



**Australian Government**  

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**Australian Government Actuary**

**Fourth report on the costs of the  
Australian Government's  
Run-Off Cover Scheme for  
medical indemnity insurers**

2007-08 financial year

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## **1. INTRODUCTION**

1.1. This report has been prepared to comply with certain requirements of the *Medical Indemnity Act 2002* (Medical Indemnity Act). Section 34ZW of the Medical Indemnity Act provides for a report on aspects of the Run-Off Cover Scheme to be tabled each year in Parliament. The report is required to contain a statement of the:

- number of persons eligible for membership of the Run-Off Cover Scheme (the Scheme);
- total run-off cover (ROC) indemnity payments paid by the Commonwealth during the financial year, including claims handling and administration expenses;
- total ROC support payments paid to the Commonwealth during the financial year; and
- projected liabilities of the Scheme in future financial years.

1.2. This is the fourth report that has been prepared under section 34ZW of the Medical Indemnity Act. It relates to financial year 2007-08. The third report was tabled in Parliament on 19 March 2008.

## **2. BACKGROUND**

### **2.1 Medical indemnity insurance**

2.1.1 Medical indemnity insurance is a form of professional indemnity insurance. It covers practitioners for their professional negligence.<sup>1</sup>

2.1.2 Doctors who undertake private medical practice in Australia generally purchase medical indemnity insurance from private sector underwriters.<sup>2</sup> This report considers the five private sector underwriters operating in Australia during 2007-08. Figure 1 below illustrates the market shares of the five private underwriters calculated on the basis of premium data provided by them.

2.1.3 The five private underwriters operating in Australia during 2007-08 were Avant Mutual Group Limited (Avant), MIPS Insurance (MIPSi), MDA National Insurance

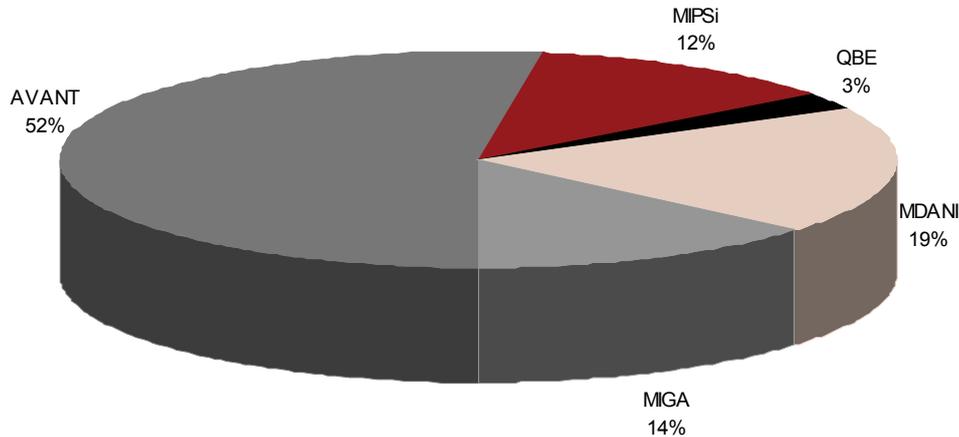
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1 Medical indemnity insurance can also cover other costs such as those associated with appearing at coronial inquiries.

2 On the other hand, many employed practitioners such as doctors practising solely in a public hospital will be indemnified by their employer against negligence.

(MDANI), Medical Insurance Group Australia (MIGA) and QBE Insurance (Australia) Ltd (QBE).

**Figure 1: Market share of medical indemnity insurers**



2.1.4 Note that the owners of Australasian Medical Insurance Limited (AMIL) and Professional Indemnity Insurance Company Australia (PIICA) — United Medical Protection and Medical Defence Association of Victoria — merged on 1 July 2007 to become Avant Mutual Group Limited. Avant Insurance Limited succeeded AMIL as the provider of medical indemnity insurance to Avant members.

2.1.5 Medical negligence claims are initiated by, or on behalf of, patients against doctors. Roughly 2,000 claims of negligence might be expected each year in relation to private medical practice in Australia. However, there can be substantial variation from one year to the next. It is difficult to project the number of medical indemnity claims with any precision. A significant number of claims will be successfully defended.

2.1.6 The cost of medical negligence claims is highly variable since the claims relate to bodily injury. The cost of a medical negligence claim to the insurer is made up of damages which are payable to the plaintiff, any of the plaintiff's legal costs which the insurer is obliged to pay, and the insurer's own costs of defending and managing the claim. While most claims are finalised for less than \$100,000, a small number of claims are large. Perhaps 5 per cent of claims cost more than \$500,000. These large claims have a significant impact on the overall cost of medical indemnity insurance. At least 40 per cent of the cost of all medical indemnity claims relates to claims which are larger than \$500,000.

2.1.7 The medical indemnity claim process can be long. Years can elapse between the date of a negligent medical incident and the date that legal action against the practitioner is initiated. It is not unusual for claims to take a number of years to finalise after they have been initiated. It is common for the whole process to take more than five years for a single claim. The cost of a claim depends significantly on economic and

judicial conditions prevailing at the time the claim is finalised (paid), rather than at the time of the medical incident or the time that the claim is made.

2.1.8 All of these factors make medical indemnity insurance difficult for an insurer to underwrite. It is hard to forecast claim numbers and claim sizes reliably. Moreover, much of the cost is likely to relate to a small minority of the claims, which adds further uncertainty. As a result, it is difficult to know how much premium to charge and how much money to hold in reserve to pay claims. For these reasons a robust private market in medical indemnity insurance requires professional and disciplined underwriting and management.

## **2.2 Brief history of private medical indemnity insurance in Australia — the lead-up to the Run-Off Cover Scheme**

2.2.1 Historically, medical indemnity cover was provided to Australian doctors in private practice by medical defence organisations (MDOs). MDOs were not licensed insurers and were therefore not subject to prudential regulation.

2.2.2 Medical indemnity cover was originally provided to practitioners on a so-called 'claims-occurring' basis. Practitioners were protected against claims that might be made in relation to the medicine that they had practised while members of the MDO. Thus, practitioners who had claims made against them after retirement could seek assistance from their MDO provided that they had been members at the time of the medical incident. Medical indemnity is difficult to underwrite on a 'claims-occurring' basis, partly due to the often long delay between the date of medical incident and the time at which a claim is initiated.

2.2.3 During the 1990s most MDOs came under financial pressure as a result of increasing levels of claim payments and were forced to make calls on their members for additional funds.

2.2.4 At the same time, most MDOs progressively changed the basis of their cover from 'claims-occurring' to 'claims-made'. In simple terms, claims-made cover provided protection for the practitioner against claims that were made during the period of membership. Thus, in order to continue to be covered against claims that might emerge in relation to past medical practice, a doctor had to continue his MDO membership. Professional indemnity insurance is generally provided on a 'claims-made' basis.

2.2.5 In 2002, Australia's largest MDO, United Medical Protection, was placed in provisional liquidation. Following this, steps were taken to stabilise the medical indemnity industry.

2.2.6 Since 1 July 2003, medical indemnity insurance has been required to be provided to Australian practitioners by insurers licensed under the *Insurance Act 1973* and prudentially supervised by APRA.

2.2.7 This has ensured a more disciplined approach to underwriting and has reduced the risk of failure of a medical indemnity provider.

2.2.8 Consistent with more disciplined underwriting, all medical indemnity insurance is now provided on a 'claims-made' basis. Consequently, doctors have to maintain insurance in order to remain covered against claims that might emerge, even if they are no longer practising. This form of insurance cover is known as run-off cover. Put simply, run-off cover provides insurance protection for doctors who have ceased medical practice. The potential delay between a medical incident and a claim highlights the need for doctors to maintain run-off cover after ceasing practice.

2.2.9 For some doctors the annual cost of medical indemnity insurance runs into the tens of thousands of dollars. In order to address problems associated with the cost of run-off cover, including the potential threat to the provision of medical services, a scheme was established which requires medical indemnity insurers to provide free run-off cover to certain groups of doctors who have ceased private practice. The Scheme was intended to be largely cost neutral to taxpayers whilst not threatening the viability of the insurance companies. This scheme is known as the Run-Off Cover Scheme.

## **2.3 What is the Run-Off Cover Scheme?**

2.3.1 The Run-Off Cover Scheme facilitates the provision of free medical indemnity insurance cover to particular groups of doctors who have ceased private medical practice.

2.3.2 The rules for the Scheme appear in the *Medical Indemnity (Prudential Supervision and Product Standards) Act 2003* (PSPS Act), the *Medical Indemnity (Run-off Cover Support Payment) Act 2004* (MI ROCSPA) and the Medical Indemnity Act. The principal elements of the Scheme are as follows:

- The PSPS Act imposes an obligation on insurers to provide free run-off cover to particular groups of doctors who have ceased private practice.
- The Medical Indemnity Act provides for the Commonwealth to make payments to the insurers to reimburse the costs of eligible run-off claims. These payments are known as ROC indemnity payments.
- The Medical Indemnity Act provides for the Commonwealth to make other payments to insurers to offset the relevant costs of administering the Scheme that are incurred by insurers.

- The Medical Indemnity Act also provides for the insurers to make payments to the Commonwealth to ensure that the Scheme is largely cost-neutral to taxpayers. These payments are levied as a tax on insurers' premium income. In practice, the cost is met by a loading on practitioners' medical indemnity insurance premiums. These payments are known as ROC support payments. The MI ROCSPA sets out the rules for calculating ROC support payments.

2.3.3 The Scheme provides for ROC support payments to be made by medical indemnity insurers to the Commonwealth and for ROC indemnity payments to be made by the Commonwealth to medical indemnity insurers (MIIs) and MDOs. Ancillary arrangements provide for payments to cover other costs such as administrative costs.

2.3.4 Amendments to the primary legislation were passed late in 2006 which simplified the administration of the Scheme. Protocols governing certain administration payments to insurers are now in place.

