

Extended Medicare Safety Net

**Review of Capping
Arrangements
Report 2011**

**A report by the Centre for Health
Economics Research and Evaluation**

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Executive summary

The Extended Medicare Safety Net (EMSN) was introduced by the Australian Government in 2004 to provide financial relief for families and singles who incur high health-related out of pocket (OOP) costs. For those who qualify, the EMSN provides benefits in addition to the standard Medicare rebate for Medicare services provided out of hospital. Families and singles qualify for EMSN benefits once they have accumulated a given threshold in OOP costs for out of hospital services during the calendar year. After the threshold is reached, the EMSN pays 80 per cent of all OOP costs for out of hospital Medicare-related services for the remainder of the calendar year.

An independent review of the EMSN, published in 2009 (the 2009 Review), found that the EMSN accounted for three per cent of total Medicare spending, but that EMSN expenditure was growing at more than twice the rate of total Medicare spending. It also found that the EMSN led to a significant increase in average provider fees, particularly in some medical speciality areas. The fee increases resulted in considerable leakage of government benefits. Over 50 per cent of all EMSN benefits contributed to the funding of obstetrics and assisted reproductive technology (ART) services. While the EMSN did make services more affordable for some (e.g. people using ART services and patients with complex conditions such as cancer), it had little impact on affordability of services for those living in more remote or in lower socioeconomic areas.

Following the 2009 Review, the Australian Government introduced caps on the amount of EMSN benefits paid for selected Medicare Benefits Schedule (MBS) items. Caps were introduced on 1 January 2010 on items relating to obstetric services, pregnancy related ultrasounds, ART services, and one item each relating to cataract surgery (42702), hair transplantation (45560) and a varicose veins procedure (32500). Subsequently, midwifery items were also capped. For capped MBS items, there is a maximum limit on the amount of EMSN benefit per service. Capping arrangements were accompanied by increases in the Medicare rebate for a number of obstetric services, and a restructure of MBS items for ART services.

About this review

This review meets a legislative requirement to undertake an independent evaluation of the impact and operation of EMSN capping arrangements. The terms of reference for the review are an assessment of (1) the operation of capping EMSN benefits; (2) the extent to which the introduction of EMSN caps has made the EMSN more sustainable into the future; and (3) changes to fees charged, services provided and patient OOP costs for the capped items since the introduction of EMSN caps. Our analysis is based on Medicare data that was requested by us and provided by the Department of Health and Ageing. All dollar figures are expressed in constant 2010 dollars and have been adjusted to the Australian Bureau of Statistics' Consumer Price Index.

Key findings

Between 2004 and 2009, EMSN expenditure grew by 133 per cent from \$231.2 million to \$538.6 million. This compares to out of hospital Medicare rebate spending (excluding the Medicare safety nets) which increased by 40 per cent over this period. In 2010, total EMSN expenditure was \$311.8 million, representing a decrease of \$226.8 million compared to 2009 and \$124.6 million compared to 2008. Whilst this indicates that capping may be effective in reducing EMSN expenditure, there are two important caveats to this finding. Firstly, there is evidence that some patients and providers brought forward some of their service use in anticipation of the caps being implemented, thereby inflating 2009 expenditure and deflating 2010 spending. Secondly, 2010 expenditure may be understated because the data for this review was extracted at a point in time when not all claims for 2010 services had been received and processed by Medicare Australia.

Despite these caveats, it is clear that the largest contributors to the fall in EMSN expenditure are MBS items subject to caps. EMSN expenditure on private obstetric services decreased by \$133 million (although Medicare rebates for obstetrics increased by \$24.9 million) and by \$83.2 million for ART services (although Medicare rebates increased \$13.8 million). The percentage of EMSN spending on obstetrics and ART services fell from 55.8 per cent in 2009 to 27.1 per cent in 2010. The reduction in EMSN expenditure has been relatively greater in wealthier areas and major cities, compared to lower socioeconomic and regional areas.

In the case of the capped varicose veins item (item 32500), the number of out of hospital services fell by nine per cent in 2010. There is some evidence that providers reduced their fees for services provided out of hospital. However, the drop in EMSN benefits was greater than the drop in provider fees, causing OOP costs to rise, especially for patients who were charged higher than the median fee for this item. OOP costs for patients who were charged below the median fee were relatively stable, while the OOP costs for patients charged above the median fee continued to rise.

In the case of the capped item relating to cataract surgery (item 42702), the number of services provided out of hospital fell by 23 per cent in 2010 compared to 2009. For in hospital services, the relative decline was 6.8 per cent. Provider fees fell for services provided out of hospital, especially fees charged at the median and above. However, OOP costs for services below the median fee increased by at least \$100. For services above the median provider fee, OOP costs have increased substantially and appear to have returned to their pre-EMSN levels. It should be noted that in addition to capping arrangements coming into place at the start of 2010, the MBS fee for this item was also reduced in November 2009 as part of a separate Budget measure. This means that some of the observed changes may be due to changes to the MBS fee, rather than the EMSN cap.

For capped item 45560, relating to hair transplants for the treatment of alopecia, the number of services provided out of hospital fell by 51 per cent in 2010. Provider fees for out of hospital services began to decline in 2008 and this trend continued following the EMSN cap. OOP costs in 2010 were higher than pre-2004 levels (prior to the introduction of the EMSN).

For ART services, sample data suggests that the number of ART cycles in 2010 fell by 11 per cent when compared to 2009 but was almost identical to the 2008 figure. Provider fees for most types of cycles remained largely stable in 2010, although for frozen/donated embryo cycles (accounting for around 31 per cent of all cycles) fees at the lower end of the distribution increased, whereas they decreased at the higher end. Some of these changes may be due to the increase in MBS fee for some ART items and the restructuring of items. We found that in 2010 average and median fees for all ART cycles combined fell by \$108 and \$1,465, respectively. However, this reflects a change in the types of cycles utilised, rather than a decrease in the provider fees.

OOP costs rose substantially for those women who accessed stimulated cycles. The median OOP for stimulated A cycles increased from \$950 in 2009 to \$2,000 in 2010. Women who accessed frozen/donated embryo cycles saw OOP costs increase from \$330 to \$950 over the same period.

For obstetrics, the number of private confinement claims fell by four per cent in 2010 compared to 2009. The biggest falls came in the latter part of the year, suggesting that the impact of EMSN caps on the overall demand for private obstetric services may have become more apparent as the year progressed. There is evidence of anticipatory behaviour which resulted in more planning and management items being charged in December 2009. Provider fees for antenatal services were largely stable. Nevertheless, we found that provider fees at the higher end of the fee distribution fell by around \$191 in 2010. OOP costs increased markedly. For both normal and complex pregnancies, the median OOP costs increased by \$1,000 (50 per cent), while the 90th percentile OOP cost doubled.

Conclusion

Due to the legislated time requirements of this review, the data used may not have captured the full impact of EMSN caps. In many ways, it is too early to determine the true impact of EMSN caps and it will be worthwhile monitoring future trends when more data become available. Nevertheless, it is clear that capping arrangements have reduced EMSN expenditure. For capped items, the introduction of EMSN caps has removed the government's financial exposure to provider fee rises. However, the government remains exposed to EMSN expenditure growth due to the volume of services used, the number of people/families who qualify for EMSN benefits, as well as fee increases for uncapped items.

There have been some falls in provider fees in 2010, and these are most evident amongst capped items. Fees charged at the higher end of the distribution for varicose veins, cataract surgery and obstetrics have decreased. However, the decline in Medicare benefits has been greater which has meant that OOP costs have increased for most capped services.

In the context of the Australian health care system, we have previously shown that the EMSN is an inefficient mechanism by which to fund health care services (Savage et al., 2009). EMSN capping arrangements have reduced the Australian Government's financial risk but this gain comes at the expense of higher OOP costs for some patients. Furthermore, this review shows that there are numerous opportunities for providers to shift billing practices in order to avoid caps, thereby creating incentives that may not be aligned with providing the most efficient care.

1. Introduction

1.1 Background and purpose of the review

The Centre for Health Economics Research and Evaluation (CHERE) based at the University of Technology, Sydney has been commissioned by the Australian Government Department of Health and Ageing to undertake a review of the Extended Medicare Safety Net (EMSN) capping arrangements.

The EMSN was introduced in 2004 and a review was undertaken and tabled in each House of the Parliament in May 2009. The *Health Insurance Act 1973* was amended in October 2009 to enable the capping of EMSN benefits. Capping places an upper limit on the amount of benefit that can be paid under the EMSN. The first capping arrangements came into effect on 1 January 2010.

An amendment made to the capping legislation during the Parliamentary approval process requires an independent evaluation of the impact and operation of capping arrangements. The aim of the review is to analyse the impact and operation of EMSN capping arrangements. The terms of reference for the review involve an assessment of:

- The operation of capping EMSN benefits since its introduction on 1 January 2010.
- The extent to which the introduction of EMSN caps has made the EMSN more sustainable into the future.
- Any changes to fees charged, services provided and patient out of pocket (OOP) costs for the capped items since the introduction of EMSN caps.

The legislation also requires that the review be tabled in each House of the Parliament by 1 July 2011. In undertaking this review we use Medicare data provided to us by the Department of Health and Ageing.

1.2 Structure of this review

The review is set out as follows: Section 2 focuses on the background, history and operation of Medicare and the EMSN. This section includes a summary of the main findings of a review of the EMSN published in 2009. It also describes operational aspects of EMSN capping arrangements. Section 3 looks at aggregate EMSN expenditure over time and examines the extent to which EMSN expenditure has changed following the introduction of capping arrangements in January 2010. This section also reports on the amount of EMSN benefits received by various population groups. Section 4 provides an analysis of the long term trends in fees, Medicare benefits and OOP costs by broad type of Medicare service group. It focuses on whether the introduction of EMSN caps in 2010 was associated with any significant changes in these long term trends. Section 5 reports our analysis of the impact of EMSN caps. It examines each of the capped items in detail to determine whether there has been a significant impact after January 2010.

2. Medicare and the Extended Medicare Safety Net (EMSN)

2.1 Medicare

Medicare is a universal health program and has been a fundamental component of Australia's public health care funding arrangements since 1984. Medicare subsidises the cost of services that are provided out of hospital (e.g. doctors' consulting rooms) as well as in hospital services provided to private patients. It is an Australian Government funded program and covers a wide range of medical services, including consultations with general practitioners (GPs), psychiatrists, obstetricians, pathologists and other specialist medical practitioners, as well as diagnostic, therapeutic and certain allied health services. These services are privately provided; providers are paid by patients on a fee-for-service basis and patients are reimbursed a fixed benefit by the government.

Medicare defines more than 5,700 different health services. The government assigns each service a Medicare Benefits Schedule (MBS) item number and schedule fee. (From here on, an item is referred to as an 'MBS item' and the associated fee as the 'MBS fee'). Details of the MBS are updated regularly to reflect MBS fee changes and approved new medical services.

Under the Medicare program, the government contribution for each item is directly related to the MBS fee. The Medicare rebate for out of hospital services is usually 85 per cent of the MBS fee, with three exceptions:

- Since January 2005, patients have received a Medicare rebate worth 100 per cent of the MBS fee for all GP and other non-referred attendance items for out of hospital services.
- There is a maximum gap of \$71.20 (as at November 2010) between the Medicare rebate and the MBS fee for out of hospital services. This means that for items with an MBS fee exceeding \$474.65, the Medicare rebate for out of hospital services is equal to the MBS fee minus \$71.20.
- For those who qualify for the original Medicare Safety Net, the Medicare rebate increases up to 100 per cent of the MBS fee.

Since 1984, the Medicare program has included a safety net (referred to as the original Medicare Safety Net to differentiate it from the Extended Medicare Safety Net). Under the original Medicare Safety Net, singles and families qualify for an additional subsidy once they reach a threshold of \$388.80 (as at January 2010) in 'gap expenses' for out of hospital Medicare services. Here, the term 'gap expenses' refers to the difference between the out of hospital Medicare rebate and the MBS fee. Once a family or single qualifies, their Medicare rebate automatically increases up to 100 per cent of the MBS fee, instead of the usual 85 per cent.

Providers are not bound by MBS fees. Each provider is free to determine their own charge and this is widely regarded as constitutionally guaranteed (Scotton, 1998). It is at the provider's discretion to determine not only what they charge but also whether and how the charge varies across patients.

In the case of out of hospital services, Medicare has historically subsidised a proportion of the MBS fee and patients have been required to pay any higher amount that providers charge out of their own pockets. No supplementary private health insurance is available for out of hospital services that are covered by Medicare.¹ This has meant that providers face competitive market pressures to contain their charges. These pressures have been seen as a major factor in keeping medical inflation lower than it would otherwise be (Scotton, 1998). One example of the outcome of these competitive pressures is the extent to which providers bulk bill their patients. Bulk-billing refers to services where the provider accepts the Medicare rebate as full payment – leaving patients with zero out of pocket (OOP) cost.

Despite these competitive pressures there is considerable variation in provider charges. Some of the main determinants of this variation are geographic location of the provider and provider specialty group. In addition, some providers choose to charge lower fees to patients who have a Commonwealth Health Care Card. This has meant that patient OOP costs also vary according to the type of service provided and the geographic location of the service. As will be shown in subsequent parts of this review, there is considerable variation in provider charges (and therefore OOP costs) within professional groups for similar types of services.

In 2004, the then government introduced the MedicarePlus package (which was later renamed the Strengthening Medicare package). This set of reforms contained a number of policy measures aimed at reducing the OOP cost burden associated with health services. Most of these measures were directed at the primary care sector, or general practice, including:

- An increase in the Medicare rebate to 100 per cent (from 85 per cent) of the MBS fee for GP and non-referred attendances (implemented in January 2005).
- Incentives for GPs to bulk-bill Commonwealth concession cardholders and children under 16.
- A more generous incentive for GPs in non-metropolitan areas, Tasmania, eligible urban areas and large regional centres to bulk-bill consultations to Commonwealth concession cardholders and children under 16.
- New MBS items for certain allied health and dental services.

A further initiative of the Strengthening Medicare package was the EMSN, introduced in March 2004 to give people with high OOP costs additional benefits. The operation of the EMSN is quite different from that of the 'original' version. Both the original and extended safety nets operate concurrently, and it is possible to reach the threshold of both or just one safety net. From 1 January 2010, an upper limit, or EMSN benefit cap, was placed on the amount of benefit that can be paid under the EMSN for a number of Medicare services.

1. With the exception of hospital-substitute services such as hospital in the home programs which are funded by most health insurers similarly to standard hospital admissions.

2.2 The Extended Medicare Safety Net: prior to capping

At the time of the introduction of the EMSN, the government stated that the purpose of the EMSN was to protect all Australians from high OOP costs for medical services that are provided out of hospital (Hansard, 2003). The EMSN was particularly for those with complex health needs, families and others with high health care needs (Department of Health and Ageing, 2004).

The EMSN takes effect once a family or single person has reached a given threshold in OOP costs for eligible services. Once the threshold is reached, the EMSN pays 80 per cent of subsequent OOP costs for Medicare-related services for the remainder of the calendar year.

The EMSN encompasses all out of hospital services that are listed in the MBS, and is bound by the same rules and regulations as the Medicare program. Importantly, the EMSN is restricted to providing additional benefits for out of hospital services, whereas the Medicare program subsidises both out of hospital and private in hospital health services.

Before a family or single qualify for the EMSN, they must reach one of two thresholds:

- Commonwealth concession cardholders and/or recipients of Family Tax Benefit Part A (FTB(A)) qualify once they reach the lower threshold, which was \$300 when the policy commenced in March 2004.
- All other Medicare eligible families and singles qualify once they reach the general threshold, which was \$700 when the policy commenced.

Eligibility for FTB(A) is based on a means test of family income, and is adjusted for the number and age of children in the family. For example, as at January 2010, the maximum family income for FTB(A) eligibility for a person with one child under 18 was \$101,191. We consider that the existence of two levels of EMSN thresholds indicates that the government intended to provide those on low and middle incomes with additional financial relief from high OOP costs.

The thresholds operate on a calendar year basis and the threshold count starts afresh on 1 January each year. This means that in each calendar year a family or single has to incur sufficient OOP costs to reach the threshold and qualify for EMSN benefits. Thresholds are indexed by the Consumer Price Index and adjusted at the start of each calendar year.

When the then government introduced the EMSN at the start of 2004, it estimated that it would cost \$440 million in the first three and a half years of operation (Hansard, 2005). Total expenditure in the first three years of operation was \$828 million. The blow-out in expenditure led the government to increase the thresholds in 2006. These additional one-off threshold adjustments increased the lower and general EMSN thresholds to \$500 and \$1,000, respectively. Table 2.1 presents the lower and general thresholds for each year since the EMSN was introduced.

Table 2.1: Lower and general EMSN threshold levels by year

Year	Lower EMSN threshold \$	General EMSN threshold \$
2004	300.00	700.00
2005	306.90	716.10
2006	500.00	1,000.00
2007	519.50	1,039.00
2008	529.30	1,058.70
2009	555.70	1,111.60
2010	562.90	1,126.00
2011	578.60	1,157.50

Singles and families are both eligible for the same threshold amounts and thresholds do not vary by family size. Family members can combine their individual OOP costs to reach their threshold sooner. Once a family or single person reaches their EMSN threshold, subsequent OOP costs will be reimbursed at 80 per cent for services provided in that year.

The EMSN operates in a similar fashion to standard Medicare arrangements. When a patient makes a claim for an eligible Medicare service, Medicare Australia makes a record of the provider charge, the Medicare rebate and the OOP cost. Out of pocket costs are aggregated by Medicare Australia, and once the patient reaches their threshold, Medicare Australia will automatically add any eligible EMSN benefits to the Medicare rebate.

