a benefit. Figure M.4 shows the number of active claims in the first development quarter. Figure M.4 shows that, from early 2002, there has been a strong increase in the number of claims receiving “Other Medical” payment types.

Figure M.4 – Active Claims



PwC note in its report that the biggest increases in payments has been for Dental, Counselling, and Pain Management services, and these three appear to be responsible for around three quarters of the increase. The average payment per active claim has not increased by anywhere near the same proportion as the number of claims. Therefore the increase in costs is being driven by more and more people accessing “Other Medical” services.

PPACs

The following charts show the PPAC assumptions for the same development quarter groupings as for continuance rates above, across all accounts.

Figure M.5 – PPACs for delay quarters 1-30, all accounts

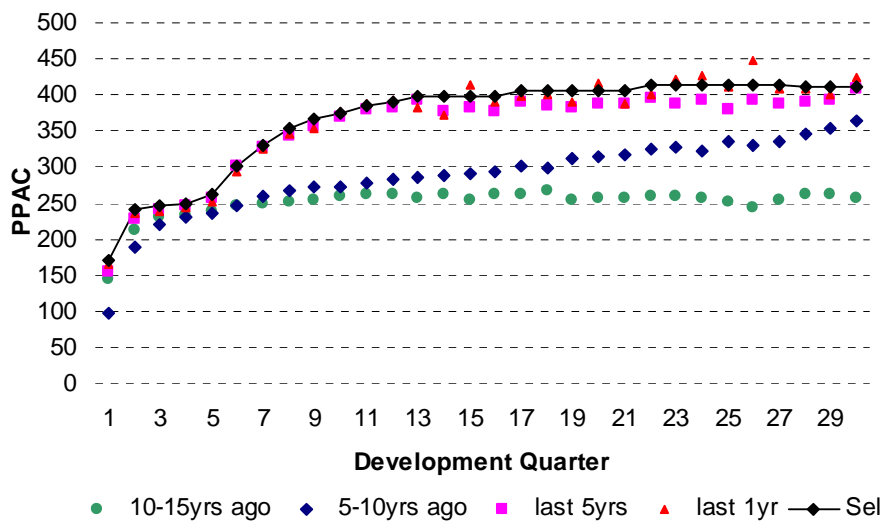


Figure M.6 – PPACs for delay quarters 31-60, all accounts

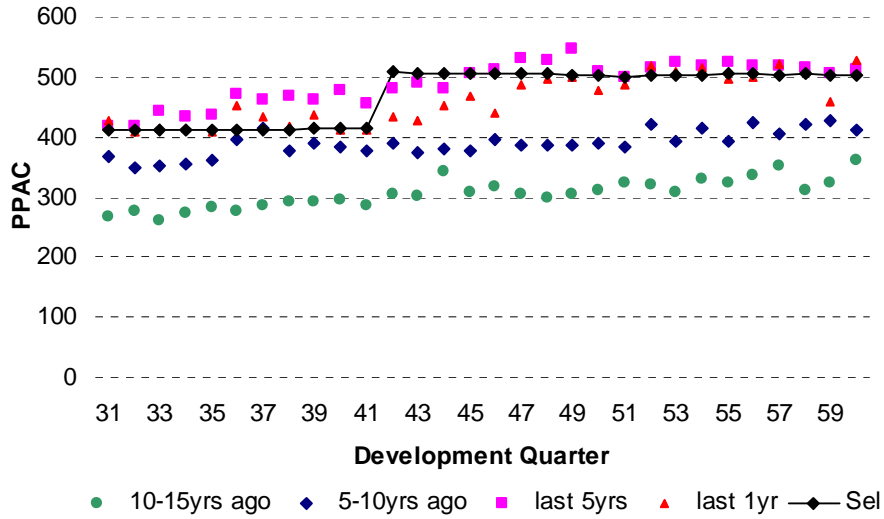
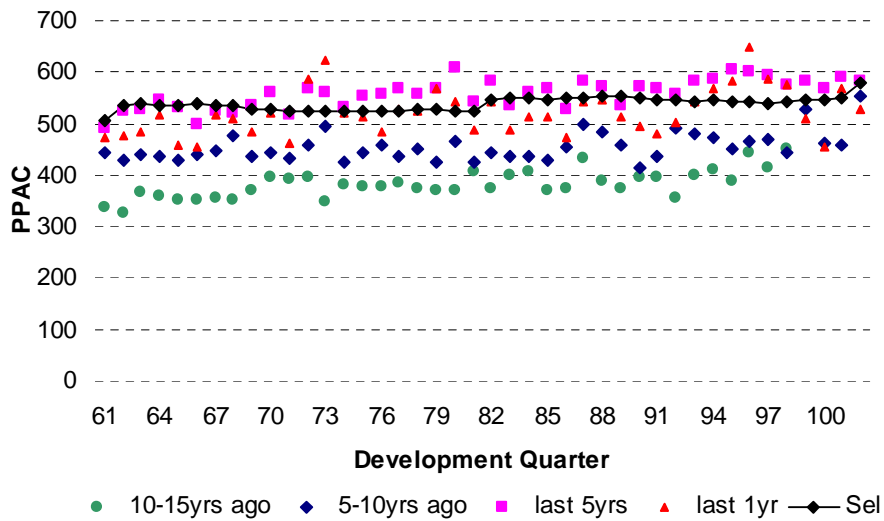