2.3.5 An important financial dynamic of the Scheme is the timing mismatch between the payment of ROC support payments by MIIs and the emergence, payment and reimbursement of medical indemnity claims of eligible doctors who are no longer in private practice. The first ROC support payments were received on 30 June 2005. The Scheme applies to eligible medical indemnity claims that are first notified to the MIIs or MDOs on or after 1 July 2004. As a result of inherent delays in the medical claims process, it is to be expected that the level of ROC support payments will be substantially greater than the level of ROC indemnity payments for a number of years. That is, in a cashflow sense, the Scheme is a very immature arrangement. It will probably take about 20 years to reach maturity when income from ROC support payments and expenditure on ROC indemnity payments are of a similar order of size. To preserve the financial integrity of the Scheme, a system of notional accounting is maintained and reported on in Section 4 of this report.

## **3. DATA**

### **3.1 Data collection**

3.1.1 For the purpose of preparing this report, certain data were collected from the MIIs and MDOs by Medicare Australia during late 2008 including:

- details of practitioners who were identified as having become eligible for membership of the Scheme before 30 June 2008;
- details of claims (including incidents) notified to MIIs and MDOs by 30 June 2008 which might eventually become eligible for reimbursement under the Scheme;

- details of ROC support payments;<sup>3</sup>
- actuarial estimates of that part of the cost of claims relating to incidents which occurred before 30 June 2008 (whether notified or not) which is expected to be reimbursed under the Scheme;
- actuarial estimates of that part of the future claims cost of medical incidents projected to be notified during the 2008-09 to 2011-12 financial years which is expected to be reimbursed under the Scheme; and
- actuarial estimates of that part of the future claims cost of medical incidents occurring during 2008-09 which is expected to be reimbursed under the Scheme.

3.1.2 This report also utilises other data and information including that which was previously provided to Medicare Australia for the purpose of section 34ZW of the Medical Indemnity Act.

## **3.2 Data verification**

3.2.1 The results in this report rely on information provided by MIIIs and MDOs. This information is regarded as the most suitable information available for the current purpose.

3.2.2 Steps were taken to ensure, as far as practicable, that the information provided was prepared on a basis suitable for the purpose. Despite this, it is not possible to guarantee that the information provided is free from material error. The information was not independently audited. As was the case in previous years, there were some notable disparities in the data provided, some of which could not be readily explained. Moreover, there were some inconsistencies between data provided for this review and that provided for the previous review. All of this means that figures and estimates provided in this report need to be treated with some caution.

3.2.3 Historically, MDOs have not maintained data in a form which is directly amenable to ROC analysis. For example, it has not been possible to establish a comprehensive list of doctors who were eligible for the Scheme on 1 July 2004. This is not a criticism of the MDOs. It simply reflects that their business and information systems were not developed with a scheme like the Run-Off Cover Scheme in mind. However, in order to monitor the operation of the Scheme effectively, accurate and timely data is clearly important.

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3 A database of ROC support payments is maintained by Medicare Australia.

3.2.4 Certain information was sought from industry actuaries. Guidance was provided as to the nature of the data, calculations and information required. Discussions with industry actuaries were held to supplement the data provided.

3.2.5 As was the case last year, a range of assumptions was used by industry actuaries. Although some significant assumptions differ by only a few percentage points between actuaries, substantially different estimates of Scheme costs are produced. This is indicative of the highly uncertain nature of estimates of the costs of the Scheme.

3.2.6 It is to be expected that many of the data issues encountered will diminish in time. This is likely to take a few years. Until data issues subside, Scheme projections will be subject not only to the considerable inherent uncertainty which surrounds medical indemnity insurance business, but also to additional uncertainty associated with the amount and quality of the available data.

3.2.7 In general, the results in this report blend estimates provided by industry actuaries with other actuarial estimates based on data provided by the MIIIs and assumptions and models developed within this office.

### **3.3 Eligible practitioners**

3.3.1 Practitioners performing private practice become eligible for the Run-Off Cover Scheme by means of permanent retirement at age 65 years or older, cessation of private practice for three years, death, permanent disability or maternity leave. In addition, practitioners who have worked under a subclass 422 (Medical Practitioner) or 457 (Business (Long Stay)) visa under the *Migration Regulations 1994* become eligible for the Scheme when they have permanently ceased medical practice in Australia and ceased to reside in Australia.

3.3.2 Appendix 2 describes the test of eligibility for the Scheme and the process of issuing and notifying compulsory run-off cover to eligible practitioners. Eligible practitioners are entitled to receive notification of the terms and conditions of compulsory run-off cover from their MII. MIIIs are also required to notify Medicare Australia of the details of the compulsory run-off cover provided.

3.3.3 There are inherent lags involved in notification of the details of eligible practitioners to Medicare Australia. As a result, it will be possible only to estimate the number of practitioners who have become eligible for the Scheme at any time. For example, there will often be a delay between the time that a practitioner becomes eligible for the Scheme and the time when the insurer becomes aware of this. More generally, it is also very possible that there will be circumstances where an insurer is unsure of the eligibility status of a practitioner indefinitely; for example, where a practitioner has not renewed their insurance for, say, three years. For all of these

reasons, the numbers of eligible practitioners reported by insurers need to be treated with caution.

3.3.4 The number of practitioners eligible for the Scheme in this report is based on

- data provided to Medicare Australia by the medical indemnity industry relating to practitioners identified as having become eligible between 1 July 2004 and 30 June 2008; and
- industry estimates of practitioners eligible for the Scheme as at 1 July 2004, provided for the purpose of the 2004-05 report.

3.3.5 Table 1 summarises the data provided by the industry.

**Table 1: Run-Off Cover Scheme eligible practitioners**

	<b>This year's data</b>	<b>Last year's data</b>
Practitioners eligible for the Scheme as at 1 July 2004	2,112	2,112
Practitioners who became eligible for the Scheme during the 2004-05 financial year	440	442
Practitioners who became eligible for the Scheme during the 2005-06 financial year	585	574
Practitioners who became eligible for the Scheme during the 2006-07 financial year	729	603
Practitioners who became eligible for the Scheme during the 2007-08 financial year	754	NA
<b>Total number of practitioners who had become eligible for the Scheme by 30 June 2008</b>	<b>4,620</b>	<b>3,731</b>

3.3.6 According to the data provided by the industry, 440 practitioners became eligible for cover under the Scheme during 2004-05, 585 during 2005-06, 729 during 2006-07 and 754 during 2007-08<sup>4</sup>. These numbers are similar to the corresponding estimates made by the industry last year (although this year's estimate of the 2006-07 number is somewhat higher than the corresponding estimate last year) and substantially lower than the number of practitioners that would be expected to be eligible based on our projection models.

3.3.7 There was some apparent inconsistency in the industry data provided for this report. Reported rates of eligibility varied substantially between insurers when considered in aggregate and by reason for eligibility. The data reported here has not been adjusted to take account of this. As well, we have based our estimate of the number of doctors eligible at 1 July 2004 in Table 1 on previous industry estimates, as

4 Note that these numbers have not been reduced in relation to practitioners whose eligibility has subsequently ceased.

noted above. As a result of the inconsistencies mentioned above, the estimates are subject to considerable uncertainty.

3.3.8 Table 2 below illustrates the break up of the 2004-05 to 2007-08 new entrants by reason of eligibility, based on the data provided by the underwriters. Also shown are the projected new entrants produced by our model, using both the new and old decrement assumptions

**Table 2: Run-Off Cover Scheme new entrants by reason of eligibility**

	Industry data				Old Model (2008-09)	New Model (2008-09)
	2004-05	2005-06	2006-07	2007-08		
Retired	182	293	262	295	1,118	538
Maternity	68	132	223	198	949	949
Permanent disability	23	19	27	16	53	40
Died	86	68	90	72	232	152
Resigned	66	36	96	71	552	170
Other <sup>(a)</sup>	15	37	31	102		

(a) Overseas trained doctors who had permanently ceased practice under a 422 or 457 visa.

3.3.9 We have not projected any new entrants in the 'other' category. Historically, practitioners in this category have paid very low premiums. Accordingly, we have assumed that medical negligence claims against them are likely to make an immaterial contribution to ROC Scheme costs.

3.3.10 The reported rates of eligibility for the ROC Scheme varied both between insurers and by reason of eligibility, as noted above. For each eligibility reason, we have adjusted our assumed rate to be more in line with the highest rates reported by individual insurers. As a result of the variability between insurers, Table 2 shows that, although we are now projecting significantly fewer new entrants than previously, we are still projecting more new entrants than the recent aggregate reported experience would suggest. Nonetheless, this year's adjustment of decrement rates represents a significant change on previous years where we have been reluctant to give very much credibility to the reported experience. As is discussed later in the report, the revised decrement assumptions lead to substantially lower estimates of accruing ROCS costs.

### 3.4 Claims eligible for ROC indemnity payments

3.4.1 MII's and MDOs are entitled to reimbursement from the Australian Government for the costs of claims which:

- are first notified to the MII or MDO on or after 1 July 2004;

- relate to a practitioner who is eligible under the Scheme at the date of notification (see Section 3.3); and
- meet the other requirements for 'payable claims' (see Appendix 3).

3.4.2 MIIIs provided details of individual medical incidents which they have identified as potentially being eligible for the Scheme. The data provided was not wholly consistent with that provided for last year's report. Moreover, there were some apparent internal inconsistencies within the data. It is quite possible that other medical incidents have been notified to MIIIs since 1 July 2004 which were not included in the data but which will be eligible for the Scheme. It is also possible that some of the incidents notified will not be eligible for the Scheme. Accordingly, these numbers should be treated with caution.

3.4.3 As at 30 June 2008, MIIIs and MDOs reported 104 medical incidents relating to eligible medical practitioners since the commencement of the Scheme and 44 of them have either led to a payment or have a case estimate<sup>5</sup> attached to them.

3.4.4 17 incidents relate to the 2004-05 new entrants to the Scheme, 23 relate to 2005-06 new entrants, 13 relate to 2006-07 new entrants and 20 relate to 2007-08 new entrants. The other 31 incidents relate to those practitioners who were eligible at the commencement of the Scheme on 1 July 2004.

3.4.5 64 of the incidents were present in last year's data, and the total of the case estimates for these claims were approximately 40 per cent higher than last year's total. Of the remainder, 31 were notified in 2007/08, and 9 in prior periods.

3.4.6 As well, six incidents which were reported in last year's data were not included by insurers this year. We checked the reasons for this with the insurers and were advised that these were incorrectly assumed to be ROCS-eligible claims at the time last year's data was produced.