All individuals are automatically registered for the EMSN. However, for family members' individual OOP costs to be counted towards a family threshold, the family (or couple) must first register with Medicare Australia. This involves completing a Medicare Safety Net registration form that asks respondents to identify which individuals belong to the family. For Medicare Safety Net purposes a 'family' usually includes the spouse or partner and dependent children. Whilst a family only has to register once, in subsequent years they will be asked to confirm that there have been no changes to the composition of the family when their cumulative OOP costs are approaching their EMSN threshold level. Once a family reaches the threshold, the EMSN will provide benefits for all family members who incur Medicare-related OOP costs for out of hospital services for the remainder of the calendar year.

2.3 The 2009 Review of the Extended Medicare Safety Net

In May 2009, the Australian Government released an independent review of the Extended Medicare Safety Net (Savage et al., 2009). The review was undertaken by the Centre for Health Economics Research and Evaluation, based at the University of Technology, Sydney. The 2009 Review was tabled in each House of the Parliament on 12 May 2009.

The 2009 Review of the EMSN found that in 2007 the EMSN distributed \$324 million in benefits, accounting for around three per cent of total Medicare funding for out of hospital services. Growth in EMSN spending was considerably higher than overall Medicare expenditure. Over the three year period to 2007, overall Medicare spending increased by 23 per cent whereas EMSN spending increased by 54 per cent.

Despite its relatively small expenditure, the 2009 Review team concluded that the EMSN fundamentally changed public insurance arrangements for out of hospital services. Whilst Medicare places a limit on the rebate it provides per service, the EMSN provides benefits that increase with provider fees. This has the potential for the EMSN to impact on provider fees.

The 2009 Review found that since the introduction of the EMSN, average provider fees increased by around 4.2 per cent per year (excluding general practice and pathology), over the rate of inflation. The EMSN accounted for 70 per cent of this increase. The fee increases resulted in considerable leakage of government benefits towards providers' incomes, rather than reduced costs for patients. A conservative estimate is that, for every dollar spent on the EMSN in 2008, providers received 43 cents and patients received 57 cents.

The 2009 Review also found that EMSN benefits were highly concentrated in certain types of services. In 2007, over 50 per cent of all EMSN benefits contributed to the funding of obstetrics and assisted reproductive technology (ART) services. From 2003 to 2007, the amount of public funding going to private obstetric services increased from \$80.5 million to \$199.5 million. Of this increase, 83 per cent was attributable to the EMSN. In the case of ART services, government benefits increased from \$55.5 million to \$158.7 million, with 70 per cent of this increase attributable to the EMSN.

The 2009 Review found that the EMSN may have made services more affordable for some (people using ART services, some patients with complex conditions such as cancer), but appeared to have had little impact for those in more remote areas or in lower socioeconomic groups. The 2009 Review found that the EMSN provided more benefits to people living in Australia's richer areas. Some 55 per cent of EMSN benefits were distributed to the 20 per cent of people living in Australia's most socioeconomically advantaged areas. The 20 per cent of people living in the least advantaged areas, on the other hand, received less than 3.5 per cent. This is consistent with the fact that people in wealthy areas also incur more OOP costs.

For all the service groups combined (excluding GP consultations and pathology), there was no significant change in the number of services used following the introduction of the EMSN. However, some service groups saw a rise in demand for services post EMSN. Use of private obstetric services increased slightly after 2004, whereas the demand for

ART services grew substantially. Demand for other medical services, including general practice and pathology, also saw some increases, but specialist attendances, psychiatric consultations and operations did not change after the introduction of the EMSN.

Comparisons of average fees in the in hospital and out of hospital settings revealed that a number of service groups had significantly different growth trends in each setting after the introduction of the EMSN. For example, out of hospital fees for obstetrics and ART services increased after the introduction of the EMSN, while average in hospital fees for these professional groups decreased.

2.4 Capping EMSN benefits

As part of the 2009-10 Federal Budget, the Australian Government announced that it would introduce caps on the amount of EMSN benefits paid for selected MBS items. The caps were accompanied by increases to the Medicare rebates for 15 obstetric services and the restructuring of the MBS items for ART services. The *Health Insurance Amendment (Extended Medicare Safety Net) Act 2009* amended the *Health Insurance Act 1973* to enable the Minister for Health and Ageing to place, by legislative instrument, the maximum amount of EMSN benefits payable for MBS items. This legislation received Royal Assent on 7 October 2009. On 1 January 2010 a ministerial determination came into effect that placed a cap on the benefits that are paid under the EMSN for 71 MBS items (Department of Health and Ageing, 2009a). These are:

- Assisted reproductive technology (ART) services (11 MBS items);
- obstetrics (including some pregnancy related ultrasounds) (57 MBS items);
- MBS item 42702 – one type of cataract surgery;
- MBS item 45560 – hair transplantation for alopecia; and
- MBS item 32500 – one type of varicose veins treatment.

It is a requirement of the Act that any caps on EMSN benefits are approved by each House of the Parliament before they can have legal effect.

The items that were capped on 1 January 2010 were identified in the 2009 Review as those where there was evidence of fee inflation and/or that the EMSN was contributing very large amounts of benefits per service.

In November 2010, nine new MBS items relating to midwifery services were listed on the MBS. Seven of the new items are subject to EMSN caps. Three associated obstetric services were also listed on the MBS in November 2010 and these are subject to EMSN caps. As at April 2011, this brings the total number of capped items to 81 (out of around 5,700 MBS items).

For capped MBS items, there is a maximum limit on the amount of EMSN benefit to which a patient is entitled. If 80 per cent of the OOP cost is less than the cap, then the patient receives the full EMSN benefit. Otherwise the patient receives an EMSN benefit equal to the cap. Patients are eligible to receive up to the EMSN benefit cap, each time they claim for the service. Capping arrangements place no restrictions on the number of times an item can be charged and an EMSN benefit claimed. Furthermore, EMSN capping arrangements place no restrictions on the fee that can be charged by providers and has not affected the way patients accumulate OOP costs and qualify for EMSN benefits.

There are two scenarios a patient faces once they have reached the EMSN threshold and lodge a claim for an out of hospital service:

1. A claim for an uncapped item: The EMSN benefit is equal to 80 per cent of the OOP costs faced by the patient. Here the OOP cost is defined as the provider charge minus the Medicare rebate.
2. A claim for a capped item: The EMSN benefit is equal to 80 per cent of the OOP costs faced by the patient up to the maximum limit of the cap.

For example, assume a patient has already reached the EMSN threshold and is therefore eligible for EMSN benefits. They wish to claim for a MBS item where the rebate for out of hospital services is \$70.00. Figure 2.1 illustrates the relationship between the provider's fee and the OOP cost faced by the patient under three different scenarios: (1) Medicare without the EMSN; (2) Medicare with the EMSN; and (3) Medicare with EMSN but where the item is capped. For the purpose of the illustration, let's assume the EMSN benefit cap is \$20.00.

In the presence of Medicare (without the EMSN), the relationship between provider fee and OOP costs is straight forward. In this case, the patient pays the part of the provider fee that is above the Medicare rebate. For example, if the doctor's charge is, say, \$100.00 and the Medicare rebate is \$70.00 then the patient pays \$30.00 in OOP costs. Here there is a clear incentive for patients to locate a provider who charges lower fees to reduce their OOP costs. Under a scenario where Medicare and the EMSN are in place, a doctor's charge of \$100.00 would lead to an OOP cost of \$6.00 (instead of \$30.00 without the EMSN). This is derived by subtracting the Medicare rebate and the EMSN benefit from the doctor's fee.²

The solid green line illustrates the case where an EMSN cap of \$20.00 has been placed on the amount of EMSN benefit. Under this scenario, if the provider charge is \$100.00, the patient still receives \$70.00 as a Medicare rebate but the EMSN benefit is now capped at \$20.00. The patient therefore has an OOP cost of \$10.00 (instead of \$6.00 under an uncapped EMSN).

In our example, there is no difference in EMSN benefits for a capped or uncapped item if the provider charge is less than or equal to \$95.00³. A provider charge of \$95.00 would make the EMSN benefit equal to \$20.00 and thereby a patient reaches the cap. For a capped item, every additional dollar charged by the provider that is beyond the capped EMSN benefit is paid by the patient out of their own pocket.

2. For uncapped items (and for all items prior to January 2010): $\text{OOP cost} = \text{provider fee} - \text{Medicare rebate} - \text{EMSN benefit}$, where $\text{EMSN benefit} = 80\% \text{ of the provider fee minus the Medicare rebate}$.

3. In more general terms, a provider fee for any particular MBS item that is less than or equal to the following expression will ensure that the patient does not pay additional OOP costs as a result of capping arrangements: $\text{provider fee} \leq \text{Medicare rebate} + (\text{EMSN cap} \div 0.8)$.

Figure 2.1: Hypothetical example of the relationship between provider fees and OOP costs under three scenarios

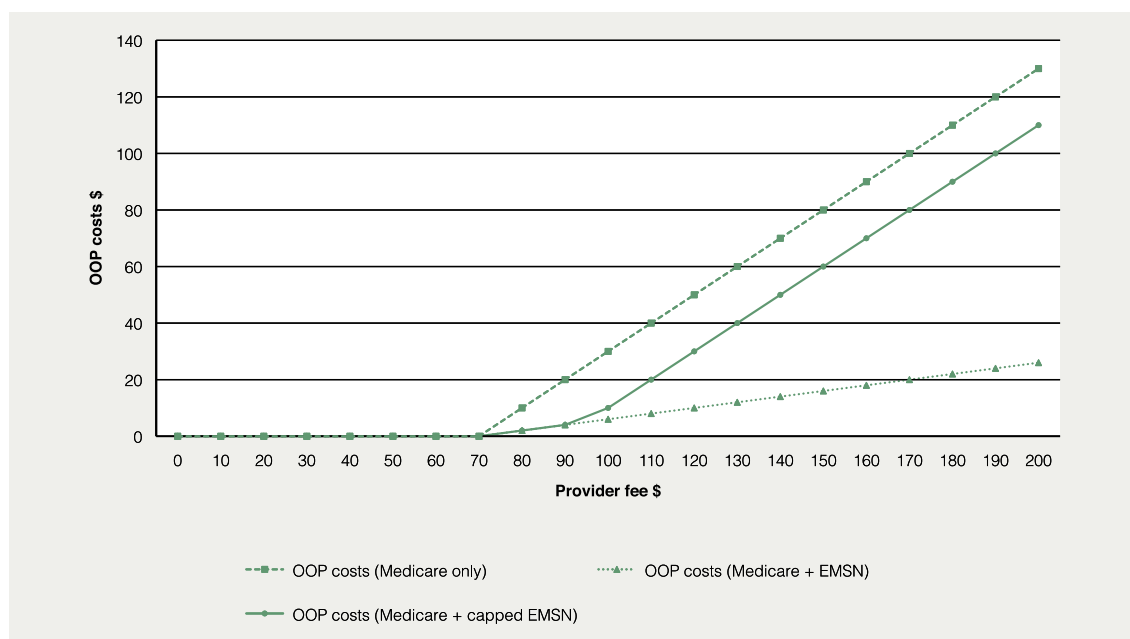


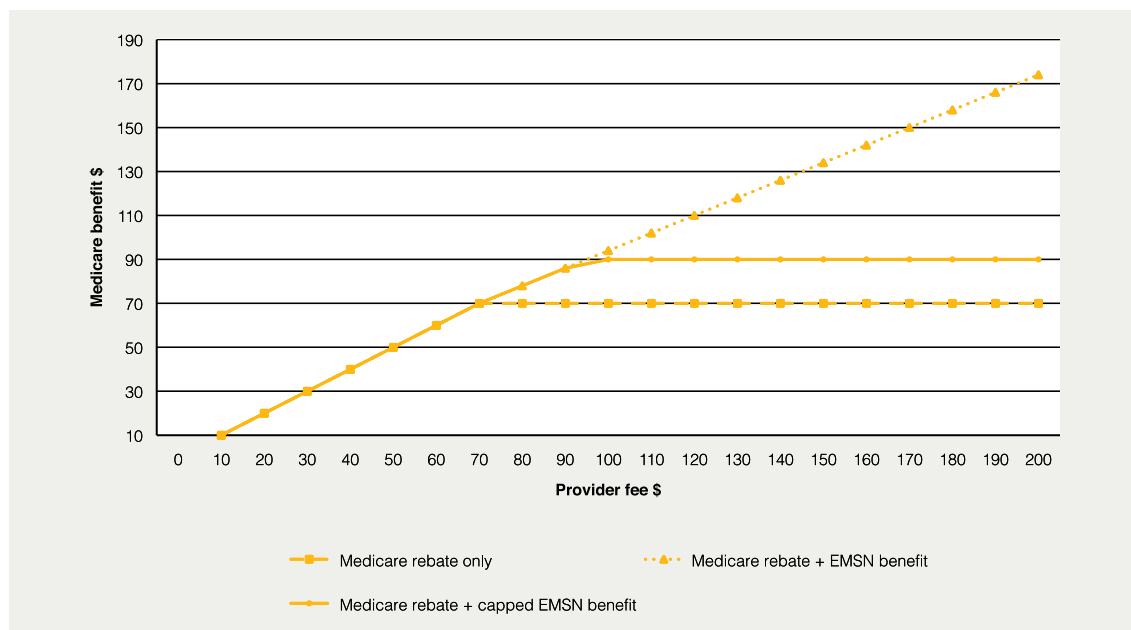
Figure 2.2 illustrates the relationship between the provider's fee and the Medicare benefit paid by the Australian government under the three scenarios that are also shown in Figure 2.1. For the purpose of the illustration, we again assume that the Medicare rebate is equivalent to \$70.00 and the EMSN benefit cap is \$20.00.

In the presence of Medicare (without the EMSN), the relationship between provider fee and the government's Medicare contribution is fairly simple. Medicare pays the full cost of the consultation for any fees up to and including \$70.00. Any part of the fee charged above \$70.00 (in this example) is paid for by the patient. Under a scenario where Medicare and the EMSN are in place, a doctor's charge of \$100.00 would lead to a Medicare contribution of \$94.00. This is comprised of the Medicare rebate of \$70.00 and \$24.00 in EMSN benefit. Under a capped EMSN scenario if the provider charge is \$100.00, the Medicare rebate is still \$70.00 but the EMSN benefit is now capped at \$20.00 (in this example). The maximum Medicare benefit for this claim is therefore \$90.00, regardless of the provider fee.

Prior to the EMSN, the Australian Government's spending on Medicare was a function of the volume of services claimed and the Medicare rebate, which are set by government. With the introduction of the EMSN, the Australian Government spending on Medicare also became a function of the fees charged by providers. This meant that the amount of Medicare spending was exposed to both volume and price movements. Furthermore, to the extent that the EMSN reduced OOP costs and made services less expensive, patients may consume more Medicare related services which in turn increase the volume of services.

With the advent of EMSN caps for some selected items, the government's exposure to provider fees is reduced. As shown in Figures 2.1 and 2.2 the financial burden shifts from the government back to the patient once the provider fee is above the point where the maximum Medicare benefit has been reached.

Figure 2.2: Hypothetical example of the relationship between provider fees and Medicare benefits under three scenarios



The dollar amount of the EMSN benefit cap is different for each of the 81 capped MBS items. The government states that caps were set with reference to the MBS fee, the distribution of EMSN benefits for the service and charging patterns of health providers for the service, taking into account the variation in time and complexity of providing the services to different patients.

In the case of ART services, the introduction of EMSN caps coincided with a restructure of the MBS. In its submission to the Senate Inquiry into the Health Insurance Amendment (Extended Medicare Safety Net) Bill 2009, the Department of Health and Ageing stated that (1) for a patient undergoing a typical cycle of ART, the majority of patients would not be impacted by the changes if doctors charges remained at the current level of the median fee charged; and (2) ART patients who were billed at the median level across all of the items (around \$6,000) in a treatment cycle would receive the same level of government benefit as they currently did (Parliament of Australia Senate, 2009).

In the case of obstetrics, the introduction of EMSN caps was accompanied by an increase in the Medicare rebate for 15 obstetric items as well as some restructuring of MBS items. Seven items were increased by ten per cent, six items by 30 per cent and one item by 150 per cent. In the examples provided by the Department in its submission to the 2009 Senate Inquiry, patients could be better off if they were charged less than \$1,000 for item 16590 (planning and management of pregnancy) and had not reached their EMSN threshold. If, however, they had already qualified for EMSN benefits, they would incur \$365.86 in additional OOP costs.

In addition, two new items for specialist obstetrics consultations were added to the MBS (items 16401 and 16404) in January 2010. These items are capped alongside other obstetrics MBS items. The new items are used by specialist obstetricians to bill patients for any attendance relating to pregnancy, including initial attendance and postnatal care provided subsequent to the expiration of the normal aftercare period. They replace specialist items 104 and 105 for specialist obstetrician attendances, although MBS item 16500 is still used for routine antenatal attendances.

The 2009 Review found the highest average EMSN benefit per service was for hair transplants (item 45560). In 2008, 187 out of hospital services were claimed for this item and the average fee was \$5,335.76 (Department of Health and Ageing, 2009b). As at November 2010, the Medicare rebate was \$387.35 and the EMSN cap was \$152.25. The rebate and the cap together are well below the average fee charged for this service. This gives some indication that patients charged the 2008 average provider fee would face substantial OOP cost increases as a result of EMSN caps.

The cap for the most commonly claimed cataract surgery (item 42702) was \$101.50 in November 2010, which was in addition to the Medicare rebate of \$660.60 if the procedure was performed on an out of hospital basis. However, around 95 per cent of services claimed for this item are performed in hospital and neither the EMSN nor the cap apply to services provided in hospital. The Department estimated that of the services provided out of hospital, around 90 per cent of patients would be impacted by the cap and therefore face higher OOP costs. In a separate policy change, as part of the 2009-10 Budget, the Government announced that the MBS fee for cataract items would be reduced to reflect the improvements in technology that allow procedures to be performed more quickly and safely. Following some fee adjustments in November 2009 and in January 2010, the MBS fee for this item, as at November 2010, was \$731.80 (a decrease of \$100 from the 2009 MBS fee).