Figure M.7 – PPACs for delay quarters 61 and later, all accounts

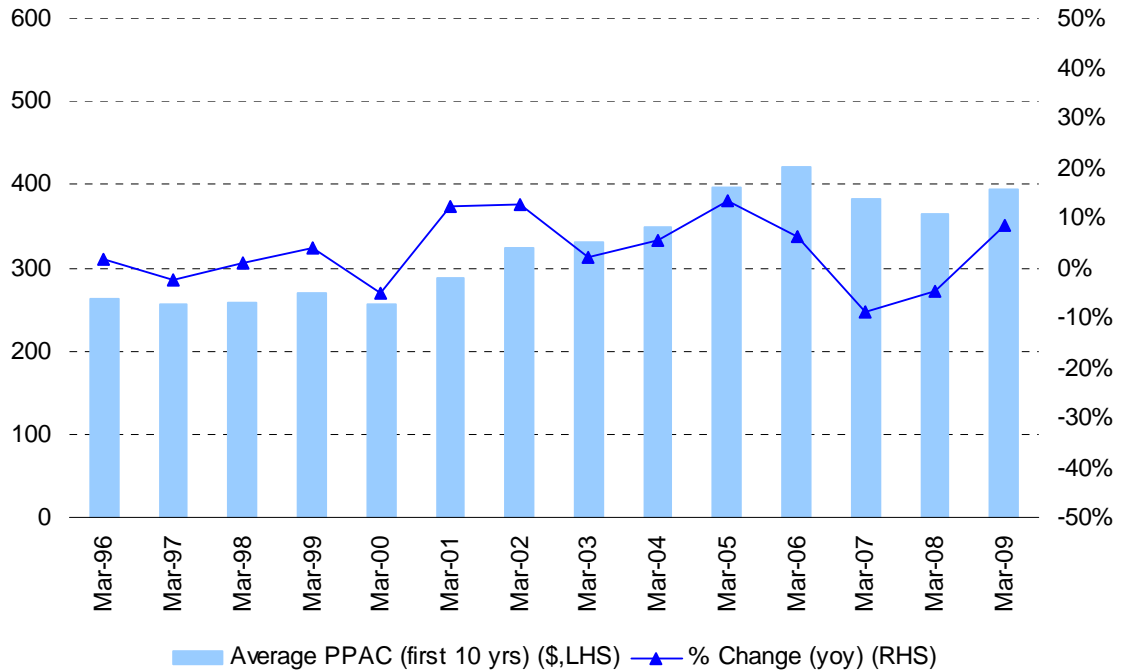


All of the PPAC figures show that the level of PPACs have shifted up over time, and PwC has reflected this experience in their selections.

Superimposed Inflation

The following chart shows the average inflation-adjusted quarterly PPAC within a financial year for payments made in the first 3-10 years after accident, across all accounts.

Figure M.8 – PPACs by payment year (3-10 years), all accounts



If we measure superimposed as being the increase in the PPACs above, then superimposed inflation was:

- 3% p.a. over the entire period shown, and
- 3% in the last five years.

PwC has made the following superimposed inflation assumptions.