3.4.7 The number of medical incidents notified to MIIIs and MDOs which could potentially give rise to a future ROC indemnity payment is lower than perhaps might have been expected. At this point we are not assigning full credibility to the data, given the inconsistencies in it and its relatively small volume.

## **3.5 ROC indemnity payments**

3.5.1 ROC indemnity payments are the payments made by the Australian Government to MDOs and MIIIs as reimbursement of the costs of eligible claims.

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5 Estimate of likely cost to the insurer

3.5.2 The Scheme also provides for payments in respect of compliance costs and indirect claims handling expenses under the ROC Claims and Administration Protocol (section 34ZN of the Medical Indemnity Act).

3.5.3 \$1.2 million of ROC indemnity payments (including indirect claims handling expenses) had been made up to 30 June 2008, all of them during 2007-08.

3.5.4 \$3.9 million compliance cost payments have been made to MIs up to 30 June 2008 (including \$1.0m made during 2007-08), while a further \$0.8 million relating to periods prior to 30 June 2008 is yet to be paid.

3.5.5 The Commonwealth's own administration costs are Budget-funded and so are not considered in this report.

### **3.6 ROC support payments**

3.6.1 ROC support payments are paid to Medicare Australia in the form of an annual lump sum imposed as a tax on each MI from 1 July 2004 under the MI ROCSPA.

3.6.2 The amount of ROC support payments is calculated using a method set out in the MI ROCSPA. Appendix 1 describes the calculation in detail. Very briefly, it is based on:

Applicable rate × (premium income less taxes and charges) ÷ (1 + applicable rate).

3.6.3 For most MIs the applicable rate in 2007-08 was 8.5 per cent<sup>6</sup>.

3.6.4 Avant's ROC support payments were based upon an applicable rate of 9.5625 per cent.

3.6.5 Table 3 below summarises the ROC support payments received during the 2007-08 financial year.

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6 For all MIs the applicable rate in 2008-09 will be 5 per cent.

**Table 3: ROC support payments**

		ROC support payments (\$'m)
Paid 31 December 2007	Avant ex-AMIL	10.461
Paid 30 June 2008	MIPSi	2.702
	QBE	0.578
	MDANI	4.283
	MIGA	3.015
	Avant (ex-PIICA)	6.194 <sup>7</sup>
	<b>Total</b>	<b>27.233</b>

3.6.6 In order to provide full transparency for practitioners, MIs are required to attribute ROC support payments to individual policyholders. Each premium notice specifies the amount that has been included in the policyholder's invoice to meet the MI's ROC support payment obligations. All amounts are reported to Medicare Australia, which maintains a record of each practitioner's total run-off cover credit. Interest is applied to this balance annually at the short term bond rate in accordance with section 34ZS of the Medical Indemnity Act.

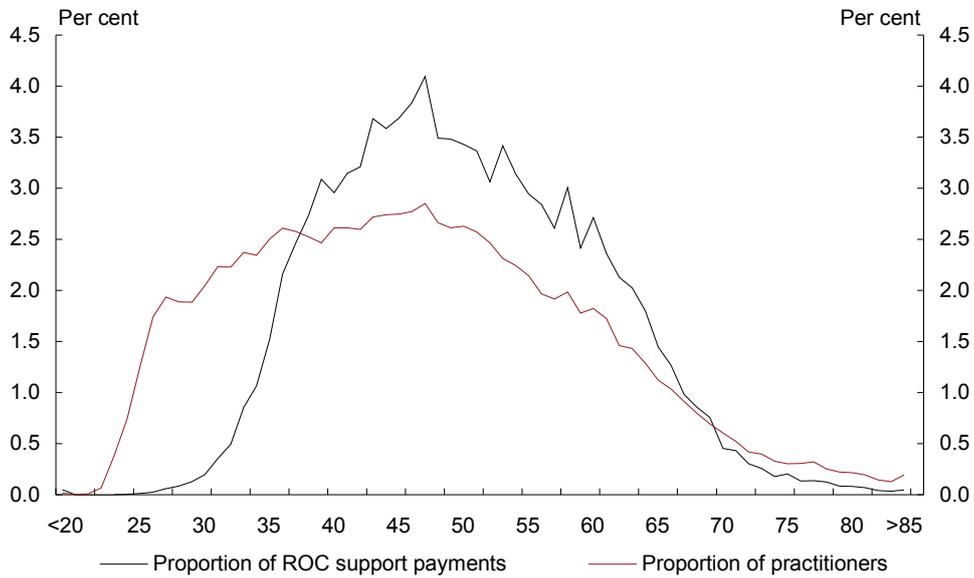
3.6.7 Part 2, Division 2B, Subdivision E of the Medical Indemnity Act provides for certain payments, should the Scheme ever be wound up without alternative arrangements being put in place. Thus, doctors who were still practising at the time of the windup of the Scheme would be entitled to have an amount not exceeding their total run-off cover credit paid to their nominated medical indemnity provider. Practitioners who were eligible for the Scheme at the time of its wind-up would not be entitled to any refund but would continue to be covered for any future claims that might emerge.

3.6.8 Figure 2 below summarises the contribution to ROC support payments by age of practitioner. Note that age and gender were not available for a minority of doctors. However, the shape of the graph is similar to that produced in last year's report. The proportion of ROC support payments is greater than the proportion of practitioners for doctors aged between 40 and 70. This reflects the low level of premiums for interns, trainees and hospital indemnified doctors aged in their 20s and 30s and for doctors over age 70 who may tend to wind down their practice hours and possibly perform fewer risky medical procedures (for example, surgery) as they reach more advanced ages.

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7 On 31 December 2008, Avant made an additional ROC support payment relating to ex-IICA policyholders and the 2007-08 financial year. This payment will be recognised in next year's report.

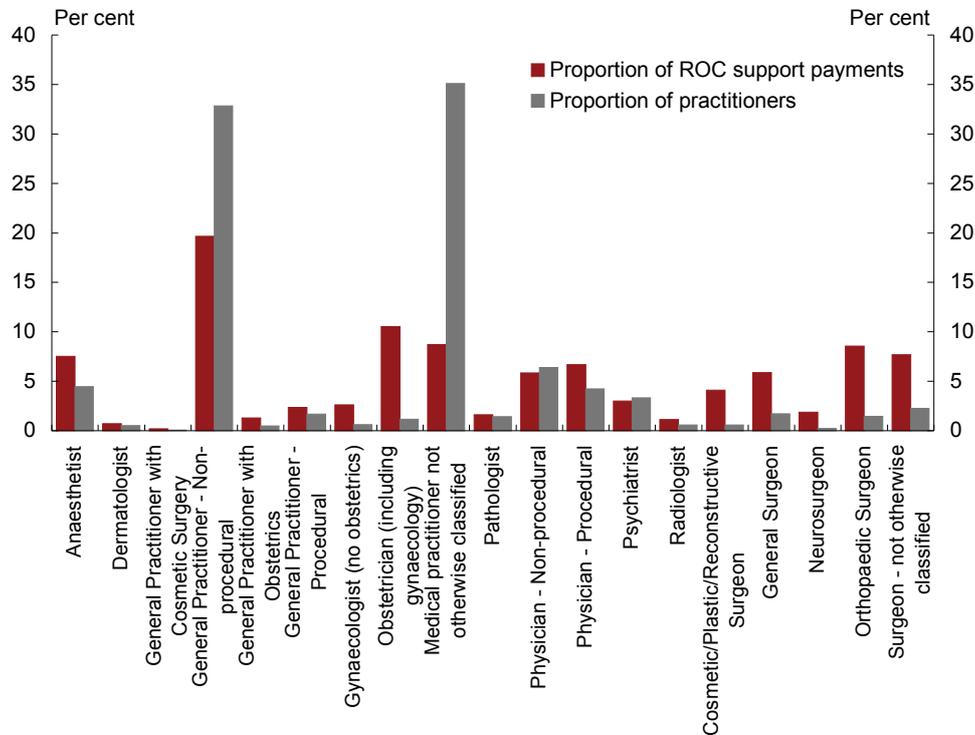
**Figure 2: Contribution to ROC support payments by age**



3.6.9 Figure 3 below summarises the contribution to ROC support payments by area of specialty. Specialty codes were not available in relation to a small minority of doctors. However, the profile of contributions is similar to that produced in last year's report.

3.6.10 Medical indemnity insurance premiums tend to be risk-based. Thus, practitioners operating in risky areas of specialty are likely to incur the highest premiums and, accordingly, the highest ROC support payment liabilities. The largest ROC support payments are for obstetricians, gynaecologists, neurosurgeons, cosmetic/plastic/reconstructive surgeons, orthopaedic surgeons, and general surgeons. Medical practitioners not otherwise classified (including interns, trainees and hospital indemnified doctors) have the smallest ROC support payments.

**Figure 3: Contribution to ROC support payments by specialisation**



## 4. FINANCIAL MANAGEMENT OF THE RUN-OFF COVER SCHEME

### 4.1 Future liabilities of the Run-Off Cover Scheme

4.1.1 The estimation of the Commonwealth’s liabilities under the Run-Off Cover Scheme in future years is an inherently imprecise process. The operation of the Scheme is likely to be characterised by a small number of claims of highly variable size. It is not possible to predict the costs of the Scheme with a high level of confidence. For example, the presence of a single very large claim in any given year could have a substantial effect on the total amount of ROC indemnity payments for that year.

4.1.2 The liabilities of the Scheme could be measured in a number of ways. It is normal for insurance-type liabilities to be measured on either a ‘notified’ or an ‘occurrence’ basis. On a notified basis, new liabilities would accrue to the Scheme as new claims were notified. On an occurrence basis, new liabilities would accrue to the Scheme at the time of the occurrence of the medical incidents which were expected to give rise to medical indemnity claims which would attract a ROC indemnity payment.

4.1.3 Under the occurrence model, liabilities are recognised more quickly than under the notified model. The occurrence model is more consistent with the notion that the

Scheme is ongoing. Accordingly, the occurrence model has been adopted for this report. The liabilities of the Scheme are therefore taken as the present value of future ROC indemnity payments (plus associated insurer claims handling expenses) which relate to medical incidents which occurred before the effective date of valuation.

#### **Comment on experience during 2007-08**

4.1.4 In any actuarial investigation it is appropriate to compare the emerging experience with that previously projected. This analysis informs the assumption setting process for the current investigation.