In the case of a relatively minor varicose veins procedure (item 32500), the government imposed an EMSN cap of \$111.65 which is in addition to the Medicare rebate of \$89.85 if the procedure is performed out of hospital (as at November 2010). The Department noted that the vast majority of these services are performed in the out of hospital setting. Of the 58,000 services claimed in 2008, around 21,000 services attracted an EMSN benefit. Of these, around 78 per cent of services attracted an EMSN benefit in excess of the cap. This indicated that if fees remained unchanged the majority of patients were likely to face higher OOP costs for this service following the introduction of caps.

The government originally announced that it would also place a cap on a service associated with the injection of a therapeutic substance into the eye (item 42740) but subsequently decided that this item would be exempt from EMSN benefit caps (Department of Health and Ageing, 2009a).

EMSN caps are increased by the Consumer Price Index at the start of each calendar year, subject to parliamentary approval. Appendix A provides details of the changes for all currently capped items.

EMSN capping arrangements have added considerable complexity to health care financing arrangements, and these may not always be fully understood by the general public. In correspondence to the Minister for Health and Ageing, some members of the public noted that they were not aware of the EMSN capping changes when they used their Medicare related service, and others noted that they had been introduced with limited publicity (see Appendix B for more details on public and provider views on EMSN capping arrangements)⁴. Whilst EMSN capping arrangements may have restored some of the inherent incentives of the original Medicare system for patients to search for low charging providers in order to reduce their OOP costs, patients are limited in their ability to respond to these incentives if they do not have full information and understanding of how EMSN caps may affect them.

4. Appendix B to this review is available at: <http://www.health.gov.au/emsnreview>

3. Extended Medicare Safety Net expenditure and sustainability

3.1 Overall EMSN expenditure

All data presented in this review are based on date of service records, not on date of claim records that are often used by the Department of Health and Ageing in their reporting of Medicare statistics. Table 3.1 presents total Medicare expenditure for out of hospital services. There was significant growth in Extended Medicare Safety Net (EMSN) expenditure between 2004 and 2009. During this period, EMSN expenditure grew by 133 per cent in real terms⁵ compared with Medicare rebate spending (excluding the Medicare safety nets) which increased by 40 per cent in real terms. Original Medicare Safety Net expenditure remained steady throughout the period.

Table 3.1 also shows a considerable fall in EMSN expenditure following the introduction of capping arrangements at the start of 2010, down 42 per cent from its level in 2009. While this is an early indication that capping may have made EMSN expenditure more sustainable, there are two important caveats to this finding. Firstly, as will be demonstrated in subsequent sections of this review, there is evidence that some patients and providers brought forward some of their service use in anticipation of the caps being implemented at the start of 2010. The effect of this anticipatory behaviour is that EMSN expenditure in 2009 may be unusually high and expenditure in 2010 may be unusually low, exaggerating the true impact of EMSN caps in terms of reducing expenditure. Secondly, it is likely that data for the 2010 calendar year understate expenditure. This is because the data for this review were extracted in March 2011, and therefore patients who used a Medicare service prior to 31 December 2010, but had not claimed by the end of February 2011, do not appear in these data.

Following the completion of the analysis in this review, Government identified a potential error in the recording of FTB(A) status in Medicare Australia's systems which may impact a very small number of families in the latter half of 2010. This may impact EMSN benefits and expenditure for services provided in 2010.

Original Medicare Safety Net expenditure represents 0.1 per cent of total Medicare funding, and this spending is very stable. As the focus of this review is on the EMSN and EMSN capping arrangements, from here on in we will not report on original Medicare Safety Net spending separately. Instead, it is incorporated in the Medicare rebate amounts reported in the remainder of this review.

5. All dollar figures in this review are presented in constant 2010 Australian dollars. All dollar figures reported prior to 2010 have been adjusted by the rate of inflation, using the Australian Bureau of Statistics' Consumer Price Index (CPI).

Table 3.1: Total Medicare expenditure for out of hospital services 2004 to 2010

Year	Medicare rebate (excluding original Medicare Safety Net)		Original Medicare Safety Net		EMSN		Total	
	\$ million	% change	\$ million	% change	\$ million	% change	\$ million	% change
2004	9,144		11.1		231.2		9,386	
2005	10,270	12	9.4	-16	321.7	39	10,601	13
2006	10,508	2	10.8	15	275.2	-14	10,794	2
2007	11,294	7	12.1	13	357.7	30	11,664	8
2008	11,951	6	12.6	4	436.4	22	12,400	6
2009	12,836	7	13.2	4	538.6	23	13,388	8
2010	13,229	3	13.5	3	311.8	-42	13,554	1

Figures are based on date of service. All figures are in constant 2010 dollars.

The increases in EMSN expenditure after 2007 can be partly explained by the rise in the amount of benefits received by each individual and by the increase in the number of people qualifying for EMSN benefits. Table 3.2 shows the number of persons who received EMSN benefits in each year. At the policy's commencement over one million people received EMSN benefits per year. This dropped dramatically when the government increased the EMSN thresholds. This meant that families and singles had to incur higher OOP costs before qualifying for EMSN benefits. Between 2006 and 2009 there was once again substantial growth. This is not surprising. The EMSN thresholds are indexed each year by the Consumer Price Index, yet the growth in medical fees has historically been higher than the general level of inflation (Australian Institute of Health and Welfare et al., 2010). This may mean that, over time, we would expect more people qualifying for EMSN benefits and becoming a dominant driver of EMSN expenditure growth.

Following the introduction of EMSN capping arrangements the number of people who received EMSN benefits has fallen by only two per cent but it does go against a positive trend. It is not possible to ascertain the exact reasons for the slight drop in the number of people receiving EMSN benefits. In part, it may be explained by the incomplete 2010 data but it may also be explained by a change in behaviour on the part of patients. This is an important issue to monitor in the future. This is because the number of people qualifying for EMSN benefits is an important determinant of total EMSN expenditure.

Table 3.2: Number of persons receiving EMSN benefits 2004 to 2010

Year	Persons	% change
2004	1,053,151	
2005	1,162,732	10
2006	675,794	-42
2007	790,648	17
2008	903,413	14
2009	979,926	8
2010	964,147	-2

3.2 EMSN expenditure by service group

The distribution of EMSN benefits varies by service group. Table 3.3 presents the amount of EMSN expenditure for various types of Medicare service groups for each year since 2004. As noted previously, EMSN expenditure increased by 133 per cent on average between 2004 and 2009. Service groups with higher-than-average growth in EMSN expenditure between 2004 and 2009 (in increasing order) were: obstetrics (212 per cent), anaesthetics (235 per cent), plastic and reconstructive surgery (276 per cent), ophthalmology (283 per cent), assisted reproductive technology (ART) services (357 per cent), vascular procedures (389 per cent) and allied health (744 per cent). Although EMSN expenditure on some services, such as allied health and anaesthetics, has grown substantially, these services represent only a small fraction of total EMSN spending. The large increases for some service groups are driven by increases in service volume. This is particularly true for many of the allied health and dental services which were introduced after 2004, and thus come off a very low volume base, with rapid increases as these services become embedded into Medicare funding arrangements. The midwifery items were introduced in November 2010, providing only two months of data for this review.

The service groups with below-average growth in EMSN expenditure between 2004 and 2009 were: general radiology (-19 per cent), CT scans (-11 per cent), optometry (-4.1 per cent), MRI (0.3 per cent), general practice (3.5 per cent), invasive diagnostic procedures (11.6 per cent), other (non-obstetric) ultrasounds (53 per cent), specialist attendances (25 per cent), consultant physician (including psychiatry) (53 per cent), other therapeutic procedures (72 per cent) and pathology (77 per cent). EMSN expenditure growth for radiation oncology and obstetric ultrasound was similar to overall expenditure growth (112 per cent and 119 per cent respectively).

Following the introduction of EMSN caps in 2010, overall EMSN expenditure fell by \$226.8 million in real terms⁶ compared to 2009 levels.

6. All dollar figures in this review are presented in constant 2010 Australian dollars. All dollar figures reported prior to 2010 have been adjusted by the rate of inflation, using the Australian Bureau of Statistics' CPI.

This decrease may overstate the true impact of capping because, as noted previously, the 2010 data are likely to underestimate true EMSN expenditure and the 2009 data capture some anticipatory behaviour which inflated 2009 EMSN expenditure. Notwithstanding these caveats, it is clear that the largest contributors to the fall in EMSN expenditure are service groups with MBS items that are subject to EMSN caps. Between 2009 and 2010, EMSN expenditure on private obstetric services decreased by \$133 million, a drop in expenditure of 86 per cent from 2009 levels. Due to changes in MBS fees, the Medicare rebates for obstetrics increased by \$24.9 million in 2010.

Table 3.3: EMSN expenditure by service group 2004 to 2010⁷

Service group	2004 \$ mil	2005 \$ mil	2006 \$ mil	2007 \$ mil	2008 \$ mil	2009 \$ mil	2010 \$ mil
Allied health	0.2	0.6	0.7	0.9	0.8	1.4	1.6
Anaesthetics	0.4	0.5	0.4	0.6	0.9	1.3	2.1
Assisted reproductive technology services*	32.1	49.0	52.1	78.9	106.5	147.0	63.8
Consultant physician (includes psychiatry [^])	26.5	35.8	28.6	32.8	37.0	40.5	41.3
CT scan	4.5	5.6	3.3	3.8	4.1	4.1	3.4
Dental	0.0	0.0	0.0	0.1	1.9	4.6	7.2
General practice	38.1	38.2	23.5	29.6	35.0	39.4	40.0
General radiology and other diagnostic imaging	6.7	8.2	4.8	5.6	5.9	5.4	4.9
Invasive diagnostic procedure	4.5	5.7	3.2	4.0	4.7	5.1	5.1
Midwifery*	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MRI	2.4	3.2	1.8	2.0	2.5	2.4	2.2
Obstetric ultrasound*	4.8	6.8	5.6	7.1	8.7	10.4	3.9
Obstetrics*	49.2	86.3	88.5	109.8	128.6	153.8	20.8
Ophthalmology*	2.8	4.0	3.7	5.7	7.6	10.7	11.2
Optometrist	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other	0.2	0.3	0.2	0.3	0.4	0.5	0.5
Other therapeutic	6.5	8.6	5.9	7.2	9.1	11.2	12.0
Other ultrasound	8.3	11.2	7.6	9.9	11.5	12.7	12.5
Pathology	6.6	7.7	5.4	6.4	7.8	11.7	8.5
Plastic and reconstructive surgery*	1.1	1.8	2.2	3.2	3.1	4.1	3.9
Psychology	0.0	0.0	0.3	5.7	9.0	11.8	13.4
Radiation oncology	8.7	12.6	11.8	13.2	14.7	18.5	19.6
Specialist attendances	25.2	31.4	19.6	23.5	27.8	31.6	29.4
Vascular procedures*	2.1	4.0	5.9	7.2	8.8	10.4	4.3
Total	231.2	321.7	275.2	357.7	436.4	538.6	311.8

Note these figures are based on date of service. All figures are in constant 2010 dollars.

* includes service groups with at least one capped item(s).

[^] Note that in Section 4 we separate psychiatric items from consultant physicians.

7. The introduction of two new obstetric items (items 16401 and 16404) has shifted some consultations from the specialist attendances service group to the obstetric group.

EMSN expenditure fell by \$83.2 million for ART services between 2009 and 2010, but Medicare rebates increased by \$13.8 million. EMSN expenditure decreased by \$6.5 million for obstetric ultrasound, \$6.1 million for vascular procedures, and \$0.2 million for plastic and reconstructive surgery. There were also small declines for some non-capped service groups, including pathology, CT scans, general radiology and other diagnostic imaging, MRIs, other ultrasounds, consultant physician (including psychiatry) and general practice. In addition, EMSN expenditure on specialist attendances decreased slightly, but this is explained by the introduction of two new obstetrics consultations items. These new items have meant that from 2010 onwards some obstetric consultations are counted in the obstetrics service group (instead of the specialist attendance service group).

There was considerable growth in EMSN expenditure for some service groups between 2009 and 2010. Service groups such as psychology, allied health, dental services and anaesthetics all grew by more than 10 per cent. In each instance, the primary driver of this increase was the volume of services utilised, rather than changes in fees. Collectively these four service groups account for eight per cent of total EMSN spending.

In 2010, EMSN expenditure accounted for only 2.3 per cent of the total \$13.55 billion government spending on out of hospital Medicare services. Whilst this is relatively small in the context of overall Medicare spending, there are some medical services where the EMSN contributes substantially to overall public funding. Table 3.4 presents the average amount of funding per service, financed through EMSN and Medicare rebates (including the original Medicare Safety Net) in 2009 and 2010 for each service group. For example, for each GP service in 2009, Medicare rebates contributed \$40.57 and the EMSN contributed \$0.33 on average, or less than one per cent of Australian Government Medicare funding.

Table 3.4 also presents the decline in EMSN funding following the introduction of capping arrangements in 2010. The average EMSN contribution for ART services fell by \$294.16, from \$655.58 to \$361.42 per service. However, some of this fall was offset by an increase in the Medicare rebate which, on average, increased by \$210.59. Therefore the reduction in Medicare funding per ART service was \$83.57.

In the case of obstetrics, the average Medicare rebate for out of hospital services increased by \$13.33. This increase only marginally offset the drop in average EMSN expenditure for obstetric services which fell by \$92.98, from \$106.40 to \$13.42 per service. These figures do not take into account the increase in Medicare rebates for in hospital obstetrics items (for the management of labour and delivery) which increased by 30 per cent.

The average EMSN contribution for vascular procedures fell by \$85.44, for ophthalmology by \$2.59, for plastic and reconstructive surgery by \$4.45, and for obstetric ultrasounds by \$7.10. The extent to which the EMSN contributes to funding for services has substantially reduced for some of the capped service groups. The EMSN contributed 72 per cent and 20 per cent of total Medicare funding for obstetric services in 2009 and 2010 respectively. For ART services, the EMSN contribution fell from 58 per cent of total Medicare funding in 2009 to 35 per cent in 2010. In the case of vascular procedures the EMSN provided 56 per cent of total Medicare funding in 2009 and 35 per cent in 2010. In terms of EMSN contributions to the ophthalmology and plastic and reconstructive surgery groups, the change in 2010 has only been slight.

Table 3.4: Average Medicare contribution per out of hospital service

Service Group	2009			2010		
	Medicare rebate^ \$ a	EMSN Benefit \$ b	Medicare benefit \$ (a + b)	Medicare rebate^ \$ c	EMSN Benefit \$ d	Medicare rebate^ \$ (c + d)
Allied health	47.41	0.58	47.99	46.21	0.53	46.74
Anaesthetics	76.98	3.34	80.32	76.03	5.01	81.04
Assisted reproductive technology services*	475.16	655.58	1,130.74	685.75	361.42	1,047.17
Consultant physician (includes psychiatry)	95.41	4.94	100.35	95.51	5.00	100.51
CT scan	292.22	2.11	294.33	309.45	1.87	311.32
Dental	144.83	1.20	146.03	131.22	1.33	132.55
General practice	40.57	0.33	40.90	40.87	0.33	41.20
General radiology and other diagnostic imaging	69.05	0.65	69.70	70.95	0.58	71.53
Invasive diagnostic procedure	65.57	1.10	66.67	65.66	1.11	66.77
Midwifery*	0.00	0.00	0.00	94.93	7.18	102.11
MRI	358.64	5.34	363.98	371.99	4.47	376.46
Obstetric ultrasound*	66.61	11.27	77.88	68.19	4.17	72.36
Obstetrics*	41.51	106.40	147.91	54.84	13.42	68.26
Ophthalmology*	234.12	36.54	270.66	231.46	33.95	265.41
Optometrist	47.83	0.01	47.84	47.05	0.01	47.06
Other therapeutic	68.64	1.93	70.57	72.12	2.19	74.31
Other ultrasound	112.67	2.59	115.26	117.21	2.43	119.64
Pathology	19.95	0.13	20.08	18.87	0.09	18.96
Plastic and reconstructive surgery*	263.43	53.34	316.77	263.32	48.89	312.21
Psychology	93.31	4.05	97.36	92.78	4.03	96.81
Radiation oncology	143.16	13.67	156.83	145.11	14.58	159.69
Specialist attendances	50.94	3.25	54.19	50.39	3.12	53.51
Vascular procedures*	121.24	151.51	272.75	122.62	66.07	188.69

Note: these figures are based on date of service. All figures are in constant 2010 dollars. From 2010 onwards, the obstetrics group includes services for items 16401 and 16404 which were previously claimed under items 104 and 105 within the specialist attendance group.

* indicates service group with at least one capped item(s).

^ Medicare rebate includes original Medicare Safety Net benefit.

The figures shown in Table 3.4 (and other tables in this section) are based on raw Medicare data that do not take into account pre-existing trends or seasonality. Care should be taken in attributing the observed changes to EMSN capping. We return to this issue in Sections 4.12 and 5.

3.3 High EMSN expenditure items

The 2009 Review identified the top twenty MBS items in terms of total EMSN expenditure, using 2007 Medicare data. Collectively, these twenty items accounted for 77 per cent of all EMSN expenditure, indicating that EMSN expenditure is concentrated around relatively few MBS items. Table 3.5 replicates this analysis using more recent data. It shows the top 20 MBS items in terms of EMSN benefits paid in 2010. Collectively, these items account for 66 per cent of EMSN expenditure, or around \$200 million.