Table M.2 – Superimposed inflation assumptions for Other Medical

	2010	2011	2012	2013	2014+
High utilisation of services	1.0%	1.0%	1.0%	1.0%	1.0%
Growth in non-reg costs	1.0%	1.0%	1.0%	1.0%	1.0%
Growth in regulated costs	0.0%	3.0%	0.5%	0.5%	0.5%
Current Total	2.0%	5.0%	2.5%	2.5%	2.5%
Previous	3.5%	1.5%	1.5%	1.5%	2.0%

The total long-term allowance of 2.5% consists of the following components:

- Higher utilisation of services results in superimposed inflation of 1.0% per year:
 - ▶ This applies to both regulates and non-regulated rates.
 - ▶ This is a reduction from the previous valuation, which included a higher allowance in 2010 to allow for the anticipated increase in utilisation of pain

management services. These services have had a slower take up than expected.

- Non-regulated costs comprise roughly two thirds of total payments:
 - ▶ The growth in excess of LCI in non-regulated costs is assumed to be 1.5% pa.
 - ▶ So the non-regulated component contributes 1.0% to the overall superimposed inflation allowance (that is, two thirds of 1.5%).
- Regulated costs comprise roughly one third of total payments:
 - ▶ The growth for regulated costs is assumed to be 1.5% per year in excess of LCI (the same as for non-regulated rates).
 - ▶ So the regulated component contributes 0.5% to the overall superimposed inflation allowance, (that is, one third of 1.5%).

PwC notes that there have not been significant regulated rate increases since 2005. Because of this, PwC have allowed for a one-off significant 'catch-up' in 2011. If rate increases do not eventuate, PwC intends to 'roll-forward' this catch up until regulated rate increases do increase.

The superimposed inflation assumption is in addition to a labour cost index assumption. To the extent that there have not been significant increases in regulated rates for some time, future increases may include a 'catch-up' for labour cost increases as well. This would suggest that an even higher allowance for the 'catch-up' may be necessary.

Offsetting this, an absence of historical regulated rate increases is not a guarantee that regulated rates will be increased in future in order to 'catch-up'. To the extent that the public has accepted higher co-payments it may be unlikely that any future regulated rate increase includes a full increase for previous labour cost increases and superimposed inflation increases.

On balance, allowing for a catch-up in superimposed inflation only is not unreasonable. Overall, PwC's superimposed inflation selections are not unreasonable.

M.3 Conclusions

Based on our review we conclude that the methodology, assumptions and liability estimate for the Other Medical benefits are not unreasonable.

M.4 Recommendations

None

N Ambulance and Bulk Billed Costs

Certain health care costs are bulk billed to ACC, and paid shortly after receipt. These costs relate to pharmaceuticals, complex burns, laboratory costs, public health acute services and ambulances.

ACC covers the cost of emergency transport within the first 24 hours of an accident occurring. ACC will also cover the cost of transfer to another hospital if the transfer is within 24 hours of emergency admittance.

The 30 June 2009 outstanding claims liability for Ambulance and Bulk Billed Costs is \$16 million at 30 June 2009. The table below shows the change compared to the 31 December 2008 projection.

Table N.1 – 30 June 2009 Ambulance and Bulk Billing from 31 December 2008 (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change(*)
Total	28	-12	0	16	-42.9%

PwC's estimate for bulk-billed costs is 2% of the payments made during the previous year. This is a reduction from 5% of the payments from the previous review, and explains the \$12 million release. PwC attributes this change to faster payments, leaving a smaller proportion outstanding.

N.1 Conclusion

Because this payment type only includes claims that are paid and reported quickly we believe that the approach adopted is reasonable.

Based on our review we conclude the liability for this benefit is not unreasonable.

N.2 Recommendations

None

O Claims Handling Expenses

PwC estimate claim handling expenses as a proportion of future claim payments. Separate assumptions are made by category of expense, account and duration since injury.

The 30 June 2009 outstanding claims liability for Claims Handling Expenses (CHE) is \$1,261 million. The table below shows a split by account.

Table O.1 – 30 June 2009 Claims Handling Expenses (\$m)

Account	Projected 30/6/09 at 31/12/08	Experience & model changes	Economic Assumptions	Provision at 30/06/09	% change (*)	Proportion of Liability
Earners	241	58	-10	289	24%	23%
Employers	98	4	-3	100	4%	8%
Treatment Injury	71	7	-4	75	10%	6%
Motor Vehicle	326	48	-17	357	15%	28%
Non Earners	91	20	-5	106	22%	8%
Partnership Program	9	0	0	8	0%	1%
Residual Non Work	103	11	-5	109	11%	9%
Residual Work	189	14	-7	195	7%	15%
Self Employed	22	0	-1	22	0%	2%
Total	1,150	162	-51	1,261	14%	100%

(*) Percentage change due to experience and model change only.