4.1.5 Based on input from industry actuaries, the previous report estimated the incurred-but-not-reported (IBNR) Run-Off Cover Scheme liability at 30 June 2007 as \$43.7 million. Implied within that estimate was an expectation that approximately \$5.3 million in new notifications would emerge during 2007-08. In fact, the most recent actuarial estimates suggest \$2.3 million in new notifications for 2007-08. The new claim experience for 2007-08 continues to be lighter than expected.

4.1.6 In relation to Scheme-eligible claims which had been notified at the time of the previous review (30 June 2007), actuarial estimates of the corresponding ROC indemnity payments had a present value then of \$3.9 million. Since then, claim payments of about \$0.2 million have been made by MIIs/MDOs. All else being equal, this would suggest a residual figure at 30 June 2008 of about \$3.7 million. Up to date actuarial estimates put this number at around \$2.7 million (excluding 2007-08 notifications). However since the numbers are small it would be inappropriate to draw strong conclusions based on them.

4.1.7 As noted earlier, the main area of emerging experience that has resulted in reframing the assumption set for this investigation has been the reported new entrant experience. Changes to assumptions are discussed below.

#### **Changes to assumptions**

4.1.8 We have made some changes to our assumptions for this investigation. Retirement, resignation, death and disability decrement assumptions have all been reduced to bring them somewhat more into line with reported experience.

4.1.9 The changes to the assumptions are subjective and it is important to note that our models continue to project higher numbers of eligible practitioners and more claims than have been reported by industry to date.

4.1.10 The remaining demographic and experience assumptions remain largely as they were for the previous investigation. We have not adjusted our assumptions in relation to claim reporting patterns. Based on the available data, it is conceivable that the average delay between incident and notification may be shorter than that implied in our model. It is certainly possible that the notification delay may have shortened in the claims made environment, and given tort law reforms. However, there is insufficient evidence available to justify shortening the assumed pattern. Moreover, a significant

part of the Scheme accrued liability relates to 'very old' incidents, and would not be affected by any recent changes in reporting behaviour. Similarly, we have not altered our assumptions regarding overall claim frequency. We have retained our assumption regarding base claim size distribution.

4.1.11 The combined effect of the changes to our assumptions is a reduction of our estimate of the scheme accrual of 23 per cent.

4.1.12 We have altered our approach to assessing the IBNR liability. Specifically, we have started with the industry actuarial estimates and made two adjustments. Firstly, we have adjusted the estimates made in respect of two outlier pools of claims to bring them into line with the average across all the pools. Secondly, we have added a (subjective) margin of 25 per cent to the total in order to bring the IBNR estimates broadly into line with the estimate of new accrual that our model produces.

4.1.13 Appendix 4 sets out the main assumptions and describes the methodology that was used to estimate the liabilities. Appendix 5 looks at the effect of the High Cost Claims Scheme.

#### **Projected ROC indemnity payments**

4.1.14 This section sets out projections of ROC indemnity payments for the next 10 financial years. For the reasons described above, the projections should be regarded as indicative only. The data issues referred to earlier in this report also contribute to the uncertainty. The underlying assumptions and methodology are described in Appendix 4, with the calculations summarised in Table 15. Table 4 below sets out the projections, which are illustrated in Figure 4. The Scheme is not expected to become mature in a cashflow sense for many years. The payments projected below are in nominal dollars and have not been discounted to current dollar values.

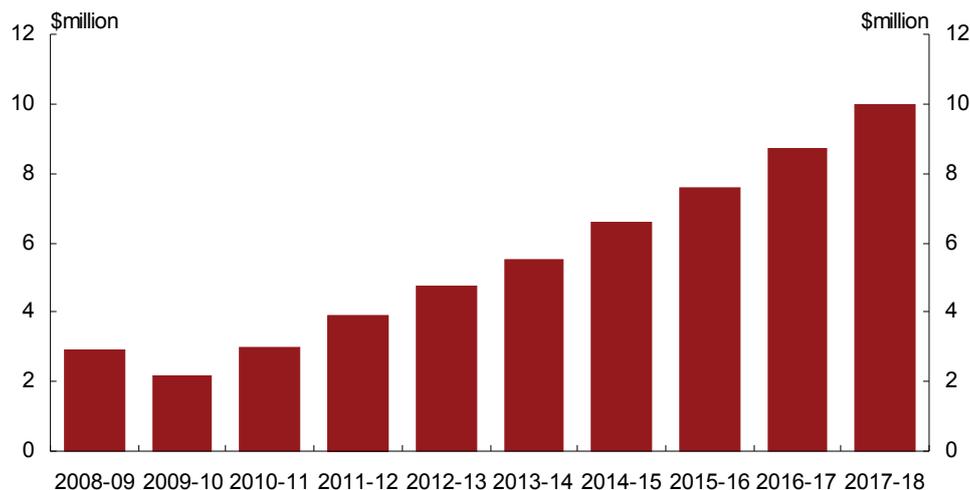
4.1.15 The projected payment figure for 2008-09 assumes that all ROC indemnity payments which are 'due' at 30 June 2008 (that is which relate to claim payments already made by MIIs/MDOs) will be made during 2008-09. More generally, other ROC indemnity payments are assumed to be made at the same time as the corresponding claim payment. The estimates include indirect costs associated with handling claims, referred to as indirect claims handling expenses (CHE) (see 4.2.8 below).

**Table 4: Projected ROC indemnity payments plus CHE**

Year ending 30 June	Projected ROC indemnity payments plus CHE \$'000 <sup>(a)</sup>
2009	2,940
2010	2,165
2011	3,007
2012	3,915
2013	4,739
2014	5,525
2015	6,596
2016	7,599
2017	8,726
2018	10,002

(a) These projected payments do not include administration amounts payable under the ROC Claims and Administration Protocol.

**Figure 4: Projected ROC indemnity payments plus CHE**



## 4.2 Notional Account

4.2.1 The Scheme must be managed over a long time frame. As discussed previously, ROC indemnity payments are likely to be 'lumpy' in nature and immature in size for some years. ROC support payments will be received well in advance of ROC indemnity payments. As a result of the payment timing mismatch and the expected volatility in the ROC indemnity payment pattern, it is appropriate to have a system which enables proper tracking of the financial flows over time. Accordingly, a Run-Off Cover Scheme notional account (the Notional Account) is maintained.

4.2.2 It is important to appreciate that the Notional Account is not an official Government account. Rather, it is a device established for the sole purpose of facilitating equity between practitioners and other taxpayers.

4.2.3 The Notional Account is credited with:

- ROC support payments;
- Amounts to offset ROC indemnity payments which relate to doctors who were eligible at the commencement of the scheme; and
- notional interest.

4.2.4 Notional interest is credited to the Notional Account to ensure that practitioners derive the proper benefit of the time value of money since ROC support payments are received by Medicare Australia well in advance of any ROC indemnity payments being made by Medicare Australia. Notional interest is applied at the short term bond rate for consistency with section 34ZS of the Medical Indemnity Act which requires interest at the short term bond rate to be applied to the total run-off cover credit balances of individual practitioners.

4.2.5 On establishment of the Scheme, the Government announced that it would fund the opening liability that was attributable to practitioners who were already eligible for cover under the Scheme at the time of its commencement. Now that ROC indemnity payments have commenced, effect is given to this commitment by ensuring that the Notional Account is credited with amounts which offset any ROC indemnity payments which relate to doctors who were eligible at the commencement of the scheme.

4.2.6 The Notional Account is charged with:

- ROC indemnity payments; and
- payments made under the ROC Claims and Administration Protocol.

4.2.7 The Run-Off Cover Scheme 'operates after' the High Cost Claims Scheme (HCCS). The HCCS meets 50 per cent of the excess above \$300,000 of the cost of individual large claims. For example, for a claim which costs \$1 million, the HCCS will pick up:

$$50 \text{ per cent} \times (\$1,000,000 - \$300,000) = \$350,000$$

4.2.8 The Run-Off Cover Scheme will also pay an amount to a MII or MDO to cover the indirect costs associated with handling claims, referred to as indirect claims handling expenses (CHE). The Scheme pays 5 per cent of the cost of each claim to cover CHE. Table 5 below describes how an eligible \$1 million claim would be funded.

The total amount paid of \$1,050,000 includes claim costs of \$1 million and CHE of \$50,000.

**Table 5: Funding sources for a \$1 million claim which is eligible for the Run-Off Cover Scheme**

<b>Funding source</b>	<b>Amount</b>
HCCS	\$350,000
ROC indemnity payment (direct claim costs)	\$650,000
Run-Off Cover Scheme CHE (5 per cent × \$1 million)	\$50,000
Run-Off Cover Scheme (total)	\$700,000

4.2.9 Appendix 3 provides more detail on claim amounts eligible under the Run-Off Cover Scheme.

4.2.10 As noted earlier, the Medical Indemnity Act provides for payment of a practitioner's total run-off cover credit, should the Scheme ever be wound up without alternative arrangements being put in place. Thus, in this event, a large part of the accumulated ROC support payment balance would become a liability of the Scheme. At the same time, since the Scheme liabilities are being measured on an occurrence basis, some of the liabilities of the Scheme would be released, partially offsetting this impact. However, for the purpose of this report, the Scheme has been assumed to be ongoing and the whole amount of the accumulated ROC support payments has been taken to be available to meet relevant ROC indemnity payments.

4.2.11 The liability estimates given in this report are central estimates. In broad terms, this means that they are intended to be equally likely to be too high or too low. In particular, it is not intended that the liability estimates contain any margin for risk. Funding considerations for the Scheme are not the same as for private sector insurance arrangements. The objective here is to manage the funding over the long term. Since substantial volatility in the liability estimates is likely from time to time, periods of surplus and periods of deficit in the Notional Account might be expected. However, given the long funding time horizon that is appropriate for the Scheme, a short term deficit in the Notional Account is not a cause for concern. As a result of this, there is no strong reason to maintain a risk margin in the liability estimates.