Seven out of the top ten most expensive items in 2007 remain in the top ten in 2010, and three of them are capped items. In addition, the top ten most expensive items in terms of EMSN expenditure include a newly created ART item, 13201, which is also capped. The only capped item that is no longer in the 2010 list is item 32500 relating to a varicose veins procedure. However, another varicose veins procedure item is now in the 2010 top twenty list (item 32504). This issue is discussed further in Section 5. A relatively new MBS item relating to a psychology attendance (item 80010) which was not on the 2007 list accounts for \$4.5 million in EMSN expenditure.

Table 3.5: Top 20 MBS items with highest EMSN expenditure in 2010

Broad item description and MBS item number	2010 EMSN expenditure (\$ million)
ART (13200)*	30.0
GP attendance (23)	24.9
ART (13201)*	20.6
Specialist attendance (105)	15.0
Specialist attendance (104)	12.9
Obstetrics planning (16590)*	12.7
Psychiatry (306)	11.5
ART (13218)*	10.8
Consultant physician (116)	10.9
Paracentesis (42740)	8.5
Psychology attendance (80110)	7.4
Obstetric attendance (16500)*	6.7
Consultant physician (110)	6.2
Radiation oncology (15263)	4.7
Psychology attendance (80010)	4.5
GP attendance (36)	4.1
Radiation oncology (15266)	3.7
Psychiatry (304)	3.4
Radiation oncology (15269)	3.1
Varicose veins (32504)	2.3

Note: figures are based on date of service and reported in constant 2010 dollars.

* indicates capped item.

Table 3.6 presents the MBS items with the highest average EMSN benefit per service in 2010. Two capped items for ART services are included in the list. Nine of the top 15 items in 2010 were also among the top 15 items in 2007. As in 2007, a number of items fall into the category of plastic and reconstructive surgery. Note that some services with high average EMSN benefits per service were not included in the list due to privacy issues arising from very small numbers of services. These included several items related to maxillofacial services.

Table 3.6: Top 15 MBS items with highest average EMSN benefits per out of hospital service and more than ten out of hospital services in 2010

Service description (MBS item number)	Average EMSN benefit per service \$	Total number of out of hospital services	Total EMSN benefits \$
Lipectomy (wedge excision of abdominal apron) (30165)	5,547	72	399,381
Lipectomy (subumbilical excision) (30174)	2,622	26	68,171
Reduction mammoplasty (45522)	2,322	138	320,481
Rhinoplasty (45638)	2,188	35	76,587
Vulvoplasty (35533)	2,238	191	427,551
Transurethral microwave thermotherapy‡ (37230)	2,130	30	63,889
Assisted reproductive technology services* (13201)	2,084	9,896	20,619,991
Rhinoplasty (45641)	1,969	37	72,836
Liposuction (45585)	1,755	119	208,898
Assisted reproductive technology services* (13200)	1,398	21,447	29,989,876
Stereotactic radiosurgery (15600)	1,282	245	314,037
Brachytherapy planning (15539)	1,189	276	328,046
Lipectomy (two or more excisions) (30171)	1,238	95	117,641
Vasovasostomy (37619)	n.p	n.p	n.p
Mandible osteotomy (52351)	n.p	n.p	n.p

Note: *Capped items

‡ Not reported in 2007 review due to low number of providers.

n.p Not published for Medicare data confidentiality reasons. These items are in no particular order.

3.4 Distribution of Medicare services, rebates, EMSN benefits and out of pocket costs

This section explores the extent to which there is variation in the number of out of hospital Medicare services, the amount of Medicare rebate, and the amount of EMSN and OOP costs across specific population groups. We report on the variation by age and gender, regional areas and socioeconomic status and family structures. In particular, we examine whether there has been a change in the distribution of EMSN benefits and OOP costs since the introduction of EMSN caps.

The specific population groups examined in this section are those who are eligible for the lower and general EMSN thresholds; residents of various regional areas; socioeconomic groups; age groups and gender. The data in these sections are presented on a per capita basis (e.g. the number of out of hospital Medicare services used per capita). It should be noted that the 'per capita' figures are derived using the number of people who have claimed at least one Medicare service in a given year. This is slightly below the actual population as around 10 per cent of the population do not make any Medicare claims in a given year. All data presented in this section is based on claims made to Medicare Australia in relation to any out of hospital service, not just claims for which an EMSN benefit was paid.

By threshold eligibility

Table 3.7 presents information on the number of out of hospital Medicare services used per capita for those who are eligible for the lower threshold and those who are eligible for the general EMSN threshold. Families and individuals are eligible for the lower threshold if they receive Family Tax Benefit Part A (FTB(A)), have a Commonwealth concession card, or both. Everybody else is eligible for the general threshold. The table shows that those with concession cards are greater users of Medicare related services compared to general threshold families and singles. Service use has been steadily rising but fell slightly in 2010 for families who are eligible for the general threshold.

The amount of fees per capita is higher for concession card holders but they also receive higher amounts of Medicare rebates compared to general families and singles. This reflects the fact that people with concession cards are: (1) more frequent users of health care; (2) more frequently bulk-billed by health care providers (compared to those who do not have a concession card); and (3) accessing relatively more services provided by GPs (compared to specialist care), which have a Medicare rebate worth 100 per cent of the MBS fee.

The figures show that concession card holders receive lower EMSN benefits than recipients of FTB(A) and people who are eligible under the general threshold. Singles receive fewer EMSN benefits than those who are registered with Medicare Australia as belonging to a family. This has consistently been the case since the EMSN was introduced, and is due to the ability of family members to pool OOP costs to qualify for EMSN benefits. Singles, on the other hand, can only count their own OOP costs towards the threshold.

Following the introduction of EMSN caps, per capita EMSN benefits fell for all family types, except concession card families, and singles. Families who qualify for the general threshold received the greatest per capita EMSN benefits but also experienced the biggest drop in benefits in 2010 of \$21.68 per capita. OOP costs rose by \$10.05 and \$13.72 in 2010 for general families and singles, respectively.

Table 3.7: Per capita services, fees charged, Medicare rebates, EMSN benefits and OOP costs for out of hospital services, by lower and general EMSN threshold eligibility

Year	Lower threshold				General threshold	
	Concession card families	Concession card singles	FTB(A) and concession card family	FTB(A) family	General family	General singles
Services per capita						
2004	17.14	17.68	15.84	8.10	11.63	8.45
2006	16.41	18.95	15.64	8.53	11.73	9.40
2008	17.41	20.93	16.85	9.24	12.35	10.51
2010	18.11	22.21	17.40	9.44	12.28	11.00
Fees per capita (\$)						
2004	836.10	813.20	756.62	420.81	682.12	421.67
2006	834.58	934.23	795.18	467.16	710.16	496.26
2008	897.46	1,052.72	869.45	508.07	752.36	560.67
2010	961.74	1,166.99	905.22	513.24	743.58	603.99
Medicare rebate per capita (\$)						
2004	758.15	767.26	669.84	329.18	509.15	348.31
2006	765.64	884.77	703.07	369.17	530.73	409.26
2008	821.06	992.43	766.49	397.88	548.33	454.22
2010	880.61	1,098.09	812.66	410.54	551.20	484.61
EMSN benefit per capita (\$)						
2004	12.19	4.01	16.45	19.92	28.22	3.63
2006	8.58	3.96	20.63	21.55	32.87	5.24
2008	11.78	6.28	28.53	30.31	48.61	9.10
2010	13.39	8.31	14.40	17.64	26.93	8.30
OOP cost per capita (\$)						
2004	65.76	41.94	70.34	71.70	144.75	69.73
2006	60.36	45.50	71.48	76.44	146.56	81.77
2008	64.63	54.01	74.43	79.88	155.41	97.35
2010	67.75	60.58	78.16	85.07	165.46	111.07

By remoteness group

This section examines per capita out of hospital services, provider fees, Medicare benefits and OOP costs for people living in different regions. Regional categories were defined on the basis of a person's postcode. Each postcode is categorised into one of five potential regional categories: very remote, remote, outer metropolitan, inner regional and major city. Where a postcode covers two or more regional categories, the postcode is allocated to the category where the majority of the residents residing in that postcode live. People classified as migratory or whose postcode is unknown are excluded from this analysis.

Table 3.8 shows that people in remote and regional areas use fewer out of hospital services per capita compared to those living in major cities. A similar trend can be seen in per capita fees, with people living in major cities paying more than those living in regional and remote areas. This difference is explained by the volume of services used, provider fees and/or different type of service mix in various parts of the country. The distribution of EMSN benefits is heavily skewed towards the cities. In 2008, the per capita EMSN benefit for people living in a major city was \$28.23 whereas those living in an inner regional area received less than half that amount and those in remote areas received between \$6.00 and \$9.00. Following the introduction of capping arrangements, per capita EMSN benefits decreased by \$9.20 for those residing in major cities whereas the per capita EMSN benefit fell by less than \$3.00 in all other regions. Per capita OOP costs rose in all regions in 2010, but more so in major cities.

Table 3.8: Per capita services, fees charged, Medicare rebates, EMSN benefits and OOP costs, for out of hospital services by remoteness group

Year	Very remote	Remote	Outer regional	Inner regional	Major city
Services per capita					
2004	8.29	9.52	10.99	11.68	12.71
2006	8.62	10.00	11.54	12.44	13.29
2008	9.65	11.01	12.61	13.65	14.32
2010	10.03	11.29	13.10	14.33	14.84
Fees per capita (\$)					
2004	377.92	455.55	534.38	585.10	643.04
2006	411.68	506.91	589.47	651.58	711.90
2008	437.98	538.25	632.29	709.68	787.29
2010	464.24	564.60	675.90	764.47	830.30
Medicare rebate per capita (\$)					
2004	343.29	396.51	459.30	499.90	546.54
2006	373.65	444.07	512.26	563.23	605.52
2008	394.75	466.84	545.24	610.94	659.84
2010	419.65	488.75	585.08	662.72	700.25
EMSN benefit per capita (\$)					
2004	2.53	4.38	6.52	8.62	15.70
2006	3.42	5.22	6.24	8.92	18.64
2008	5.96	8.82	10.18	13.45	28.23
2010	4.15	6.63	8.30	10.51	19.03
OOP cost per capita (\$)					
2004	32.09	54.66	68.56	76.59	80.80
2006	34.61	57.62	70.97	79.43	87.74
2008	37.27	62.59	76.87	85.30	99.22
2010	40.44	69.22	82.52	91.23	111.02

By socioeconomic status

Table 3.9 presents data on the distribution of services, fees, rebates, EMSN benefits and OOP costs by socioeconomic status for out of hospital services. In the data provided for this review, the Department of Health and Ageing used published information from the Australian Bureau of Statistics' Socioeconomic Index of Advantage and Disadvantage for Areas (SEIFA) from ABS Cat 2033.0.55/001 to assign a quintile SEIFA value to each person's postcode. There are five SEIFA values in our data, with SEIFA value 1 containing 20 per cent of the population living in the least advantaged areas, and SEIFA quintile 5 containing 20 per cent of the population living in the most advantaged areas. Note that the SEIFA quintiles in our data do not match the distribution of the Australian population. In our data approximately 10 per cent of people live in SEIFA 1; 13 per cent in SEIFA 2; 20 per cent in SEIFA 3; 26 per cent in SEIFA 4; and 30 per cent in SEIFA 5. The reasons for the difference in the Australian population and Medicare Australia data is firstly because Medicare Australia is based on claims data, where a person is counted only if they claim at least one Medicare service in any given year. Secondly, some patients use PO Box postcodes in their Medicare Australia enrolment details. These postcodes do not have SEIFA score values assigned to them.

Table 3.9 indicates that there has been steady growth in the number of out of hospital services claimed through Medicare over time. This is true for all socioeconomic groups, but the number of services per capita has increased slightly more for those in the lower SEIFA groups compared to those in higher groups. There is a clear and consistent pattern of higher service use amongst those living in least advantaged areas, perhaps reflecting the higher health needs of those with lower socioeconomic status.

By contrast, the amount of fees per capita is higher for those living in the most advantaged areas compared to those in the least advantaged areas, indicating that those living in more advantaged areas are charged more per Medicare service and/or that the types of services are different. For example, people in higher income areas may utilise relatively more specialists' services whereas those living in less well-off areas may use relatively more GP services. Per capita Medicare rebates have increased across all SEIFA groups but more so for those living in the least advantaged areas.

The figures in Table 3.9 show that wealthier areas receive greater shares of EMSN funding. This has been a consistent feature ever since the EMSN was introduced. In 2008, the amount of per capita EMSN benefit for those living in the most advantaged areas was \$41.07 and the corresponding figure for those living in the least advantaged areas was \$7.17. In percentage terms, people living in the least advantaged quintile (SEIFA Q1) received 3.3 per cent of total EMSN benefits whereas people living in the most advantaged quintile (SEIFA Q5) received 54.1 per cent. Table 3.9 also shows that following the introduction of caps, EMSN benefits fell across all SEIFA groups but the impact was substantially larger for those living in more affluent areas. Per capita EMSN benefits in SEIFA Q5 fell by \$13.10 in 2010 but for those living in least advantaged areas, benefits fell by only \$1.53. The distribution of EMSN benefits changed slightly after the introduction of caps, with people living in SEIFA Q1 receiving 3.7 per cent and those in SEIFA Q5 receiving 53 per cent of total EMSN benefits.

As a result of the rise in provider fees and the drop in EMSN benefits, per capita OOP costs rose across all SEIFA groups, but the increases were greater in wealthier areas. For those living in SEIFA Q1, per capita OOP costs rose by \$4.13 in 2010 compared to 2008, whereas those living in the most advantaged areas (SEIFA Q5) annual per capita OOP costs rose by \$16.58.

Table 3.9: Per capita services, fees charged, Medicare rebates, EMSN benefits and OOP costs, for out of hospital services by socioeconomic area (SEIFA quintile)

Year	SEIFA Q1 (Least advantaged)	SEIFA Q2	SEIFA Q3	SEIFA Q4	SEIFA Q5 (Most advantaged)
Services per capita					
2004	12.50	12.16	12.11	12.21	12.36
2006	13.20	12.84	12.79	12.83	12.86
2008	14.45	14.12	13.94	13.86	13.78
2010	15.20	14.74	14.61	14.40	14.14
Fees per capita (\$)					
2004	577.26	586.18	587.31	604.42	672.00
2006	646.83	650.46	655.37	671.23	737.34
2008	708.36	714.46	719.57	739.81	810.11
2010	769.90	765.46	774.30	783.44	842.48
Medicare rebate per capita (\$)					
2004	525.86	514.28	512.39	518.99	543.36
2006	594.11	577.23	576.24	578.62	594.08
2008	649.58	632.66	629.34	629.22	638.21
2010	708.52	681.44	681.04	670.73	667.10
EMSN benefit per capita (\$)					
2004	4.11	6.71	8.01	11.30	23.81
2006	4.39	6.81	8.98	13.24	27.95
2008	7.17	10.71	13.77	21.24	41.07
2010	5.64	8.35	10.02	14.24	27.97
OOP cost per capita (\$)					
2004	47.29	65.19	66.91	74.13	104.84
2006	48.34	66.41	70.14	79.37	115.30
2008	51.61	71.09	76.46	89.35	130.83
2010	55.74	75.68	83.24	98.47	147.41

By age and gender

Tables 3.10 and 3.11 present data on the number of per capita services, provider fees, Medicare benefits (rebate and EMSN) and OOP costs for males and females in six different age categories for out of hospital services. Table 3.10 shows that, as would be expected, the number of services used by males is highly dependent on age. Young children use more services compared to older children and young adults. Once males reach their mid twenties, service use starts to increase and continues to do so as they age. Per capita fees and Medicare rebates provide a similar picture. Per capita EMSN benefits amongst males are greatest for those aged between 65 and 84. This age group also experiences the highest OOP costs, which have grown by more than 35 per cent between 2004 and 2010 for those aged 65 and over. With the exception of those aged between 0 and 4, EMSN benefits increased slightly for men in 2010.

Table 3.11 provides per capita Medicare data for females by age group. The pattern of out of hospital services is also in line with expectations for women: as women age, they use more services. Per capita provider fees and Medicare rebates exhibit a very similar pattern. The EMSN benefit is highest amongst women aged 25 to 44, the group which is most likely to use private obstetrics and/or ART services. Following the introduction of caps, the amount of per capita EMSN benefits decreased by \$53.86 for women aged between 25 and 44. The amount of EMSN benefits received by all other age groups was relatively constant. OOP costs continued to rise steadily after the caps were introduced for all age groups, with the exception of the 25 to 44 year age group. OOP costs for this age group increased substantially by \$42.38.

Comparing the figures in Tables 3.10 and 3.11 reveals some important patterns in health care use and funding amongst males and females. Firstly, service use is reasonably similar across males and females. Compared to females, young male children use slightly more services whereas females aged five to 24 use more services than their male counterparts. There is hardly any difference between the sexes once people reach 65 years of age. The one age group where there is a significant difference is in the 25 to 44 year age group where females use 70 per cent more services than males. Aside from the 25 to 44 age group, there is no distinguishable pattern between males and females in terms of EMSN benefits.

3.5 Conclusion – EMSN expenditure, distribution and sustainability

EMSN expenditure was \$311.8 million in 2010, accounting for only 2.3 per cent of overall Medicare spending on out of hospital services. This represents a 42 per cent drop (\$226.8 million) in expenditure compared to 2009 levels and a 29 per cent drop (\$124.6 million) compared to 2008 levels. There is no doubt that to a large extent the drop in EMSN spending can be attributed to the introduction of EMSN caps. Compared to 2009, EMSN expenditure for service groups affected by EMSN capping arrangements fell by \$228.5 million, whereas there was slight growth in EMSN expenditure for most other service groups. It should be noted that the 2010 numbers may increase as Medicare Australia's claims data is updated. Furthermore, there is some evidence (discussed in more detail in Sections 4 and 5) of some anticipatory behaviour in the months leading up to the introduction EMSN caps. The effect of this anticipatory behaviour is that EMSN expenditure in 2009 may be unusually high and expenditure in 2010 may be unusually low, exaggerating the true impact of EMSN caps in terms of reducing expenditure.