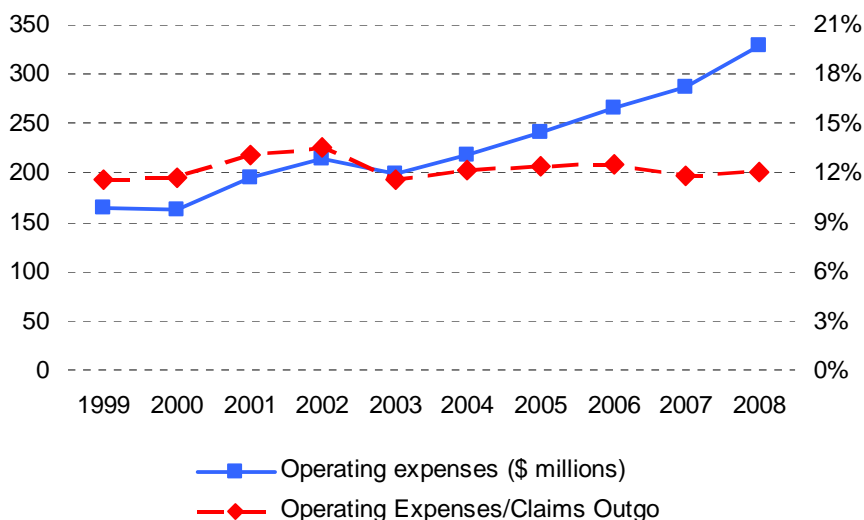
Excluding the effect of changes in economic assumptions, the estimated liability has increased by approximately 14% or \$162 m since the previous review. PwC attributes this to an increase in estimate liabilities. Specifically, PwC notes that there is now higher allowance for rehabilitation expenses relating to claim payments made more than five years post accident.

The CHE liability is calculated as a percentage of total outstanding claims. This means that, in the absence of further adjustment, the increase in liability due to the allowance of superimposed inflation of regulated costs would automatically increase the CHE liability by a similar proportion. However, PwC has advised us they specifically removed this impact by adjusting their CHE assumptions. This is appropriate, as simply having higher payments due to an allowance for superimposed inflation will not necessarily increase ACC's claims handling expenses.

O.1 Experience

Figure O.1 below shows ACC's total operating expenses for the period 1999-2008. The dotted line shows operating expenses as a proportion of benefit paid (compensation plus lump sum). The amounts are taken from ACC annual reports over the period.

Figure O.1 - ACC Total Operating Expenses (\$ millions)



The chart shows that the average annual increase in total expenses was 8% per year over the period 1999-2008. The annual increases have been higher than average in more recent years, typically 10% per year for the period 2003-2008. Operating expenses as a proportion of claims outgo has been reasonable stable over the period.

Only a proportion of ACC’s operating expenses will be related to paying claims, and only a proportion of this will be attributable to paying claims arising from previous accident periods. It is only this proportion of expenses that is relevant to the assessment of the claim handling expense liability. Part of ACC’s expenses in any year will relate to new claims, and other costs not relating to the payment of claims. It is possible that the proportion of expenses that are in respect of prior accident years may have changed over time. However, Figure O.1 is useful because it considers changes in ACC expenses over a number of years.

The tables in the PwC report indicate that:

- Rehabilitation expenses for delay years 5+ have been falling as a proportion of payments for the past 5 years – PwC has assumed that these will stabilise.
- Up-front Rehabilitation expenses reduced significantly in 2009, attributable to new programs that affect initial claim payments but not expenses. PwC assume this reduced rate will continue in future.

ACC’s expense rates as a percentage of outstanding claims is 6.3%. This is slightly lower than similar Australian accident compensation schemes, but is justifiable based on ACC’s size and differences in claims management approaches. Overall, PwC’s assumptions are not unreasonable.

O.2 Conclusions

Based on our review we conclude the liability for this benefit is not unreasonable.

O.3 Recommendations

None