4.2.12 Table 6 below sets out the cashflow statement of the Notional Account for 2007-08.

**Table 6: Cashflow statement of the Notional Account 2007-08**

<b>Cashflows — Run-Off Cover Scheme Notional Account 2007-08</b>	
<b>Income</b>	<b>\$'000</b>
ROC support payments (received 31 December 2007)	10,461
ROC support payments (received 30 June 2008)	16,771
ROC indemnity payments (in respect of doctors eligible at 1/7/2004 startup)	605
Notional interest	2,549
<b>Expenses</b>	
ROC indemnity payments (in respect of doctors eligible at 1/7/2004 startup)	605
ROC indemnity payments (in respect of doctors eligible post 1/7/2004)	569
Administration cost payments to MIIIs	1,014
<b>Net cashflow</b>	<b>28,199</b>

4.2.13 Table 7 below sets out the balance sheet of the Notional Account as at 30 June 2008.

**Table 7: Balance sheet of the Notional Account as at 30 June 2008**

<b>Balance sheet — Run-Off Cover Scheme Notional Account as at 30 June 2008</b>	
<b>Assets</b>	<b>\$'000</b>
Cash as at 1 July 2007	63,365
Net cashflow	28,199
<b>Total</b>	<b>91,564</b>
<b>Liabilities</b>	
Outstanding compliance costs	779 <sup>(a)</sup>
Paid by MIIIs but not yet recovered from Medicare Australia	1,446 <sup>(b)</sup>
Notified to MIIIs but not yet paid by them	4,992 <sup>(c)</sup>
Incurred but not yet notified to MIIIs	35,019 <sup>(d)</sup>
Claims handling expenses	2,843 <sup>(e)</sup>
<b>Total</b>	<b>45,079</b>

(a) Estimated amount payable under the ROC Claims and Administration Protocol in respect of AMIL's calendar year 2007, PIICA's 2007/08 costs and MIPS's 2007/08 costs.

(b) Based on estimates provided in relation to claims/incidents notified to MIIIs and MDOs by 30 June 2008.

(c) Based mainly on estimates provided by industry actuaries.

(d) Based on estimates provided by industry actuaries and models developed within this office.

(e) Based on 5 per cent of 'grossed up' ROC indemnity payments (to allow for the impact of the HCCS).

4.2.14 The Notional Account at 30 June 2008 has disclosed an estimated surplus of about \$46 million. Some changes have been made to the preparation of the Notional Account balance sheet, as follows. Firstly, now that ROC indemnity payments have commenced, in order to give practical effect to the Government's commitment to fund the opening liability, ROC indemnity payments have been split between payments in respect of doctors eligible at and after start-up of the ROC Scheme. Importantly, payments in respect of doctors eligible at start-up are offset by a notional cash injection

into the Notional Account. This ensures that the Notional Account is not being charged for these payments in net terms. It also permits accurate monitoring, over time, of the value of the Government commitment. Since this can now be done transparently, the Government commitment item has now been removed from the Notional Account balance sheet. Note that the practical effect of this is that the Government commitment is now being accounted for on a cash basis in the cashflow statement as ROC indemnity payments are made. Secondly, the receivable in respect of Avant's ex-AMIL policyholders has been removed from the balance sheet, with the result that the assets are now presented consistently on a receipts basis. Note again that no account has been taken for possible payments to practitioners under Subdivision E of the Medical Indemnity Act, should the Scheme be wound up without alternative arrangements being put in place. Generally, the estimated surplus position should be regarded as highly uncertain.

4.2.15 Finally, it is appropriate to provide a benchmark projection of the liabilities of the Scheme. Table 8 below sets out estimates of the liabilities of the Notional Account at the end of each of the next five financial years. The purpose is to illustrate the short term development of the Scheme. There is very substantial uncertainty in these estimates. The numbers shown are in nominal dollars and have not been discounted to give values in today's terms.

**Table 8: Projected balance sheet liabilities of the Notional Account**

Year ending 30 June	Liability (\$'000) <sup>(a)</sup>	New accrual (\$'000) <sup>(a)</sup>	Interest cost (\$'000)	Payments (\$'000) <sup>(a)</sup>
2008	44,300	-	-	-
2009	55,717	11,119	3,237	2,940
2010	69,382	11,842	3,989	2,165
2011	83,817	12,612	4,829	3,007
2012	99,051	13,342	5,717	3,915
2013	115,276	14,305	6,659	4,739

(a) ROC indemnity payments plus CHE only. Does not include liability in respect of outstanding compliance costs. Refer Appendix 4 for further information.

### **4.3 Actuarial management**

4.3.1 It is appropriate that the Scheme be subject to ongoing actuarial management.

4.3.2 Regular review of the costs and notional assets of the Scheme will allow the ROC support payment rate to be adjusted from time to time, if necessary. Consideration of that rate is beyond the scope of this report. This report has described a framework for the valuation of Scheme liabilities and established the Notional Account. It is intended that the valuation and accounting framework be applied at each future annual review of the Scheme.



Peter Martin FIAA  
Australian Government Actuary

1 March 2009

## APPENDIX 1: ROC SUPPORT PAYMENTS

A.1.1 ROC support payments are paid to Medicare Australia in the form of an annual lump sum imposed as a tax on each MII from 1 July 2004. The lump sum is intended to cover the cost of claims and the MIIs' administration and implementation costs.

A.1.2 The amount of support payments is calculated as a percentage of premium income received from contributing practitioners. The calculation rules are set out in the MI ROCSPA and regulations. The tax imposed on each MII is the applicable percentage of the insurer's premium income (section 6) for the applicable contribution year ending on 30 June or an alternative date specified in the regulations (section 5).

A.1.3 All MIIs except for AMIL were required to remit their first ROC support payments on 30 June 2005. Since AMIL's policy year was a calendar year, it was not required to remit ROC support payments until 31 December 2005.

A.1.4 Under section 7, a MII's premium income for the purpose is the sum of all of the premiums paid to the insurer for medical indemnity cover provided for medical practitioners, reduced according to the formula:

*Premium income equals*

*Net premium — Net premium × Applicable percentage ÷ (1 + Applicable percentage)*

A.1.5 Net premium is calculated according to section 7 as follows:

- sum of all premiums paid to the insurer during the operation of the Scheme for medical indemnity cover provided for medical practitioners (including subsidy payments made to the insurer on behalf of medical practitioners to assist with the cost of purchasing medical indemnity cover under the Medical Indemnity Premium Support Scheme, section 43(1) Medical Indemnity Act) (subsection (1));
- minus the amount of GST payable (subsection (2)(a)) and the amount of stamp duty payable (subsection (2)(b)) in relation to the premiums; and
- plus/minus other payments specified in the regulations.

A.1.6 For 2007-08 and prior premium payments, the applicable percentage was specified in the regulations as 8.5 per cent for all insurers except Avant (ex-AMIL) which had a higher percentage of 9.5625 per cent. Thus, for 2007-08 and prior premium payments, the corresponding ROC support payment was calculated as:

- Net premium × 8.5 per cent ÷ 1.085 for all MIIs except Avant (ex-AMIL); and

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- Net premium  $\times$  9.5625 per cent  $\div$  1.095625 for Avant (ex-AMIL).

A.1.7 For premium payments made in 2008-09, the applicable percentage is specified in the regulations as 5 per cent for all insurers, and thus the ROC support payment will be calculated as net premium  $\times$  5 per cent  $\div$  1.05.

## **APPENDIX 2: ELIGIBLE PRACTITIONERS AND RUN-OFF COVER SCHEME CONTRACTS**

### **Eligible persons**

A.2.1 Eligible persons are those who fit one or more of the following eligibility categories at the time the claim (or medical incident) is first notified to the MII or MDO (section 34ZB(2) of the Medical Indemnity Act and *Medical Indemnity Regulations 2003* regulation 12):

- A doctor 65 years or older who has permanently retired from paid medical practice.
- A doctor who has not engaged in paid medical practice during the preceding three years. (Note: unlike other categories, eligibility does not occur immediately upon ceasing practice).
- A legal representative of a deceased medical practitioner (provided that a claim can be made against the deceased's estate).
- A doctor who has ceased paid medical practice due to permanent disability.
- A doctor who has ceased paid medical practice because of maternity.
- An overseas trained doctor, who worked under a 422 or 457 visa, has permanently ceased medical practice in Australia and does not reside in Australia.

### **Provision and notification of compulsory run-off cover**

A.2.2 The practitioner's last medical indemnity insurer is required to provide run-off cover to an eligible practitioner under section 26A of the PSPS Act.

A.2.3 The compulsory run-off cover must encompass the same nature and range of incidents as the last medical indemnity cover held by the eligible practitioner (subsection 26A(4)(b)).

A.2.4 Section 26D compels MIIs to notify eligible practitioners of:

- (i) the nature and range of incidents encompassed by the compulsory run-off cover; and
- (ii) the terms and conditions on which it is provided.

A.2.5 The compulsory run-off cover is taken to be a contract of insurance between the MII and the eligible practitioner for the purposes of the PSPS Act (section 26E).

## **APPENDIX 3: RUN-OFF COVER SCHEME CLAIMS**

A.3.1 The legislation defines claims broadly. Claims need not involve legal proceedings. Claims may include civil claims for negligence, administrative proceedings, disciplinary proceedings (including those performed by a professional body) and inquiries or investigations into conduct (subsection 4(1) of the Medical Indemnity Act).

A.3.2 A ROC claim is payable to an MII or MDO under section 34ZC in relation to a claim eligible under subsection 34ZB(1) if:

- it was first notified to the MII or MDO on or after 1 July 2004;
- it relates to a person eligible under subsection 34ZB(2) (see Appendix 2);<sup>8</sup>
- it relates to incident(s) occurring in connection with the person's practice as a medical practitioner (see paragraph 34ZB(1)(b));
- either the person is indemnified for the claim by an MII in accordance with section 26A of the PSPS Act, or the person is indemnified under incident-occurring based cover provided by an MDO (paragraph 34ZB(1)(e)); and
- the claim would be paid in the ordinary course of the MII's or MDO's business.

A.3.3 Where these criteria are met, the Commonwealth is liable to pay run-off cover indemnities regardless of whether the MII or MDO has sought private reinsurance (section 34ZF).

A.3.4 Applications for ROC indemnity payments must be made to Medicare Australia (section 36 of the Medical Indemnity Act). They are paid by the CEO of Medicare Australia before the end of the month that immediately follows the month in which the MII applies for the indemnity (section 37).