Notwithstanding these qualifications, the drop in 2010 EMSN expenditure comes after a period of very strong growth. In the five years between 2004 and 2009 EMSN expenditure increased by 133 per cent (in real terms). This is more than three times the rate of growth on overall Medicare expenditure on out of hospital services. At this rate of growth, EMSN expenditure would have been greater than overall Medicare expenditure by 2044. The drop in 2010 EMSN expenditure demonstrates that capping arrangements have made an important contribution to restricting excessive growth in EMSN expenditure.

For relevant items, the introduction of EMSN caps removes the government's financial exposure to provider fee rises, which is a major source of EMSN expenditure growth. Furthermore, the Health Insurance Act 1973 enables government to place caps on other MBS items if approved by each House of the Parliament. Subject to this approval, the government has the policy levers in place to reduce future threats to excessive growth in EMSN expenditure that is due to higher provider fees. However, the government remains exposed to EMSN expenditure growth that is due to either high increases in the number of out of hospital Medicare services used and/or the number of people/families who qualify for EMSN benefits.

Following the introduction of caps, the distribution of EMSN benefits has altered substantially. In 2009, prior to caps, 55.8 per cent of EMSN benefits went towards funding ART and obstetric services. In 2010, this percentage reduced to 27.1 per cent. Capping also altered the distribution of EMSN benefits according to socioeconomic and regional areas. Whilst EMSN benefits per capita fell across all areas, there were relatively larger falls in more advantaged socioeconomic areas and major cities. EMSN benefits for males remained relatively stable in 2010 (compared to 2008), with older males receiving higher EMSN benefits per capita. Amongst females aged 65 and older, there was also an increase in per capita EMSN benefits, but there was a dramatic drop amongst women aged 25 to 44 years old. Per capita EMSN benefits fell from \$97.70 in 2008 to \$43.84 in 2010. It should be noted that this demographic group remain the biggest beneficiaries of EMSN benefits.

Table 3.10: Per capita services, fees charged, Medicare rebates, EMSN benefits and OOP costs for out of hospital services, for males and age group

Males (age in years)						
Year	0 to 4	5 to 24	25 to 44	45 to 64	65 to 84	85+
Services per capita						
2004	7.88	5.31	7.60	12.77	24.36	24.72
2006	8.04	5.51	7.88	13.25	25.87	26.28
2008	8.53	5.88	8.43	14.22	28.16	28.01
2010	8.77	6.19	8.72	14.64	29.15	29.97
Fees per capita (\$)						
2004	370.66	258.77	380.60	657.69	1,195.40	1,138.82
2006	411.61	283.60	412.63	705.64	1,329.06	1,281.32
2008	432.16	312.93	442.79	756.71	1,460.69	1,368.37
2010	440.72	333.47	464.49	800.96	1,567.48	1,516.22
Medicare rebate per capita (\$)						
2004	314.46	221.46	322.07	556.65	1,089.26	1,068.93
2006	359.00	248.01	354.38	603.07	1,214.47	1,209.08
2008	372.42	272.90	377.17	644.03	1,327.47	1,284.98
2010	381.07	290.75	395.50	684.06	1,421.72	1,415.12
EMSN benefit per capita (\$)						
2004	9.83	2.97	4.89	7.74	16.21	8.96
2006	9.84	2.03	4.30	6.30	13.69	7.20
2008	13.63	3.41	6.03	8.72	19.07	11.16
2010	12.69	4.28	6.41	10.01	23.56	16.75
OOP cost per capita (\$)						
2004	46.37	34.35	53.64	93.29	89.93	60.93
2006	42.77	33.56	53.95	96.27	100.90	65.03
2008	46.12	36.61	59.59	103.96	114.16	72.23
2010	46.96	38.43	62.58	106.89	122.20	84.34

Table 3.11: Per capita services, fees charged, Medicare rebates, EMSN benefits and OOP costs for out of hospital services, for females and age group

Females (age in years)						
Year	0 to 4	5 to 24	25 to 44	45 to 64	65 to 84	85+
Services per capita						
2004	7.28	7.39	12.87	15.89	24.87	25.32
2006	7.44	7.76	13.56	16.32	26.01	26.51
2008	7.86	8.56	14.80	17.58	28.09	28.33
2010	8.11	8.67	15.23	18.15	29.20	29.61
Fees per capita (\$)						
2004	333.48	334.03	703.54	835.34	1,189.22	1,143.85
2006	369.36	371.30	807.24	893.63	1,312.65	1,285.54
2008	382.11	409.51	918.04	976.15	1,440.90	1,387.00
2010	390.04	425.05	942.86	1,029.28	1,561.30	1,487.04
Medicare rebate per capita (\$)						
2004	286.37	288.35	541.83	699.02	1,089.51	1,078.35
2006	327.20	325.81	603.83	753.38	1,207.08	1,219.57
2008	336.20	358.19	657.05	816.96	1,316.48	1,308.61
2010	344.13	371.84	693.35	863.47	1,421.41	1,394.34
EMSN benefit per capita (\$)						
2004	8.00	3.92	41.50	12.02	13.51	6.55
2006	7.73	3.50	61.63	10.71	10.85	4.96
2008	10.08	5.41	97.70	15.86	16.11	8.78
2010	9.39	5.11	43.84	16.74	20.66	13.68
OOP cost per capita (\$)						
2004	39.11	41.76	120.20	124.30	86.20	58.95
2006	34.43	41.99	141.77	129.54	94.72	61.02
2008	35.83	45.91	163.30	143.33	108.31	69.61
2010	36.53	48.10	205.68	149.07	119.23	79.02

4. Trends in fees, benefits and out of pocket costs by service group

4.1 Overview of methods

This part of the review examines whether the introduction of Extended Medicare Safety Net (EMSN) caps was associated with a significant change in out of hospital services in terms of the:

- average fee charged per medical service
- average Medicare benefit paid per service⁸
- average Medicare rebate⁹
- average out of pocket (OOP) cost per service
- number of services used per capita.

The following sections replicate parts of the 2009 Review which focussed on the trends in fees, benefits and OOP costs over time before and after the introduction of the EMSN, using more up-to-date Medicare data. The aim of the analysis is to identify trends before and after the introduction of the EMSN caps in January 2010.

A limitation of this analysis is that there is only one year of data available following the introduction of the EMSN caps. This makes it difficult to draw any robust conclusions about the likely impact that capping arrangements have had on the outcomes of interest. Particular attention needs to be taken in the treatment of the strong annual cycles present in the EMSN data. This annual pattern is primarily related to the structure and operation of EMSN policy; namely, as more people qualify for EMSN benefits throughout the calendar year, more benefits are paid as the year progresses – and as a result OOP costs decline. While this annual cycle was present in the analysis in the 2009 EMSN review, it presents a greater challenge when there is only one year of post EMSN cap data available. We address these issues in our analysis in three ways. Firstly, to minimise the limitation created by having only one year of data since the EMSN caps came into effect, we use monthly data from January 2000 to December 2010, instead of the quarterly data used in the 2009 EMSN Review. This provides us with a greater number of time periods pre and post the introduction of EMSN caps. Secondly, to adjust for annual cycles in trends we use an autoregressive moving average time-series regression. Finally, we include an indicator for the month of December to capture the end of year patterns observed in many of the outcome measures.

Another challenge for this analysis is the anticipatory behaviour that evidently took place prior to the introduction of the caps. Because information about the caps was available before they came into effect, patients may have moved their service use forward to avoid the caps, and doctors may have shifted their billing arrangements to minimise any financial disadvantage to patients when the caps were introduced. There is evidence for this in the data, as there appear to be unusually high figures in the latter part of 2009 for some services, and unusually low figures at the start of 2010. This anticipatory behaviour is only likely to occur once and therefore represents a one-off effect.

8. The Medicare benefit is comprised of the Medicare rebate + original Medicare Safety Net + EMSN benefit.

9. For the purposes of this review we define the Medicare rebate to be comprised of the Medicare rebate (generally 85% of the MBS fee) plus the original Medicare Safety Net, but excluding the EMSN benefit.

The implication of this for the econometric analysis is that we must be wary of attributing trend changes to the EMSN caps – when at least some of the change is due to the one-off anticipatory behaviour. We have attempted to control for the anticipatory behaviour in our analysis by running separate regression models which either include or exclude the last month of December 2009 and the first month of January 2010, and comparing the coefficients for the EMSN cap in these models.

A further challenge to the analysis is that the Medicare data may not be complete for the later months of the 2010 observation period. This is because the data extracted for this review only includes claims up to the end of February 2011. This means that those patients who used a Medicare service prior to 31 December 2010 but have not claimed by the end of February 2011 do not appear in the data. This issue is more likely to affect those who used a service towards the end of 2010 and who were not bulk-billed. This may lead to bias in the data. During the latter phases of the observation period there may be relatively more bulk-billed items observed in the data and relatively fewer patient billed services, as bulk-billed services will typically appear in claims data earlier than patient billed services. This bias would artificially reduce the average fees, OOP costs and EMSN benefits for the last few months of 2010.

Due to the strong seasonal trends in the data and because there are only 12 months of data since the introduction of EMSN caps, we have not included a post EMSN cap time trend. Any post-capping time trend would be confounded by the annual seasonality trend when only 12 months of data exist. Instead, a single indicator variable is included in the model for all months in 2010 to capture the effect of the EMSN cap, after accounting for trends over time. More detail on the regression strategy can be found in Appendix C of this review.¹⁰

The review team had data pertaining to the total number of out of hospital services, the total fees charged, the total Medicare benefits paid, the total EMSN benefits paid and OOP costs for each Medicare Benefits Schedule (MBS) item, by month of service. For this part of the review, we firstly grouped all Medicare data and derived the averages by dividing the total fees, total benefits and total OOP costs by the number of services used in that month. The 'all services' group excludes general practice and pathology services. These two groups were also excluded from the 'all services' group in the 2009 Review because they account for a large number of services and because of policy changes for general practice around the time of the introduction of the EMSN. For consistency we have excluded them in the analysis of all service groups in this review. We present the results for general practice and pathology separately when we analyse the impact of the EMSN cap on individual service groups later in this section.

Secondly, we grouped the MBS items by the broad type of service groups that can be identified in the Medicare data (e.g. specialist attendances, psychiatry consultations, obstetrics, etc). Again, we derived the averages by dividing the total fees, total benefits and total OOP costs by the number of services used within each service group in that month.

Not all service groups have been affected by the introduction of EMSN caps. Only in the case of the assisted reproductive technology (ART) services, obstetric services (including obstetric ultrasounds) and services provided by eligible midwives have most relevant MBS items been capped.¹¹ There are three other service groups where only one item has been capped with other items in those groups remaining uncapped. These three groups are vascular procedures (where only item 32500 is capped), ophthalmology (where only item 42702 is capped) and plastic and reconstructive surgery (where only item 45560 is capped). All other service groups have no capped items. This feature of the EMSN capping arrangements provides us with the opportunity to examine potential differences across service groups. We compare changes in fees, benefits and OOP costs before and after 2010 for those groups where caps have been implemented and where they have not.

In the following sections we discuss the regression results obtained for all service groups combined, as well as for individual service groups. We firstly present the regression results graphically, showing predicted values from the models and the actual data points. The left-most dashed vertical line on each graph indicates the introduction of the EMSN in March 2004 and the right-most dashed line marks the introduction of EMSN caps. At the end of this section, we summarise selected regression results specifically related to post 2010 changes. This summary presents our estimates of the impact of capping on average fees, benefits and OOP costs per service. The full regression results are available in Appendix D to this review.¹²

4.2 All service groups (excluding general practice and pathology)

Time trends in fees, benefits and OOP costs since 2000 are presented in Figure 4.1. The scatter points represent the actual data points for each outcome and the continuous lines represent the predicted values from the time-series regression models for each outcome. The blue line shows the average Medicare rebate over time and the gold line shows the average Medicare benefit over time. The graph in Figure 4.1 shows a flat trend prior to 2004 but increasing trends in provider fees and Medicare benefits after the introduction of the EMSN in March 2004.

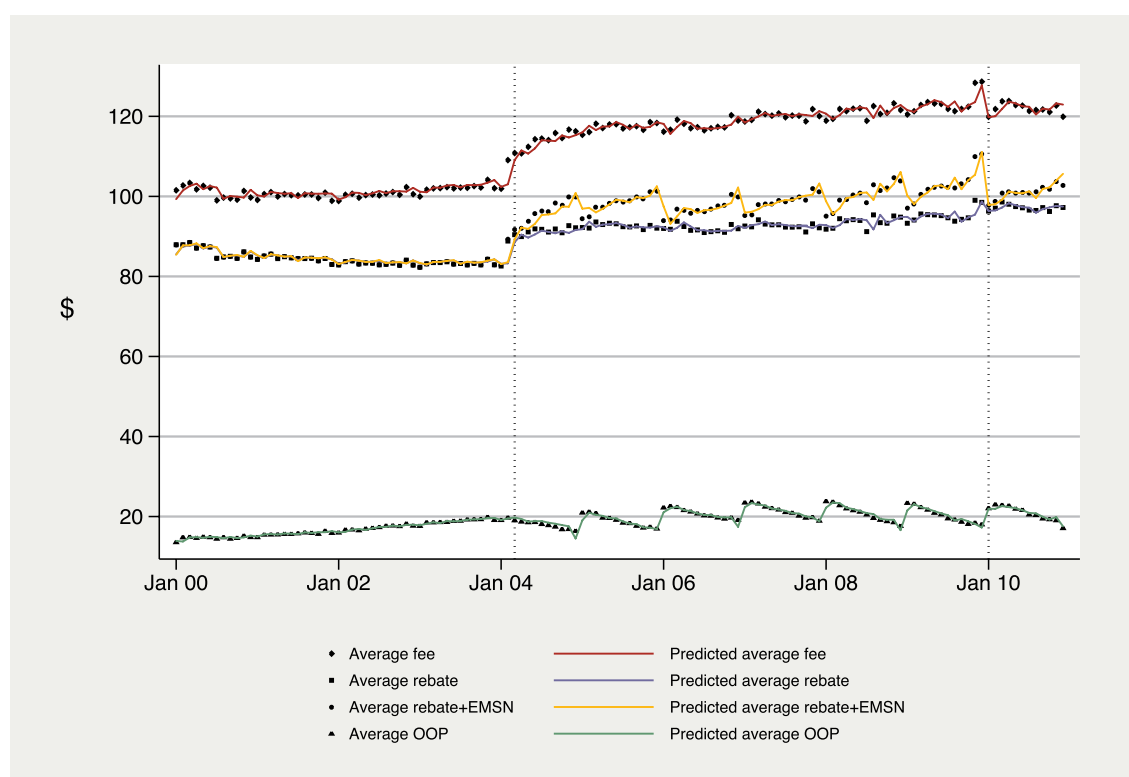
The difference between the gold and blue lines post 2004 indicates the size of the average EMSN benefit. The scatter data points and trend lines for OOP costs and Medicare rebate + EMSN exhibit seasonality after 2004. This seasonality is due to the restart of the qualification period for the EMSN each calendar year.

11. All midwifery items have also been capped but as these items were only introduced into the MBS in November 2010 we are unable to estimate any time trends.

12. Appendix D is available at: <http://www.health.gov.au/emsnreview>

The effect of the EMSN caps can be seen at the indicated time point in January 2010 in Figure 4.1. However, it also shows a peak in average fees and average rebate + EMSN in December 2009, possibly in anticipation of the introduction of the EMSN caps. Therefore the subsequent drop in these measures in 2010 may result in an overestimation of the effect of the EMSN cap in 2010. Re examination of data with a longer follow-up period than currently available is required to ascertain whether the drop in 2010 attributable to the EMSN cap is sustained in future years, or is an artefact of artificially high levels observed in the latter part of 2009.