A.3.5 The Run-Off Cover Scheme operates after the High Cost Claims Scheme (HCCS). Thus, part of the cost of eligible large claims is first met by the HCCS with the rest being picked up by the Run-Off Cover Scheme (subsection 34ZH(2)). Where the total incurred cost of an eligible ROC claim exceeds \$300,000, the HCCS meets 50 per cent of the amount by which it exceeds \$300,000.

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8 Under the occurrence model, the Scheme accrual for a year refers to the present value of future ROC indemnity payments that are attributable to medical incidents which occur during that year. For example, our previous report estimated \$14.5 million in Scheme accrual for 2007-08. By comparison, this year's report estimates \$11.1 million in Scheme accrual for 2008-09.

## APPENDIX 4: METHODOLOGY, ASSUMPTIONS AND UNCERTAINTY

### Liabilities as at 30 June 2008

A.4.1 Table 9 below summarises the estimated accrued Scheme liabilities as at 30 June 2008. The Scheme liabilities are divided into those attributable to claims notified as at 30 June 2008 and those attributable to IBNR claims as at 30 June 2008. For simplicity, the liability for 2006-07 compliance costs payable in 2007-08 is not included.

**Table 9: Run-Off Cover Scheme liabilities related to medical incidents prior to 30 June 2008**

Liabilities in relation to claims notified as at 30 June 2008	\$6.9 million <sup>(a)</sup>
Liabilities in relation to IBNR claims as at 30 June 2008	\$37.4 million <sup>(b)</sup>
<b>Total Scheme liabilities related to medical incidents</b>	<b>\$44.3 million</b>

(a) Including \$0.5 million CHE.

(b) Including \$2.4 million CHE.

A.4.2 The components of the Scheme liabilities in relation to prior medical incidents as at 30 June 2008 are reconciled to those as at 30 June 2007 in Table 10 below.

**Table 10: Reconciliation of Run-Off Cover Scheme liability components with previous report**

	(\$'m)
<b>Paid by MIs but not yet recovered from Medicare Australia as at 30/6/2007</b>	<b>2.5</b>
ROC indemnity payments	-1.2
Paid during 2007-08 (but not yet recovered)	0.1
<b>Paid by MIs but not yet recovered from Medicare Australia as at 30/6/2008</b>	<b>1.4</b>
<b>Incurred but not notified to MIs (IBNR) as at 30/6/2007</b>	<b>43.7<sup>(b)</sup></b>
Change in AGA methodology	-8.7
Other adjustments made by industry actuaries	-12.1
Actual notifications 2007-08	-2.3
Notional interest	2.5
<b>IBNR at 30/6/2007 which remains IBNR at 30/6/2008</b>	<b>23.2</b>
<b>Notified to MIs as at 30/6/2007</b>	<b>3.9</b>
Revise actuarial estimates for claims notified as at 30/6/2007	-1.1
Actual notifications 2007-08	2.3
Paid but not yet recovered during 2007-08	-0.1
<b>Notified to MIs as at 30/6/2008</b>	<b>5.0</b>
<b>2007-08 accrual estimated in previous report</b>	<b>14.5<sup>(c)</sup></b>
Revise retirement, resignation, death and disability decrements	-3.4
Actual notifications 2007-08	0.0
Notional interest	0.7
<b>2007-08 accrual which remains IBNR as at 30/6/2008</b>	<b>11.8</b>
<b>Base liability estimate at 30/6/2008</b>	<b>41.4</b>
Claims handling expenses	2.9
<b>Total as at 30 June 2008</b>	<b>44.3<sup>(d)</sup></b>

(a) Numbers may not add due to rounding. The liability for 2006-07 compliance costs payable in 2007-08 is not included.

(b) From Table 7 in last year's report.

(c) From Table 8 in last year's report.

(d) \$44.3million is equal to the total liability shown in the notional account balance sheet of \$45.1million minus outstanding compliance costs of \$0.8million (see Table 7).

## Description of the model used to project the accrual of new Run-Off Cover Scheme liabilities after 30 June 2008

A.4.3 The approach involved projecting the expected future ROC indemnity payments for each doctor who was practising as at 30 June 2008. Projection of indemnity payments entailed the projection of:

- incidents which will result in a claim;
- the delay involved in notification of claims;
- the cost of claims after allowing for the HCCS;
- the likelihood of eligibility for the Scheme at the time a claim is notified; and
- the delay involved in the payment of notified claims.

## **ROC claims**

### **Components of claim cost**

A.4.4 For the purposes of the model, a ROC claim includes any eligible claim notified and finalised at direct cost to the MII. Claim costs include all costs which are directly attributable to the claim. Indirect claims handling expenses (CHE) are dealt with separately.

A.4.5 Directly attributable claim costs include damages, plaintiff legal costs to the extent that they are awarded, and defence costs to the extent that they are directly attributable to the claim.

A.4.6 The Scheme pays 5 per cent of the direct cost of each eligible claim to cover CHE. Where an eligible claim is partly covered by the HCCS, the allowance for CHE paid under the Scheme is 5 per cent of the total claim cost, including the portion covered by the HCCS.

### **Assumptions**

A.4.7 Claim experience has emerged in 2007-08 which was lighter than that we expected based on the assumptions in our 2006-07 report. A short period of emerging experience should not necessarily be relied on as a guarantee that underlying assumptions are inappropriate for such a long-tail and uncertain line of insurance as medical indemnity. This is especially true in relation to the Scheme, due, for example, to the following factors:

- Run-Off Cover Scheme claims are very long-tail and model projections are particularly sensitive to assumptions.
- The Scheme is relatively immature.
- Systems to facilitate timely and accurate data transfer are still being developed.

- The Scheme commenced immediately after tort reforms were implemented, with the tort reforms being preceded by a period of abnormally high claim rates ('claim spike').

A.4.8 However, given the continuing low observed claims experience, we have reduced the retirement, resignation, death and disability decrement assumptions.

A.4.9 The remaining claim and demographic assumptions underlying the long term Scheme projections have been left unchanged for the purpose of this review.

A.4.10 The sensitivity of the results to the changes in the decrement assumptions and to a hypothetical change in the claim reporting pattern is illustrated at the end of this Appendix.

### **Claim frequency assumptions**

A.4.11 Claim frequency and claim size assumptions were made in light of information provided by the actuaries of the MIIIs.

A.4.12 The overall claim frequency was assumed to be 5 per cent. That is, on average each 'at-risk' doctor was assumed to have a 5 per cent chance of being involved in a medical incident in the next year which will result in a future medical indemnity claim. This is unchanged from our previous review. Individual claim frequencies were adjusted based on premium as discussed below.

A.4.13 Practitioners with medical indemnity premiums of less than \$1,500 were excluded from the analysis in order to ensure that only genuine 'at-risk' doctors were the focus of the investigation. The excluded group contained interns, trainees and hospital indemnified doctors in some of the data provided by the MIIIs. In all about 61,000 practising doctors have some medical indemnity premium. After excluding those doctors with medical indemnity premiums of less than \$1,500 we were left with 35,001 'at-risk' doctors and we have set our claim frequency assumption at 5 per cent to be consistent with this.

### **Adjustment to individual claim frequencies based on premium**

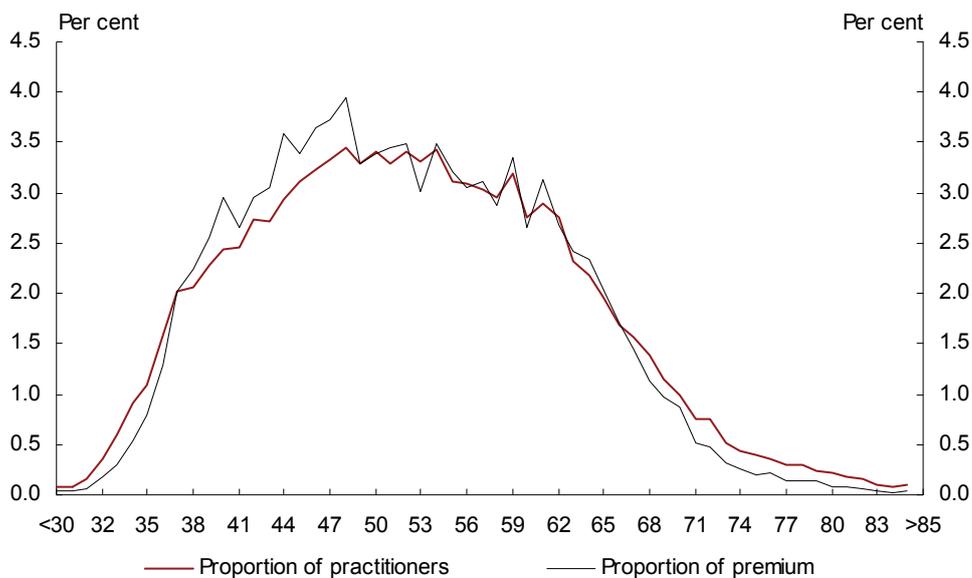
A.4.14 The likelihood of future notifications of ROC claims was projected according to the assumed 'riskiness' of each individual practitioner. The risk of medical indemnity claims posed by each practitioner was determined based on risk categorisation. Practitioners were categorised according to specialisation, age, gender and MII.

A.4.15 The average premium for each risk group was used as a proxy for the risk of medical indemnity claims. The claim frequency for each group was multiplied by the ratio of the premium for the group to the premium of the entire cohort of 'at-risk' doctors.

A.4.16 Although insurance premiums are broadly determined in line with claim risk, the premium of a group is at best an imprecise proxy for risk. For example, market and financial considerations affect premiums charged. However, given the data available, relative premiums have been assumed to be a reasonable means of categorising practitioners according to their risk of medical indemnity claims for the purposes of this model.

A.4.17 Insurance premiums tend to diminish for practitioners towards retirement age. This supports the suggestion that doctors tend to wind down their practice hours and possibly perform fewer risky medical procedures (for example, surgery) as they approach retirement. The possible reduction in risk towards retirement is apparent from the pattern of relative premiums for 'at-risk' male doctors shown in Figure 5 below. The pattern is less obvious for females, given the low proportion of females in the oldest cohorts. Note that age and gender were not available for some doctors.

**Figure 5: Relative premiums by age for male doctors**



Note: The graph includes all male practitioners with premiums of at least \$1,500 from all MIIIs.