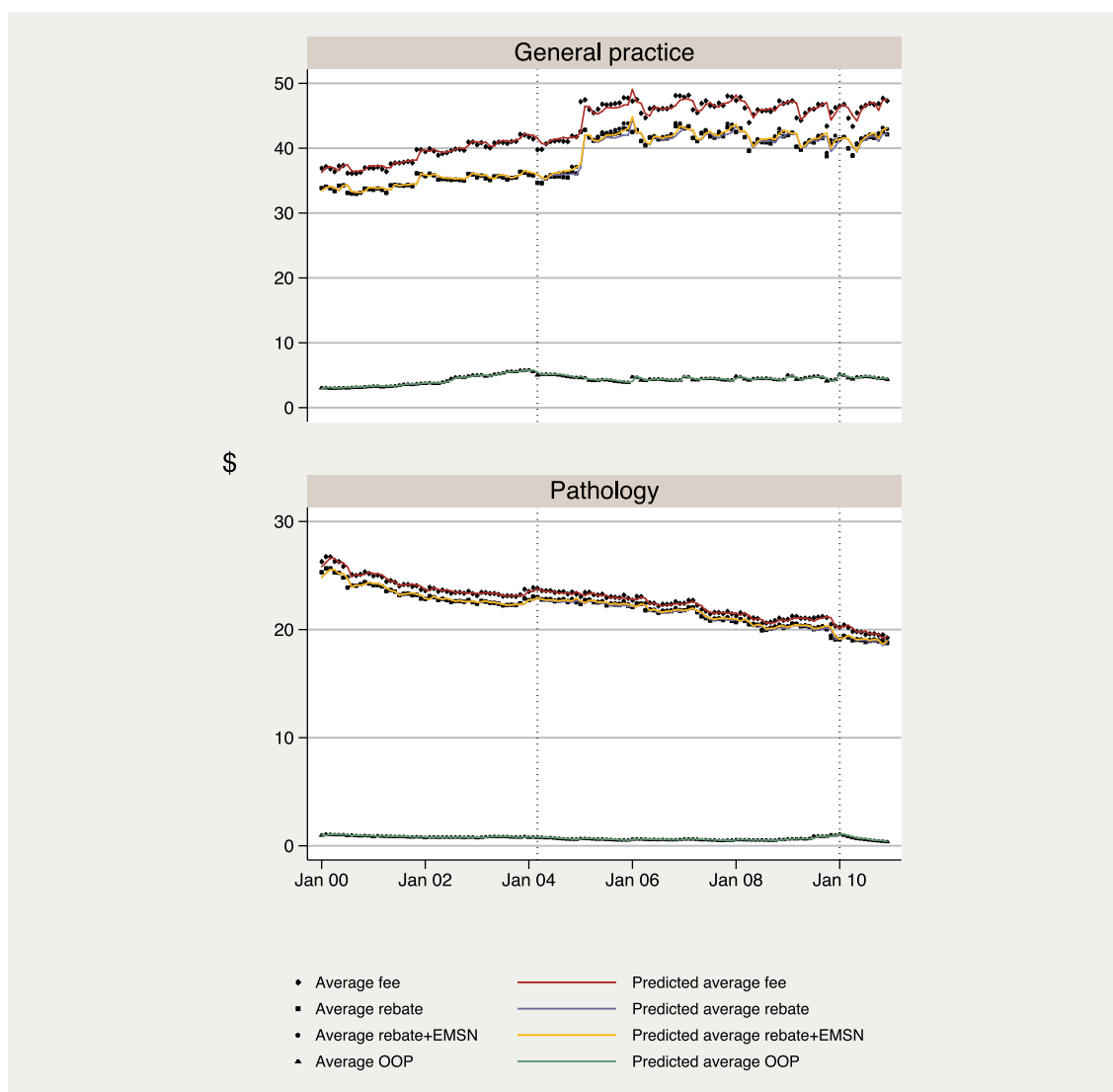
Figure 4.1: Trends in average fees, rebates and OOP costs for out of hospital services – all service groups (excluding general practice and pathology)



4.3 General practice and pathology

The trends for general practice and pathology services are presented in Figure 4.2. There is virtually no gap between the gold and blue lines, indicating that EMSN benefits are very small when it comes to GP services. There has been a decline over time in average fees and benefits for pathology services. No general practice or pathology items were capped in 2010 and evidence from the regressions analysis indicates that neither general practice nor pathology fees, benefits or costs have significantly altered after 2010.

Figure 4.2: Trends in average fees, rebates and OOP costs for out of hospital services – general practice and pathology out of hospital services



4.4 Consultant physician and specialist attendances

Figure 4.3 presents the results for consultant physician (excluding psychiatry) and specialist attendances (excluding radiation oncology).¹³ There were no capped items in consultant physician or specialist attendances. It should be noted that from 2010 onwards, with the introduction of two new obstetric consultation items, some obstetrics consultations are no longer counted under the specialist attendance group. We return to this issue in Section 4.12.

13. Psychiatry and radiation oncology services are examined separately in Section 4.5.

It appears that the average fee for specialist attendances has continued to rise since 2002, accompanied by an increase in OOP costs, which shows marked annual seasonality associated with the qualification period for EMSN benefits. In 2010 obstetricians were no longer able to claim specialist attendance items 104 and 105 for antenatal care. Instead, two new capped items for obstetric consultations were created and transferred to obstetric services. The removal of obstetrics consultations from specialist attendances may explain the small drop observed in the average fee for specialist services after the introduction of the EMSN caps, accompanied by a drop in the average Medicare rebate and EMSN benefit. OOP costs for consultant physician attendances continued to rise in 2010.

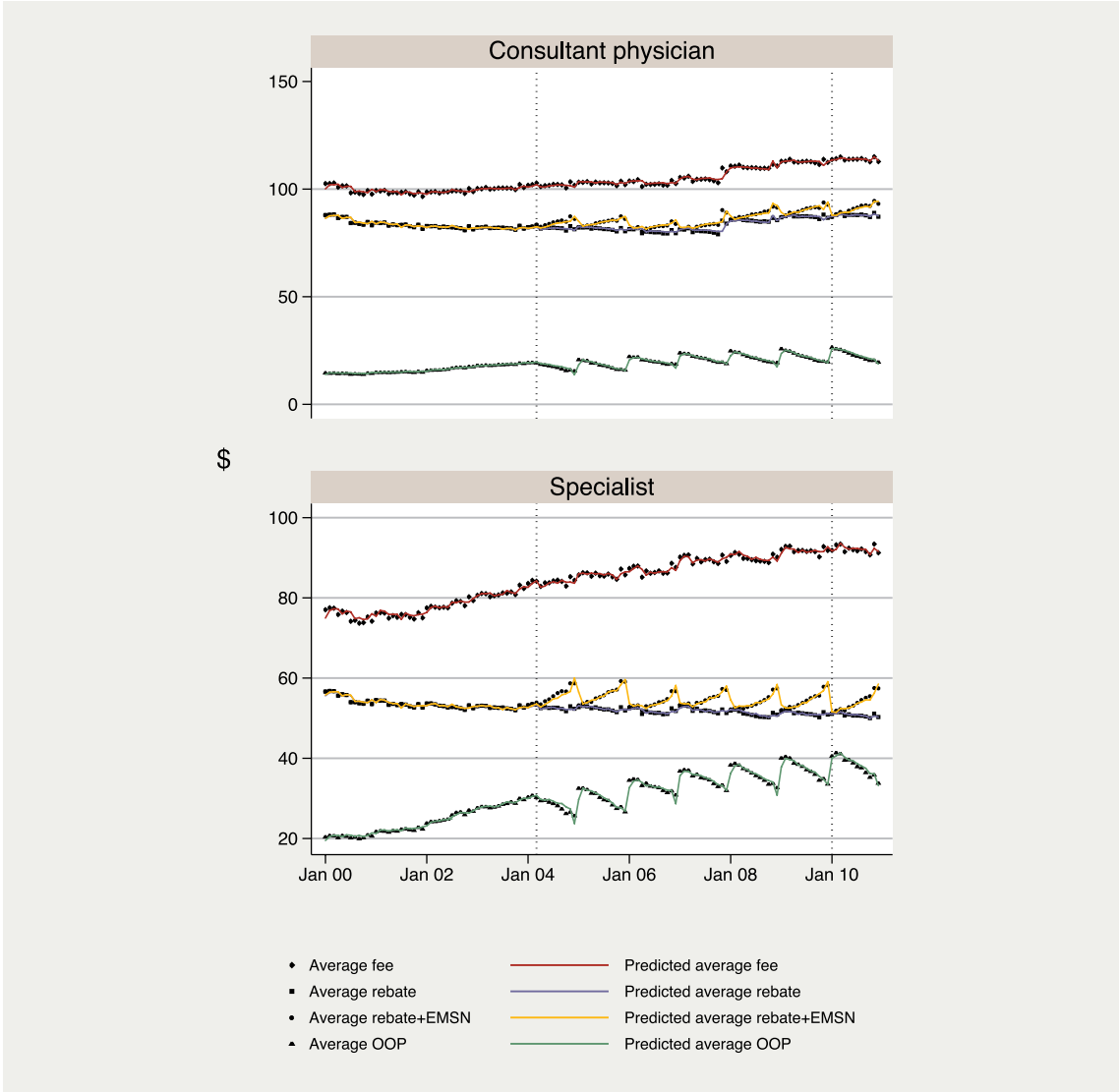
Specialist attendance items are billed by various types of medical practitioners. For example, MBS item 104 is described in the MBS as a 'specialist attendance'. This broad description means that providers with various specialist qualifications can bill this item to their patients.

The Department of Health and Ageing has used Medicare data to categorise medical specialists by their relevant peer group of medical specialty. In this section we report on the average fees charged for items 104 and 105 across a number of different peer groups and over time. We examine whether there are any differences between peer groups for items related to specialist attendances as well as to determine whether the introduction of caps was associated with changes in average fees across peer groups.

Importantly, specialist items 104 and 105 are not capped and therefore there is no expectation of changes in trends after 2010. However, there was a structural change to the MBS that affects this analysis. In January 2010, two new items were introduced in the field of obstetrics. These two items for specialist consultations relating to pregnancy were included in the obstetrics section. Previously these services were claimed under specialist consultation items 104 and 105. The obstetric consultation items do have EMSN caps. The introduction of these items meant there was a shift in services from the specialist consultation group (particularly items 104 and 105) to the obstetrics group (items 16401 and 16404). This means that reporting on the number of services and benefits (Medicare rebate + EMSN) will have been affected by the shift in claiming.

To account for this change and ensure we can make legitimate comparisons across years, we have added data relating to the two new obstetrics attendance items to overall specialist items. Table 4.1 provides information on the average fee charged for items 104 and 105 (and 16401 and 16404 for obstetricians in 2010) across seven peer groups. The average fee is shown for services provided to admitted private patients ('In' column) and when a patient sees their doctor in the out of hospital ('OOH' column) setting.

Figure 4.3: Trends in average fees, rebates and OOP costs for out of hospital services – consultant physician and specialist attendances (excluding psychiatry and radiation oncology)



The figures in the table indicate that there is considerable variation in the average fee charged for specialist attendance items across service groups. In 2010, for example, radiation oncologists charged an average of \$58.23 for an out of hospital attendance, whereas ART specialists charged \$105.04. In some service groups there is also considerable variation depending on whether the service was provided to a private inpatient or to an out of hospital patient. For example, in 2010 ART specialists charged an average of \$43.38 more when the service was provided in the out of hospital setting compared to the in hospital setting. In the case of obstetrics, this difference is \$33.05. In contrast, radiation oncologists appear to charge more for items 104 and 105 when the service is delivered in the in hospital setting.

Table 4.1 also illustrates trends in fees over time. The figures are presented in constant 2010 Australian dollars, meaning that the figures have been adjusted to take into account the rate of inflation based on the Australian Bureau of Statistics' Consumer Price Index. The annual growth in real fees has been relatively modest. Average fees have, in fact, fallen for some specialty peer groups, particularly for services provided in the in hospital setting.

The peer group that has been directly affected by capping for the set of items presented in Table 4.1 is obstetrics. The figures show relatively steady real annual growth in average fees of around 2 to 3 per cent for items 104 and 105 prior to capping. After capping, and the concurrent introduction of the new capped obstetrics attendance items, obstetrics fees for out of hospital services showed very minimal change. In the case of ART, items 104 and 105 remain uncapped, although all other ART items are capped. Here there is little change in the long term trend in fee growth for items 104 and 105 provided out of hospital.

4.5 Psychiatry and radiation oncology

Figure 4.4 presents the results for psychiatry and radiation oncology services over time. The graph shows a rise in the average fee for psychiatry services after the introduction of the EMSN. However, part of the rise in fees could be explained by increases in the Medicare rebate for some commonly billed psychiatry items in November 2006. The effect of this increase can be seen in the step-up of the average Medicare rebate in 2007. However, an additional increase in benefits can also be seen that is attributable to an increase in EMSN benefits.

In July 2008 a number of imaging items were included in radiation oncology services as treatment verification items. These were high volume, low fee items that resulted in a reduction of the average fees and benefits for radiation oncology services. To maintain comparability of radiation oncology items over time the new treatment verification items were excluded from radiation oncology for this analysis. The graph in Figure 4.4 shows that radiation oncology fees and benefits increased after the introduction of the EMSN. No items in radiation oncology were capped. The small observed drop in fees and benefits after the introduction of the EMSN cap was not significant and may be explained by the seasonality of the data in 2010. There was, however, a significant average \$2.30 increase in OOP costs for radiation oncology in 2010.

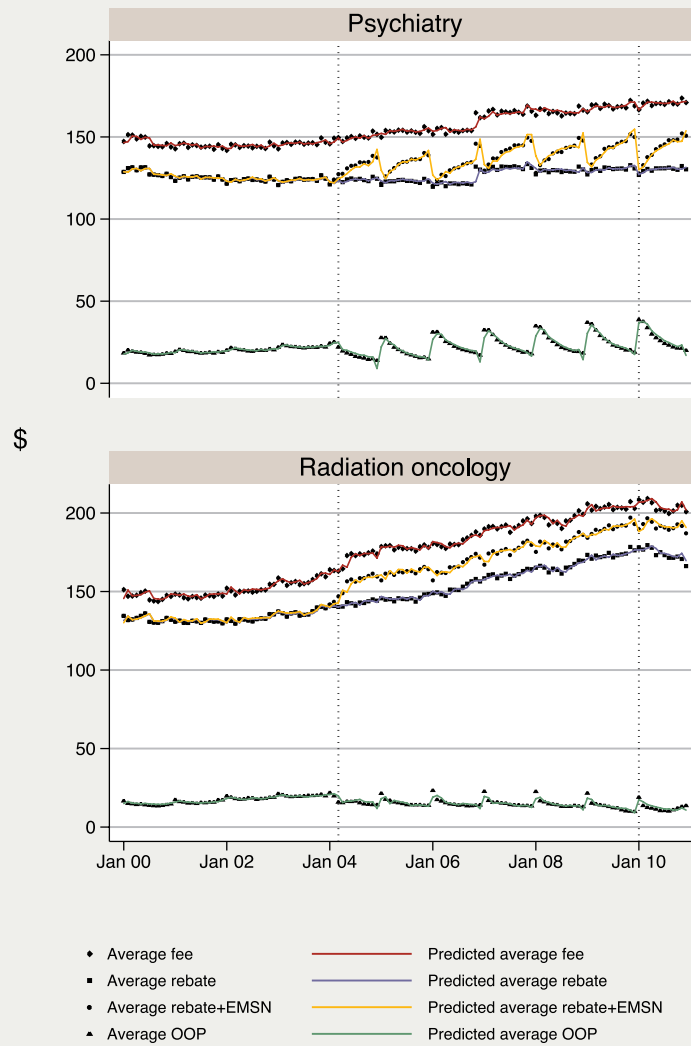
Table 4.1: Average fee charged for MBS items 104 and 105 (specialist attendances) in and out of hospital services, and percentage annual growth, by peer group and year

Year	ART		Dermatologist		Imagist		Obstetric specialist*		Consultant Physician		Radiation oncologist		Surgeon	
	In	OOH	In	OOH	In	OOH	In	OOH	In	OOH	In	OOH	In	OOH
2000	69.93	80.72	68.90	76.38	62.64	72.66	66.11	80.35	57.53	60.70	62.47	57.46	71.96	74.67
2001	67.84	81.72	68.01	76.35	62.65	73.81	65.72	81.26	58.76	58.75	64.98	56.40	71.82	74.75
2002	69.55	85.55	67.14	78.39	62.78	78.47	66.92	84.73	59.62	59.17	68.32	56.40	72.52	77.57
2003	64.81	88.26	67.83	81.16	64.24	79.77	66.05	88.06	63.01	59.04	69.98	56.73	72.55	80.53
2004	73.31	92.90	66.81	83.27	64.40	82.76	66.77	92.98	65.57	59.30	70.58	58.98	72.90	83.12
2005	68.33	96.72	67.93	86.73	64.26	82.29	66.85	94.51	65.87	64.20	73.45	59.78	72.71	84.67
2006	67.58	98.14	69.87	88.97	65.99	82.78	67.17	96.16	65.90	64.59	72.95	58.99	71.53	85.26
2007	66.41	100.84	67.29	93.37	68.57	81.85	67.18	98.77	68.53	64.18	85.54	61.47	71.30	86.60
2008	63.19	100.83	66.10	95.97	73.37	77.88	67.53	98.85	69.01	62.62	87.46	60.50	70.10	86.52
2009	63.29	103.16	66.32	99.21	70.44	76.08	65.49	101.03	70.77	68.91	87.96	59.89	70.36	88.23
2010	61.66	105.04	65.17	101.70	70.24	73.69	66.45	101.50	72.99	71.54	92.32	58.23	69.65	88.95
Annual compound growth (%)														
2000 to 2003	-0.03	0.03	-0.01	0.02	0.01	0.03	0.00	0.03	0.03	-0.01	0.04	0.00	0.00	0.03
2003 to 2009	0.00	0.03	0.00	0.03	0.02	-0.01	0.00	0.02	0.02	0.03	0.04	0.01	-0.01	0.02
2009 to 2010	-0.03	0.02	-0.02	0.03	0.00	-0.03	0.01	0.00	0.03	0.04	0.05	-0.03	-0.01	0.01

Note: 'In' refers to average fees charged when a patient is treated as a private inpatient and 'OOH' refers to the average fee for patients treated out of hospital.

* includes items 16401 and 16404 in 2010.

Figure 4.4: Trends in average fees, rebates and OOP costs for out of hospital services – psychiatry and radiation oncology



4.6 Obstetrics and assisted reproductive technology services

In this section we provide an analysis of the trends in fees, Medicare rebates and OOP costs per service for obstetric and ART services. Both of these service groups are examined in more detail in Sections 5.4 and 5.5 of this review, where we focus our analysis on episodes of care, rather than just services.

Figure 4.5 shows the scatter points of average fee per service for ART and obstetric services for each month, calculated from actual Medicare claims data. In the case of ART, Figure 4.5 indicates that since the introduction of the EMSN, average fees and Medicare benefits have both increased over time. After the introduction of the EMSN caps the average fee has continued to rise. Whilst the average Medicare rebate increased due to the restructuring of ART MBS items, average Medicare benefits fell. This indicates that the fall in EMSN benefits was greater than the rise in the average Medicare rebate. The ongoing increase in average fees and the drop in average Medicare benefits has increased patients' OOP cost per service.

The fees and OOP costs for obstetric services include an adjustment for a \$1,000 fee being charged to patients but not assigned to an item prior to 2004. This figure was based on the results from the 2009 Review which showed that some 12 to 18 months after the EMSN was introduced the average provider fee for the planning and management item (16590) was around \$1,000. This figure was taken to be the average 'booking fee' charged by private obstetricians that was unobserved in the Medicare data prior to the introduction of the planning and management item in September 2004. After 2005, the actual provider fee for the planning and management item (16590) is used in the analysis, and since 1 January 2010 a new obstetrics related item (16591) is also included.

Figure 4.5 shows the scatter points of average fee per service for obstetrics for each month, calculated from actual Medicare claims data. It can be seen that the average fee per obstetric service for December 2009 and January 2010 are outliers relative to the average fee in other months. In December 2009 the average fee was \$340 and in January 2010 the average fee dropped to \$120. Since the months December 2009 and January 2010 are highly influential observations and likely to inflate the real effect of the EMSN caps on average fees and OOP costs, these two months were not included in the regression models for obstetric services for predicting the effect of the EMSN caps on fees and OOP costs. It should also be noted that two new item numbers for specialist attendances by obstetricians (items 16401 and 16404) were introduced in January 2010 and obstetricians could no longer claim items 104 and 105 for specialist attendances for consultations relating to pregnancy care. Obstetric services were analysed with and without items 16401 and 16404. As there was no appreciable difference in the results, the results reported below include the two new items.

Figure 4.5 shows the increasing trend in average fees and benefits for obstetric services after the introduction of the EMSN in March 2004, and a significant drop in fees after the introduction of the EMSN caps. The blue line shows the average rebate over time and the gold line shows the average Medicare benefit (Medicare rebate + EMSN) over time. The increasing difference between the gold and blue lines indicates the growth in EMSN benefits over time. Following the introduction of EMSN caps at the start of 2010, there was a significant drop in average fees but an increase in the average Medicare rebate per service, reflecting an increase in the standard Medicare benefit for some obstetric items. However, there was also a drop in average Medicare benefits (Medicare rebate + EMSN) which was entirely explained by a drop in EMSN payments. The drop in Medicare benefits was greater than the drop in fees, which resulted in an increase in OOP costs.

Figure 4.5: Trends in average fees, rebates and OOP costs for out of hospital services – obstetrics and ART

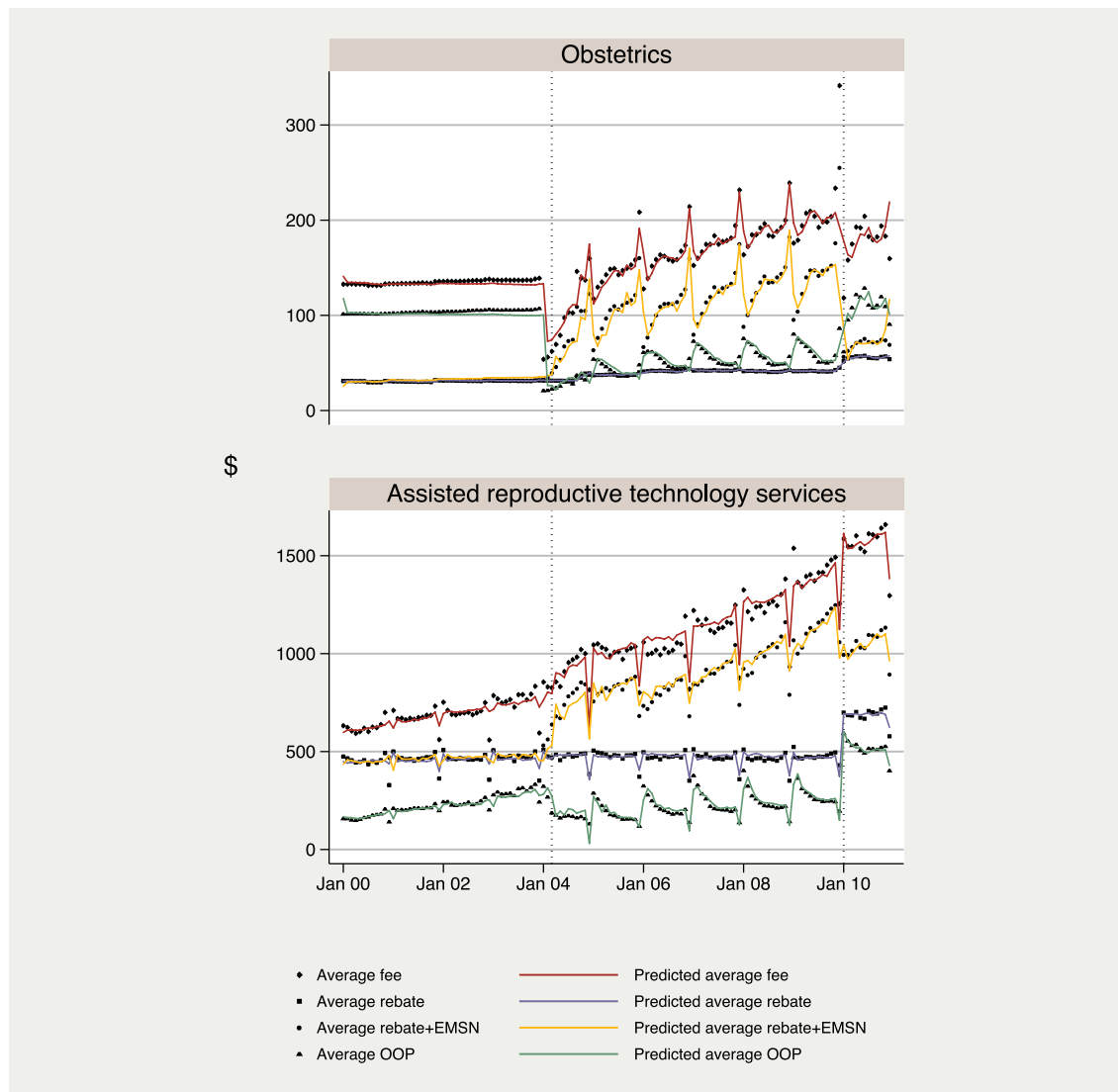
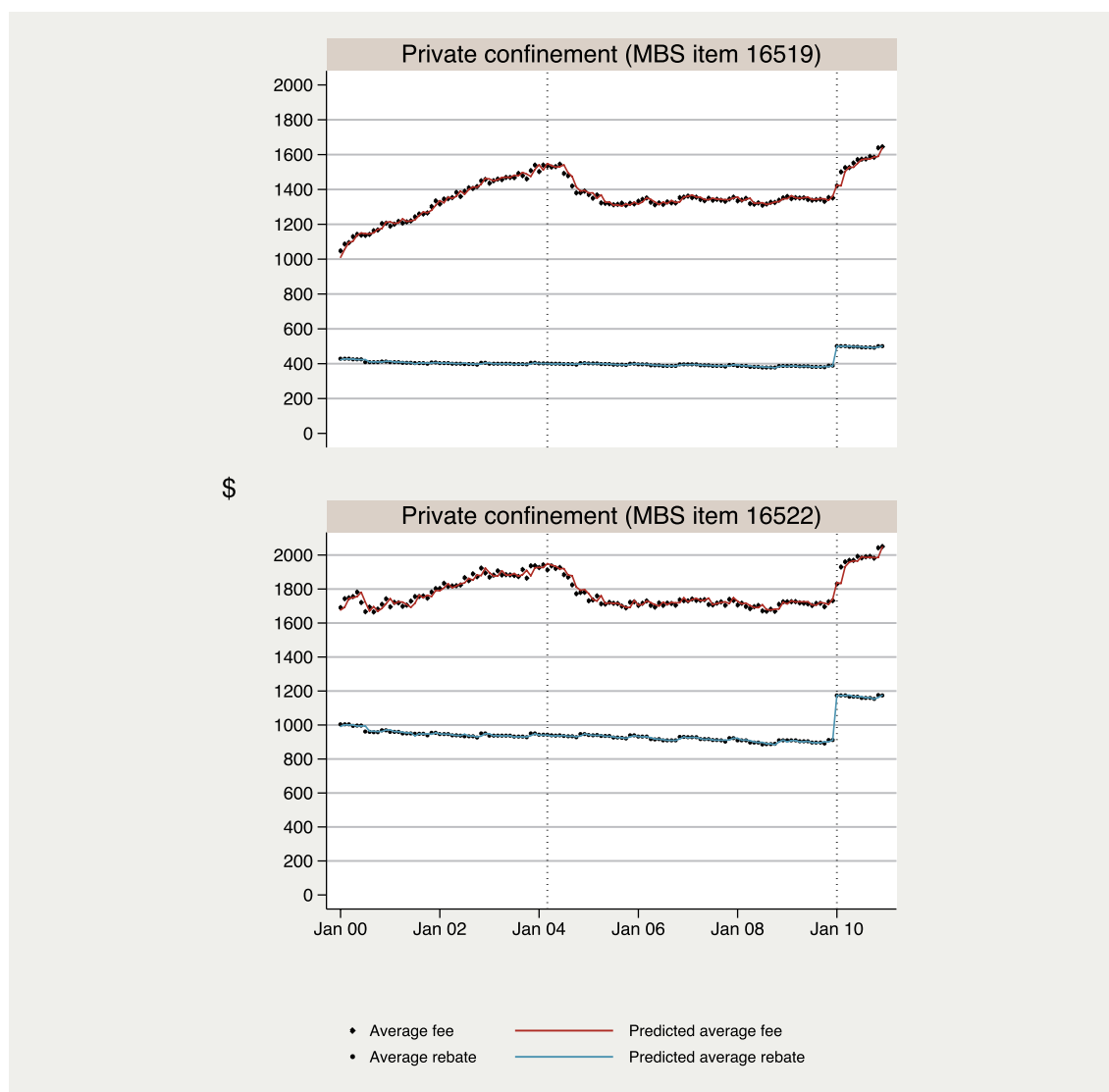


Figure 4.6 illustrates the average fee and benefit for the two most commonly claimed items for the management of labour and delivery (items 16519 and 16522). Over 99 per cent of claims for these items are for in hospital services. This has several implications. Firstly, neither the EMSN nor EMSN caps apply to in hospital services.¹⁴ Secondly, privately insured patients will be eligible to receive benefits from their private health insurance funds for in hospital services. However, the Department of Health and Ageing does not hold data on these private health fund benefits. This means that we cannot examine trends in average OOP costs.

The trend in the average Medicare rebate has been steady over time, although the 30 per cent increase in the MBS fee at the start of 2010 can clearly be seen in Figure 4.6. Average fees declined after the introduction of the EMSN for MBS items 16519 and 16522. As reported in the 2009 Review, this provided evidence of some shifts in billing practices by obstetricians away from the in hospital services and towards the out of hospital services. At the start of 2010, the average fee for both items 16519 and 16522 increased. This coincided with the increase in the MBS fee and the introduction of EMSN caps. As the Medicare rebate acts as a floor price, it is not surprising to see average fees increase at the same time as the increase in the Medicare rebate. However, the graph also shows that over the course of 2010, average fees have continued to rise. It is too early to establish any clear patterns here, but it will be important to monitor future in hospital fee changes, particularly for items that are closely associated with out of hospital services that are capped.

14. It should be noted that the MBS items related to the management of labour and delivery are capped. These caps only apply in the very small number of cases (less than 0.5%) provided out of hospital.

Figure 4.6: Trends in average fees and rebates for in hospital services – private confinement

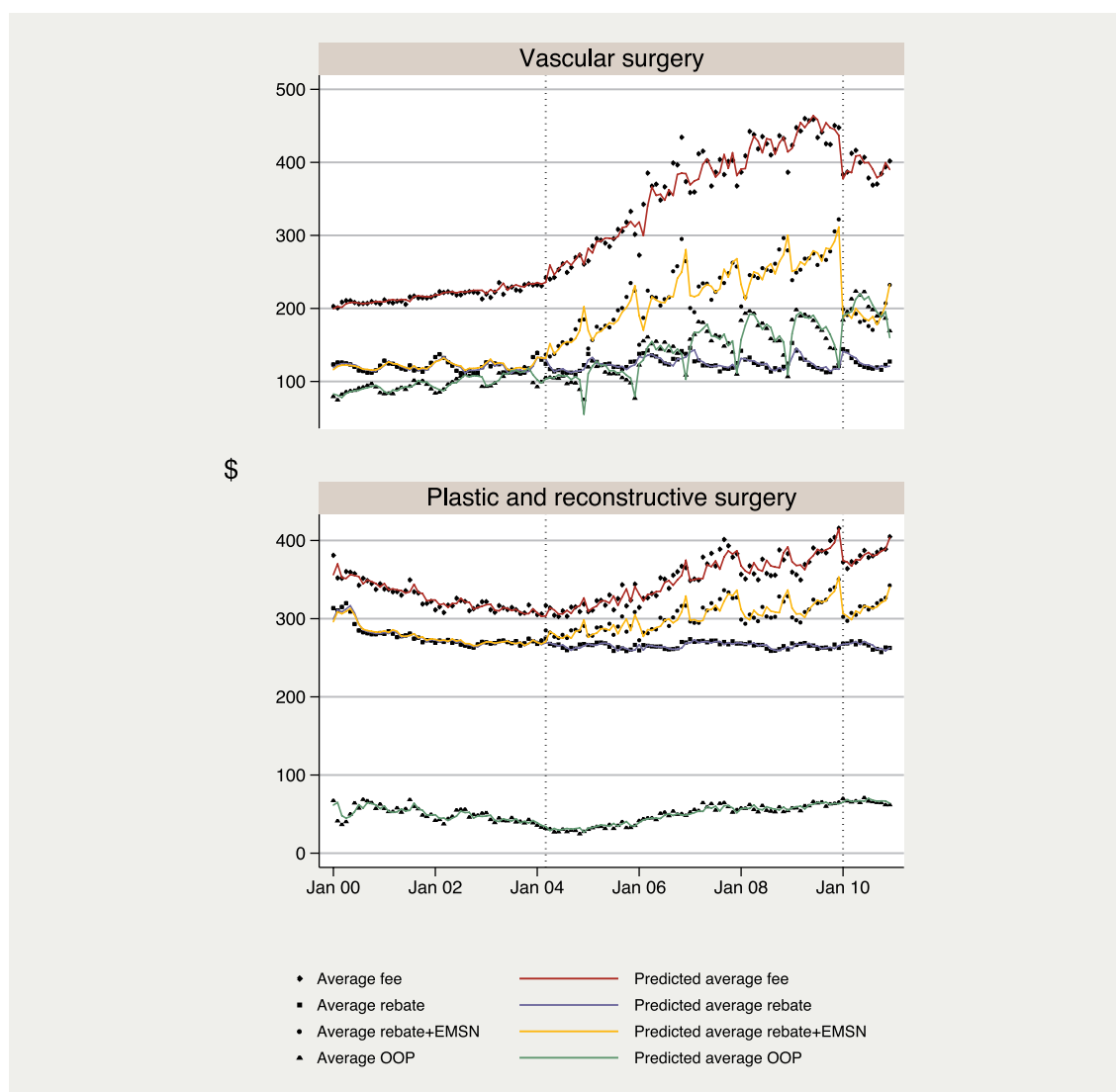


4.7 Vascular procedures and plastic and reconstructive surgery services

Figure 4.7 presents the results for vascular procedures, and plastic and reconstructive surgery. Out of hospital services for vascular procedures are largely minor interventions for the treatment of varicose veins. In 2010, the EMSN benefit was capped for one item in this group (item 32500). For vascular procedures there was a significant rise in average fees, average Medicare benefits (Medicare rebate + EMSN) and OOP costs after the introduction of the EMSN in March 2004. Figure 4.7 indicates that in 2010 there was a significant drop in average fees, and a significant drop in average Medicare benefits for vascular procedures that is attributable to the EMSN cap. These two impacts offset one another which meant that the trend in average OOP costs did not alter after the introduction of EMSN caps.

Since the introduction of the EMSN in March 2004 the average fee for plastic and reconstructive surgery services has increased significantly over time. As well as the increase in the average fee, there was an increase in the average benefit, which is explained by an increase in the average EMSN benefit over time. There was a smaller, but significant, increase in average OOP costs during the period 2004 to 2010. In 2010, the EMSN benefit was capped for one item in plastic and reconstructive surgery services related to hair transplantation for the treatment of alopecia (item 45560). Figure 4.7 indicates that in 2010 there was a significant decrease in the average fee for plastic and reconstructive surgery services and in the average Medicare benefit attributable to the EMSN cap. The introduction of the EMSN cap did not have an appreciable effect on average OOP costs.