### **Adjustment to individual claim frequencies based on assumed wind-down of risky practice**

A.4.18 The relative premiums of older doctors appear to indicate a reduction in risky practice as doctors approach retirement. Actuaries have also suggested that doctors wind-down their risky practice approaching retirement. However, relative premiums may not capture the full extent of the reduction, since premiums are calculated on a claims-made rather than claims-occurring basis.

A.4.19 Again, for this valuation, doctors are assumed to wind-down their risk exposure from age 60, at a rate above that reflected in the premiums. Premium relativities are augmented with a wind-down from age 60 according to the formula  $0.933^{(\text{age}-59)}$ , with a multiple of 100 per cent applied until age 60, 50 per cent at age 70 and 25 per cent at age 80.

A.4.20 This assumption is very subjective, and is not capable of objective validation. Nonetheless, it does not appear unreasonable in light of observed claim experience and discussions with actuaries.

### **Claim size assumptions**

A.4.21 Claim sizes were assumed to increase with the delay to notification, on the basis that claims which take longer to report tend to be bigger on average for example, cerebral palsy cases.

A.4.22 The assumed claim reporting pattern is shown in Table 11 below. Claim sizes presented in the table do not include allowance for inflation or superimposed inflation. Adjustment for inflation and superimposed inflation is discussed below.

A.4.23 The claim reporting pattern is based on the reporting patterns provided by the approved actuaries of two of the MIs.

**Table 11: Claim reporting and size pattern**

Development year	Proportion of number of claims notified (per cent)	Gross average claim size (\$'000) <sup>(a)</sup>
1	19.8	70
2	20.3	80
3	13.4	80
4	18.8	100
5	9.0	150
6	5.4	150
7	2.9	150
8	2.4	150
9	1.7	150
10	1.8	150
11	1.4	150
12	1.1	150
13	0.8	150
14	0.4	400
15	0.2	400
16	0.1	400
17	0.1	400
18	0.1	400
19	0.1	400
20	0.2	400

(a) Gross average claim sizes presented in the table are intended to be in 2008 dollars and do not include allowance for inflation and superimposed inflation.

A.4.24 Claims cost net of high cost claim indemnities is calculated assuming that the HCCS threshold will change such that a constant proportion of the gross average claim size will be met by the HCCS. Thus, for simplicity, the HCCS threshold is assumed to increase in line with claims inflation over time. The model effectively assumes that 24 per cent of the total discounted claims cost (in relation to future medical incidents) will be met by the HCCS and 27 per cent of the ROC discounted claims cost will be met by the HCCS.

A.4.25 The projected ROC claims cost is very sensitive to the proportion of claims which are assumed to be reported late. The longer the delay between the incident and the claim, the greater the likelihood that a practitioner will be eligible for the Scheme at the time the claim is notified. Thus, the majority of Scheme cost relates to the small proportion of claims which are notified very late. Therefore, a minor change in the assumed proportion of late reported claims can have a significant impact on the estimated ROC claims cost.

A.4.26 Analysis of the HCCS data suggests that it could be possible that the actual reporting pattern is slightly faster than our assumed pattern. An alternative pattern

more reflective of the HCCS experience has been used in the uncertainty section of this report in testing the model's sensitivity to the claim reporting pattern.

### **Probability of a claim falling under the Run-Off Cover Scheme**

A.4.27 The model involved projection of the proportion of the total accrual of liabilities which falls under the Scheme.

A.4.28 A practitioner can become eligible for the Scheme by reason of:

- retirement at 65 years and older;
- permanent disability;
- death;
- maternity;
- resignation; or
- satisfaction of other eligibility criteria specified in the regulations.

A.4.29 The probability of becoming eligible for the Scheme was estimated for each practitioner based on their age as at 30 June 2008 and their sex. Note that practitioners do not become eligible by means of resignation until three years have passed since cessation of practice.

A.4.30 The estimated likelihood of practitioners becoming eligible for the Scheme was overlaid on the projected claim notifications to give the projected ROC claim notifications for each practitioner. The expected notified claims cost was multiplied by the likelihood of eligibility in each future year, and summed across all practitioners to arrive at the expected cost of ROC claims notified in that year.

A.4.31 In other words, the total ROC claim notifications were calculated as the scalar product of the vector of claim notifications and the vector of probabilities of Scheme eligibility for each practising doctor in each future year.

A.4.32 It was assumed that on average practitioners who become eligible for the Scheme do so half-way through the financial year.

### **Demographic assumptions**

A.4.33 The probabilities of death and disablement have been revised downwards. They are assumed to be an increasing multiple of the probabilities of death in Australian Life Tables 2000-02 (ALT 2000-02). The probabilities of death are assumed to be 35 per cent of ALT 2000-02 until age 64, 50 per cent from age 65 to 69, and

60 per cent of ALT 2000-02 thereafter. The probabilities of permanent disability are assumed to be 15 per cent up to age 24, an increasing multiple of ALT 2000-02 from 15 to 30 per cent from age 25 to 64, and 0 from 65 onwards.

A.4.34 The assumed probabilities of maternity leave are unchanged and were derived assuming that female practitioners each have an average of 1.5 children between ages 28 and 43 and that they take one year of maternity leave for each child.

A.4.35 The probabilities of resignation have been revised downwards. They are assumed to be 0.3 per cent between ages 39 and 53, increasing linearly to 1 per cent at age 60, and increasing linearly to 2 per cent at age 64.

A.4.36 The probabilities of retirement have been revised downwards. In this report we have assumed a retirement probability of 12 per cent at age 65, 5 per cent at age 66 increasing linearly to 11.9 per cent at age 89. The probabilities of retirement were assumed to be 100 per cent for ages 90 and above, given the negligible effect on the results.

A.4.37 It is instructive to present the probabilities that a practising male doctor will be eligible for the Scheme in future years. The decrement assumptions are summarised in Table 12 in the form of assumed probabilities of being eligible for the Scheme at the end of each of the next 10 financial years for males.

**Table 12: Assumed probabilities of eligibility for the Run-Off Cover Scheme over the next 10 financial years for male doctors**

Year ending 30 June	Age at 30 June 2008						
	20	30	40	50	60	70	80
2008	0.0005	0.0006	0.0009	0.0019	0.0054	0.0760	0.1304
2009	0.0010	0.0013	0.0018	0.0039	0.0114	0.1504	0.2494
2010	0.0015	0.0019	0.0029	0.0062	0.0180	0.2228	0.3576
2011	0.0020	0.0025	0.0069	0.0117	0.0352	0.2929	0.4554
2012	0.0026	0.0032	0.0111	0.0174	0.0553	0.3602	0.5431
2013	0.0031	0.0039	0.0153	0.0234	0.1896	0.4245	0.6209
2014	0.0037	0.0046	0.0196	0.0297	0.2506	0.4856	0.6891
2015	0.0043	0.0054	0.0240	0.0373	0.3118	0.5431	0.7481
2016	0.0049	0.0062	0.0284	0.0463	0.3569	0.5971	0.7982
2017	0.0055	0.0070	0.0330	0.0566	0.4017	0.6471	0.8403

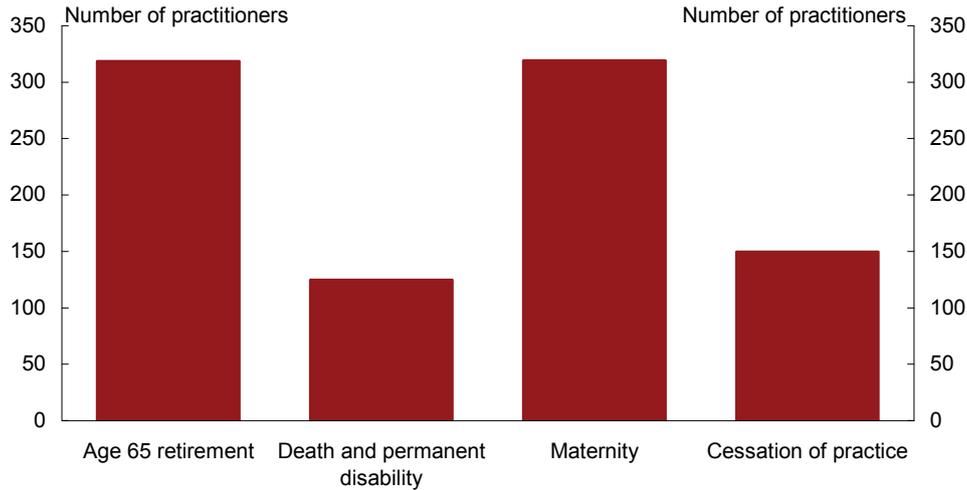
A.4.38 The uncertainty section below contains analysis of the model's sensitivity to the various decrement assumptions.

A.4.39 Figure 6 below depicts the number of 'at-risk' practitioners projected to become eligible for the Scheme by various means during the 2008-09 financial year<sup>9</sup>. Although

<sup>9</sup> Differs from the estimates in paragraph 3.3.8 which are based on overall practitioner numbers.

doctors will become eligible for the Scheme during 2008-09 by way of cessation of practice (having ceased practice during 2005-06), the number below refers to doctors who will actually become eligible during 2011-12.

**Figure 6: Projected entries of 'at-risk' practitioners to the Run-Off Cover Scheme based on decrement assumptions**



A.4.40 In prior reports, the numbers of practitioners projected to enter the Scheme were substantially higher than the number provided by the insurers for 2004-05 to 2007-08 financial years (see Table 1). In this report, we have assigned the eligibility experience more credibility and thus our assumed rates of entry to the Scheme are somewhat closer to the reported rates.

A.4.41 Where the date of birth or gender were not available for a practitioner, these were assigned randomly according to the age and gender distribution of 'at-risk' doctors.

### **Payment patterns, inflation and discounting**

A.4.42 ROC indemnity payments in relation to medical incidents occurring after 30 June 2008 were projected assuming the payment pattern in Table 13 below.

A.4.43 This payment pattern has not changed from that adopted in last year's report.

**Table 13: Payment pattern assumed**

Delay from notification to payment (years)	Proportion of claim costs paid (per cent)
1	3.15
2	15.41
3	20.10
4	19.53
5	10.07
6	8.73
7	6.78
8	5.45
9	4.02
10+	6.74

### **Economic assumptions**

A.4.44 Medical indemnity claim costs tend to increase at a faster rate than general inflation. Claim payments were projected to increase in line with wage inflation plus superimposed claim cost inflation.

- Wage inflation was assumed to be 4 per cent per annum. This is not inconsistent with general expectations of wage growth.
- Superimposed inflation was assumed to be 2.5 per cent per annum. Superimposed inflation refers to the tendency for medical indemnity claim amounts to increase at rates faster than general inflation. Bursts of superimposed inflation have been observed in the past. Despite this, superimposed inflation is typically allowed for with a constant assumption. For this exercise, an allowance of between 2 per cent and 5 per cent per annum might be reasonable. We have adopted an assumption towards the lower end of this range, having regard to the potential impact of the various tort reforms that have taken place over the last few years.

A.4.45 Claim payments were discounted at a rate of 6 per cent per annum. This is the same rate as was assumed last year. The chosen rate provides consistency with the rate adopted in a number of similar contexts and therefore is suitable from a whole of government perspective.

### **Data summarising the cohort of 'at-risk' doctors**

A.4.46 Table 14 summarises the age distribution of the cohort of 'at-risk' practitioners, with the total premium representing a proxy for risk of medical indemnity claims for each age group. Note that age and gender were not available for some doctors.

**Table 14: Cohort of 'at-risk' doctors**

Age at 30 June 2008	Number 'at-risk'	Total premium (\$'000)	Proportion males
<30	43	302	63
30-34	985	4,320	55
35-39	3,592	26,642	64
40-44	5,140	44,512	66
45-49	6,172	51,987	68
50-54	6,102	46,818	70
55-59	5,105	41,176	77
60-64	3,974	32,563	83
65-69	2,261	17,573	87
70-74	970	5,831	90
75-79	427	1,959	96
80-84	191	670	94
>85	39	130	90
<b>Total</b>	<b>35,001</b>	<b>274,484<sup>(a)</sup></b>	<b>73</b>

(a) Numbers may not add due to rounding.

## Projection of future Run-Off Cover Scheme costs

A.4.47 Table 15 below summarises the next 10 years' ROC indemnity payments which were aggregated to derive the projected Scheme costs in future years. The payments projected during 2008-09 include \$1.4 million in amounts paid but not yet recovered by insurers as at 30 June 2008.

**Table 15: Calculation of projected ROC indemnity payments**

Year ending 30 June	Medical incidents pre 1 July 2008			Medical incidents post 30/6/2008		Grand total (\$'m)
	Notified as at 30/6/2008 (\$'m)	IBNR as at 30/6/2008 (\$'m)	Total (\$'m)	Total (\$'m)		
2009	2.5	0.5	2.9	0.0	2.9	
2010	1.1	1.1	2.1	0.0	2.2	
2011	1.0	1.9	2.9	0.1	3.0	
2012	0.9	2.7	3.6	0.4	3.9	
2013	0.6	3.3	3.9	0.8	4.7	
2014	0.5	3.5	4.0	1.5	5.5	
2015	0.5	3.6	4.1	2.5	6.6	
2016	0.3	3.7	4.0	3.6	7.6	
2017	0.2	3.8	4.0	4.7	8.7	
2018	0.1	3.9	4.0	6.0	10.0	

Note: The costs of notified and IBNR claims do not always sum to the total cost of medical incidents pre 1 July 2008 due to rounding.

## **Uncertainty in relation to liability projections**

A.4.48 The projected ROC indemnity payments summarised in Table 15 are subject to uncertainty which relates to:

- data in relation to the claiming behaviour of eligible practitioners;
- substantial random variation associated with medical incidents and the notification of claims from year to year;
- calibration of the model claim size and claim frequency assumptions to the underlying claim process (medical indemnity liabilities are characterised by few claims associated with large random variation such that a wide range of results can be obtained with equal statistical validity);
- the extent to which doctors approaching retirement might cut down on their practice hours and possibly engage in less 'risky' practice (for example, less surgery);
- sensitivity of the model to the proportion of late-reported claims;
- sensitivity of the model to the decrement assumptions;
- the possibility that not all Scheme eligible claims have been identified and that recoveries will be more diligently pursued later in the claim process; and
- recent tort reforms in a number of jurisdictions with the possible effect of 'bringing forward' claims and distorting recent claim experience.

A.4.49 The information provided by the actuaries of the MIs and MDOs relied on broadly similar valuation models. The range of assumptions adopted by industry actuaries reflects the substantial uncertainty involved in estimating liabilities of the Scheme.

A.4.50 It must be emphasised that different results can be obtained from different yet equally plausible models and assumptions. Again, this is a common issue with liabilities of this nature.

A.4.51 An estimate of the projected accrual of ROC liabilities during the 2008-09 financial year was provided by each of the actuaries of the MIs; these summed to \$8.0 million (including CHE).

A.4.52 The estimates of 2008-09 ROC Scheme accrual provided by industry actuaries can be compared to estimates based on our model (including CHE) of:

- \$14.5 million published in last year's report (roughly 7 per cent of the estimated accruing claims cost for 2007-08); and
- \$11.1 million published in this year's report (roughly 6 per cent of the estimated accruing claims cost for 2008-09).

### **Model sensitivity to the claim reporting pattern and to the changes in the decrements**

A.4.53 The projection of ROC indemnity payments is particularly sensitive to the assumed delay between an incident and notification of that incident to the MII and to the decrements assumed in the model.

A.4.54 By way of illustration, a number of alternative scenarios were constructed to assess the individual impact of each assumption change.

A.4.55 The results of this sensitivity analysis are shown in Table 16, in terms of the estimated 2008-09 accrual including CHE and the number of new ROCS-eligible doctors in 2008-09.

**Table 16: Model sensitivity to claims reporting pattern and new decrements**

<b>Assumptions</b>	<b>New accrual 2008-09 (\$'m)</b>	<b>Expected number of risky doctors newly eligible for ROCS in 2008-09</b>
All new assumptions	11.1	912
All new assumptions, except the old resignation decrements	14.7	1,284
All new assumptions, except the old retirement decrements	14.2	1,204
All new assumptions, except the old death and disability decrements	12.2	972
All new assumptions, except the alternative claims reporting pattern	9.2	912

## APPENDIX 5: HIGH COST CLAIMS

### The High Cost Claims Scheme

A.5.1 The High Cost Claim Scheme (HCCS) is part of the broader package of Australian Government measures announced on 23 October 2002 that were designed to address problems with the medical indemnity insurance industry.

A.5.2 The HCCS is governed by Division 2 of Part 2 of the *Medical Indemnity Act 2002*. Under the HCCS, MIIs and MDOs are reimbursed for part of the costs of large claims notified to them on or after 1 January 2003.

A.5.3 The HCCS meets 50 per cent of the excess above the threshold (currently \$300,000) of the cost of individual large claims, before the operation of the Run-Off Cover Scheme.

A.5.4 The HCCS threshold and the percentage used to calculate the amount of indemnity can be changed by way of regulation. The HCCS threshold has been changed by way of regulation as follows:

- \$2 million for claims notified between 1 January 2003 and 21 October 2003;
- \$0.5 million for claims notified between 22 October 2003 and 31 December 2003; and
- \$0.3 million for claims notified 1 January 2004 and later.<sup>10</sup>

A.5.5 For example, for a claim which costs \$1 million notified on 1 April 2005, the HCCS will pick up:

$$50 \text{ per cent} \times (\$1,000,000 - \$300,000) = \$350,000$$

### Data collection

A.5.6 Medicare Australia collects data in relation to the HCCS, in addition to the Scheme data described in Section 3.

A.5.7 Data collected in relation to the HCCS include:

- details of claims/incidents notified to MIIs and MDOs by 30 June 2008 which might lead to recoveries under the HCCS;

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<sup>10</sup> Since the Run-Off Cover Scheme commenced on 1 July 2004, the relevant HCCS threshold is currently \$300,000.

- actuarial estimates of that part of the cost of claims relating to incidents which occurred before 30 June 2008 and are expected to be recoverable under the HCCS; and
- an estimate of that part of the future claims cost of medical incidents notified during the 2008-09 to 2011-12 financial years which is expected to be recoverable under the HCCS.

## **Relevance of HCCS data to the Run-Off Cover Scheme**

A.5.8 A small proportion of medical indemnity claims are larger than \$300,000. These high-cost claims have a noticeable influence on the total cost of medical indemnity each year.

A.5.9 Claims which take longer to report tend to be bigger on average. In addition, the longer the delay involved in notifying a claim, the more likely the claim will be notified at a time when the practitioner is eligible for the Scheme.

A.5.10 Thus, the small proportion of large claims made by retired practitioners will have a marked impact on the total cost of the Scheme.

## **Analysis of large claims**

A.5.11 HCCS data collected by Medicare Australia provide some insight into the likely profile of large medical indemnity claims.

A.5.12 According to the data collected, as at 30 June 2008, 344 claims/incidents had been notified to MIs and MDOs which were expected to be covered by the HCCS.

A.5.13 The cost estimates available for HCCS claims/incidents represent total case estimates, including amounts already paid as at 30 June 2008. Most of the estimated total cost of claims of \$329.3 million is attributable to estimates of outstanding cost provided by claims managers, with only \$87.5 million having already been paid as at 30 June 2008.

A.5.14 The HCCS data provides a reasonable but imprecise measure of the likely profile of large medical indemnity claims.

A.5.15 The distribution of estimated costs of HCCS-eligible claims notified between 1 January 2004 and 30 June 2008 is shown in Table 17. The distribution is presented in terms of the proportion of total estimated claim cost attributable to each claim size band. For example, about one quarter of the total estimated cost of HCCS-eligible claims was attributable to claims expected to cost between \$0.3 million and \$0.5 million.

**Table 17: Distribution of HCCS-eligible claims**

Claim size (\$'m)	Proportion of claims cost (per cent)
0 to 0.3	N/A
0.3 to 0.5	18
0.5 to 2.0	51
>2.0	31

A.5.16 The HCCS data illustrates the pattern of delay between a relevant negligent medical incident and the date that a large claim/incident is notified to the MII or MDO. The claim reporting pattern (based on claim numbers) observed in relation to HCCS claims is compared to the claim reporting pattern assumed for the Scheme in Figure 7. Note that eligible claims are included which were notified between 1 January 2004 and 30 June 2008, with an applicable threshold of \$0.3 million.

**Figure 7: HCCS claim reporting pattern**