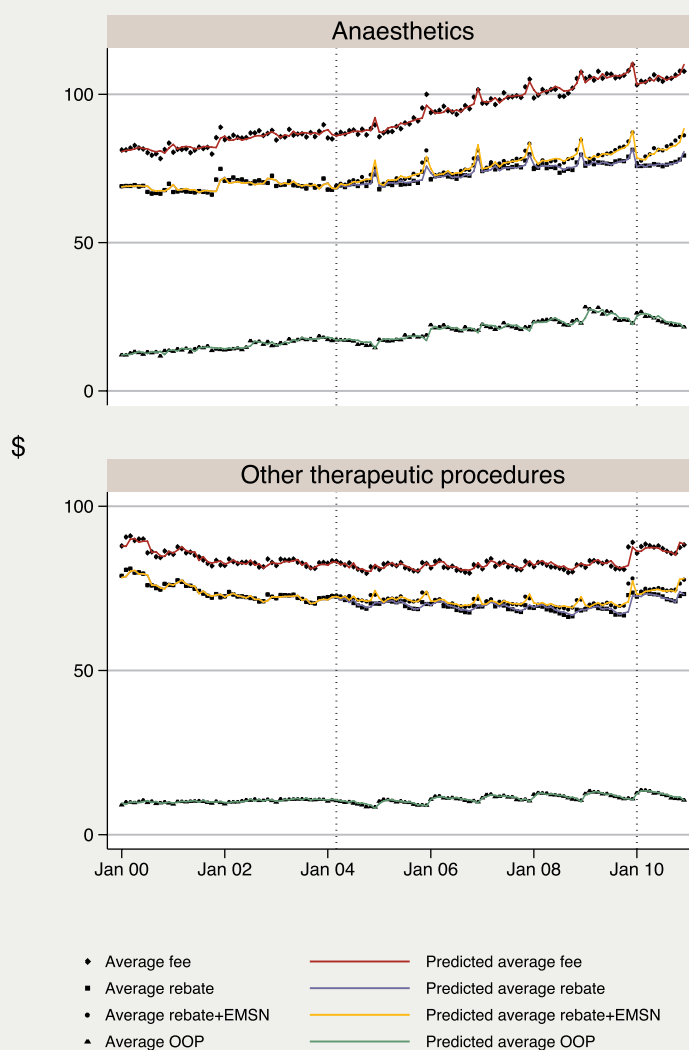
Figure 4.7: Trends in average fees, rebates and OOP costs for out of hospital services – vascular and plastic and reconstructive surgery



4.8 Anaesthetic services and other therapeutic procedures

Figure 4.8 presents the results for out of hospital anaesthetic services and other therapeutic procedures (mostly services related to surgical operations). The graph shown in Figure 4.8 refers to only those out of hospital anaesthetic services that have a low monthly service volume. Figure 4.8 indicates that there has been a small drop in fees and benefits for out of hospital anaesthetic services after 2010 – even though anaesthetic services have not been capped. This finding may be explained by the anticipatory behaviour for some items in the months prior to the introduction of capping. It is feasible that services such as anaesthetics may also be affected by this. Figure 4.8 indicates that average fees and benefits for other therapeutic procedures increased in December 2009 prior to the introduction of the EMSN caps.

Figure 4.8: Trends in average fees, rebates and OOP costs for out of hospital services – anaesthetics and other therapeutic procedures



4.9 Optometry and ophthalmology

Figure 4.9 presents the results for optometry and ophthalmology services. Optometrists have access to Medicare provided they do not charge more than the MBS fee. This contributes to the finding of no significant increase in optometry fees and benefits.

For ophthalmology services, Figure 4.9 indicates a significant rise in average fees and average Medicare benefits (Medicare rebate + EMSN) for the period following the introduction of the EMSN in March 2004.

In January 2010 the EMSN benefit was capped for the most common cataract surgery item (item 42702). Shortly before this, in November 2009, the out of hospital Medicare rebate for this item was reduced to \$385.25 – a decrease of \$378.25 compared to the May 2009 rebate. While negotiations with the medical profession were undertaken, the rebate for item 42702 was again adjusted (to \$422.75) on 26 November 2009. An MBS fee of \$731.80 with an out of hospital Medicare rebate of \$660.60 was settled on 1 February 2010. Furthermore, one MBS item (42718), which provided for complex cataract procedures, was introduced briefly from 1 November to 25 November 2009 (via a ministerial determination) but subsequently withdrawn.

Figure 4.9 shows that in 2010 there was a drop in the average ophthalmology fee. There was also a significant drop in average Medicare benefits at the start of 2010 but the trend in benefits appears to be unaltered. There is some evidence of a plateau in late 2009 for the average Medicare rebate trend which is likely to be due to the changes in the MBS items relating to cataract surgery. There is evidence of an increase in OOP costs for ophthalmology services following the introduction of the EMSN cap and MBS changes to cataract surgery, but it is likely that this finding is a reflection of anticipatory behaviour in late 2009.

The original EMSN capping policy included a second item in the ophthalmology service group that was to be capped. This item (42740) is related to the injection of therapeutic substances into the eye. The proposed cap was subsequently removed during the passage of legislation. The number of services for the uncapped item has increased from 1,033 in 2003 to 65,330 in 2009 and to 106,656 in 2010. Consequently it now accounts for 32 per cent of ophthalmology services, up from less than one per cent in 2003. We suspect that the growth in service volume for this item is due to the introduction of a new treatment for macular degeneration, listed on the Pharmaceutical Benefits Scheme (PBS) in 2006. The widespread take up of this PBS listed treatment has meant a corresponding increase in the take up of this MBS item.

Given the history of this item, we examine the fees, benefits and OOP costs for this item separately to determine whether there have been any changes in the long term trends. Figure 4.10 shows that coinciding with the introduction of the EMSN, average provider fees increased substantially but after 2006 these declined. The EMSN is an important contributor to the overall Medicare benefits for this item. Accordingly, average OOP costs are heavily influenced by the EMSN and the seasonality shown in Figure 4.10 clearly demonstrates this.

Figure 4.9: Trends in average fees, rebates and OOP costs for out of hospital services – optometry and ophthalmology

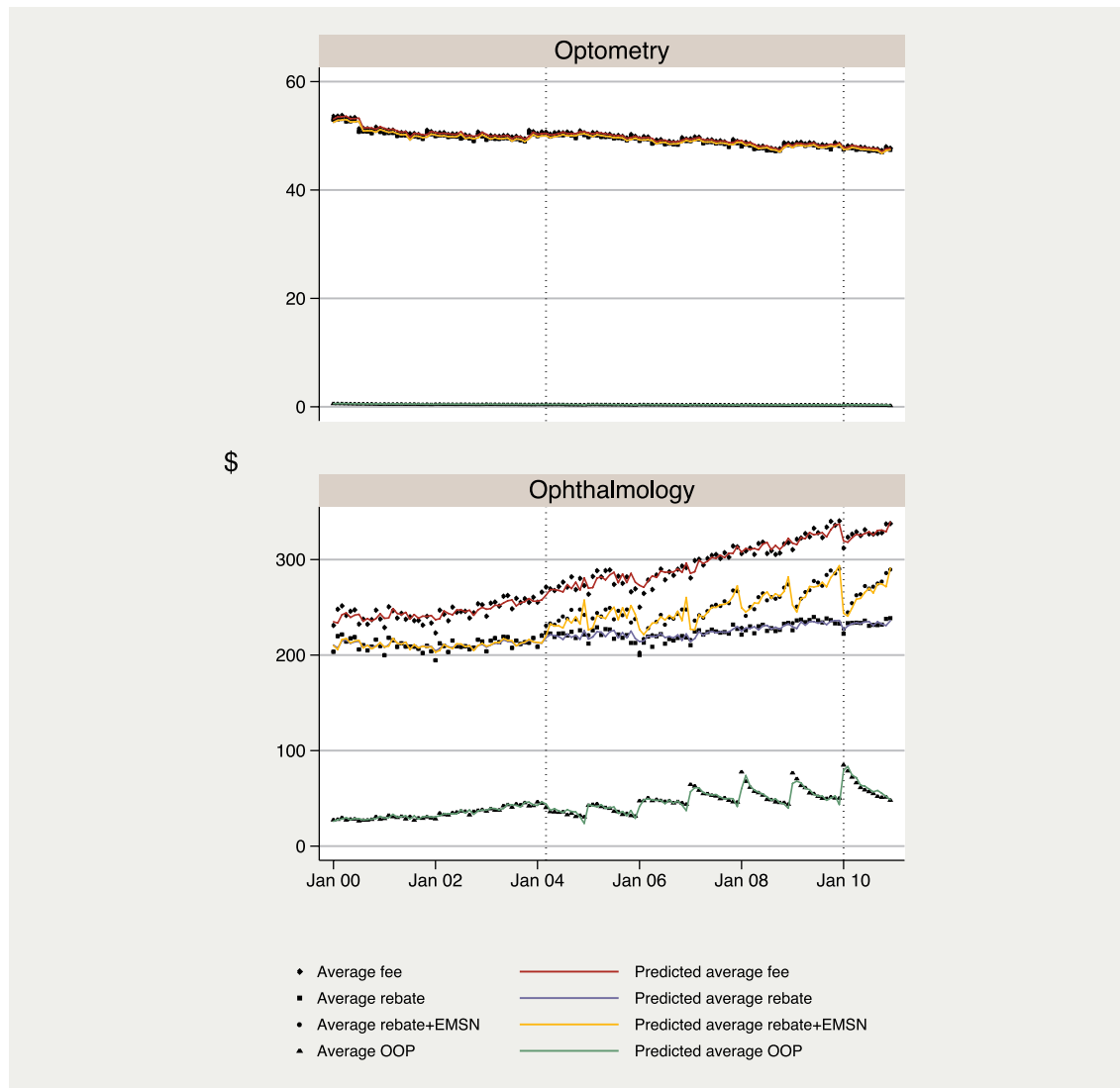
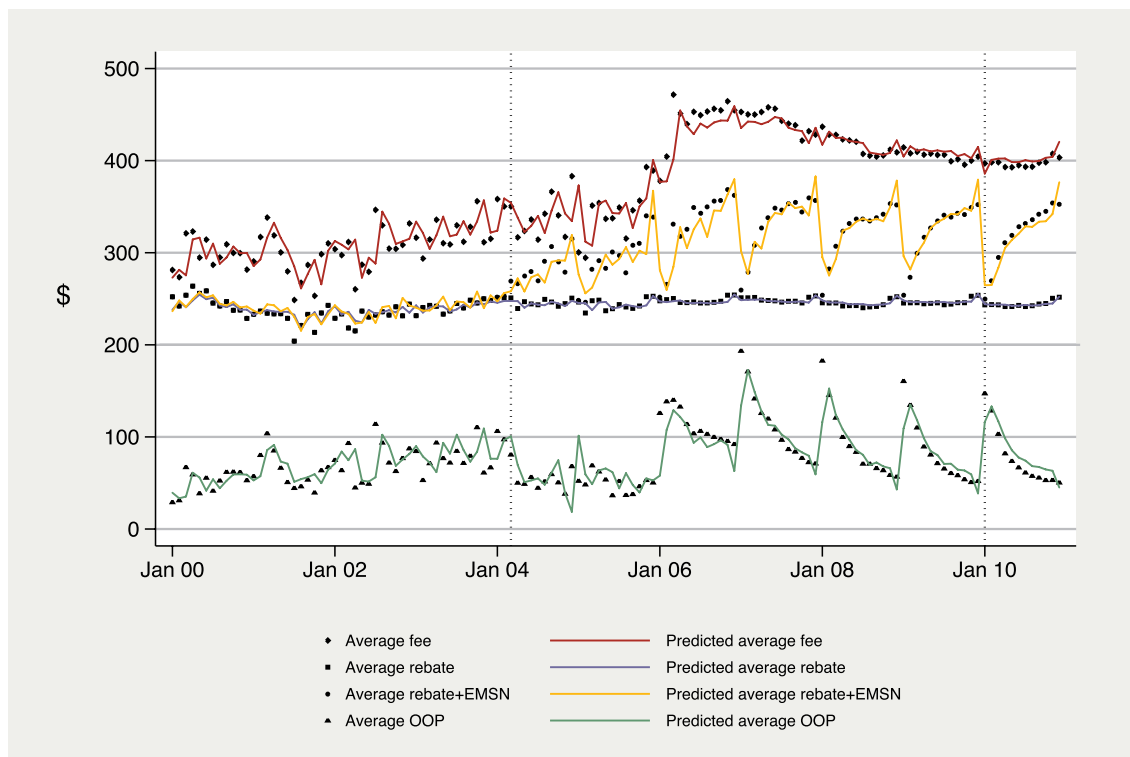


Figure 4.10: Trends in average fees, rebates and OOP costs for out of hospital services – injection of therapeutic substances into the eye (item 42740)

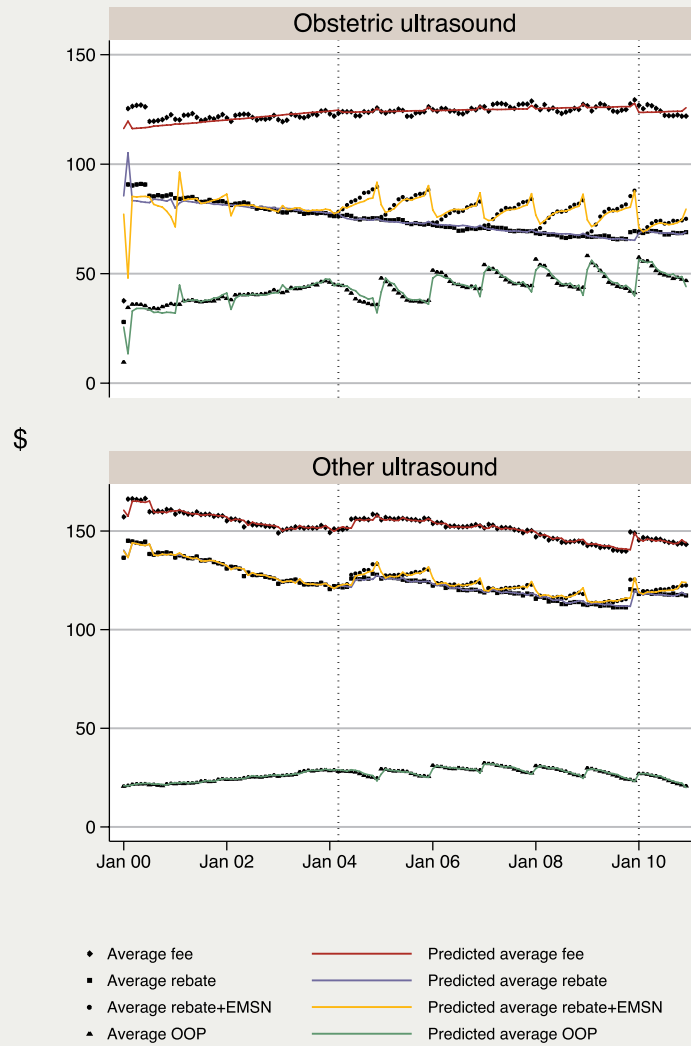


4.10 Obstetric ultrasound and other ultrasound

Figure 4.11 presents the results for obstetric ultrasound and other ultrasound services, noting that obstetric ultrasound services were capped whereas other ultrasound services were not. Average fees for obstetric ultrasound services have been stable over time but there does appear to be a small decrease in average fees in 2010 – although it is too early to tell whether this is sustained, or significant. Average fees for the other ultrasound group increased at the start of 2010. It is not entirely clear why this occurred but it is matched by an increase in the average Medicare rebate, indicating that there may be some underlying changes to the MBS or mix of services utilised – rather than changes related to the EMSN.

For obstetric ultrasounds, the average Medicare rebate per service decreased in real terms between 2000 and 2009. After March 2004, however, the introduction of EMSN benefits led to an increase in Medicare benefits. Similar trends in the average Medicare rebate can be observed in the ‘other’ ultrasound group, but here, the EMSN plays a less important role.

Figure 4.11: Trends in average fees, rebates and OOP costs for out of hospital services – obstetric ultrasound and other ultrasound



4.11 Impact of the EMSN caps on patients' use of medical services

Any increase in OOP costs after the introduction of the EMSN caps might lead to a fall in demand for services. We examined the trend in services before and after the introduction of the EMSN caps for each broad service group. To account for increases in the population over time we calculated services per capita for each month. There has been some change in the rate of services per capita for some service groups following the introduction of the EMSN caps.

Since the introduction of the EMSN in 2004 there has been a significant increasing trend in demand for ART services. However, in 2010 the claims for ART services dropped from an average of 85 services per month per 100,000 population in 2009 to 69 services per month per 100,000 population in 2010 (excluding December 2010 where the very low rate of service may be due in part to as yet unclaimed services). This drop may, in part, be explained by the peak in ART cycles in late 2009 in anticipation of the caps being put in place in January 2010. The effect of this is that the 2009 figures may be artificially high and the 2010 artificially low. It is important to monitor this as more data becomes available.

There was no effect of the EMSN cap on the rate of obstetric services. The number of services per capita for obstetric ultrasound has been increasing over time since 2000. However, in 2010 the per capita use of obstetric ultrasound services appears to have remained stable.

There has been an increasing trend in the per capita rate for ophthalmology services since 2004 and rates have continued to rise in 2010. There was a small but insignificant drop in the per capita rate of vascular procedures in 2010. There was a small increase in the per capita rate for plastic and reconstructive surgery services in 2010.

4.12 Regression results – trends in fees, benefits and OOP costs by service group

Table 4.2 presents a summary of the estimated coefficients on the post 2010 EMSN caps variable for regressions of average fees, benefits and OOP costs for all professional services (excluding general practice and pathology) as well as individual service groups. It is obtained through time-series regression analysis and controls for the effect of a general trend not related to the EMSN capping (see Appendix C for more details).¹⁵ The coefficients in Table 4.2 are interpreted as the average change in fees, benefits and OOP costs since the introduction of the EMSN caps in 2010, after accounting for existing time trends and seasonality.

Two measures of Medicare benefit are shown in Table 4.2 the Medicare rebate and the Medicare rebate plus the EMSN benefit. The difference between these two coefficients represents the EMSN benefit. The asterisks in Table 4.2 provide an indication of the statistical significance of these estimated changes.

15. Appendix C, the technical note to this review, is available at: <http://www.health.gov.au/emsnreview>

It should be noted that the coefficients listed in Table 4.2 are not directly comparable to the figures presented in Table 3.4 and reported in Section 3.2. This is because the numbers reported in Section 3 are based on raw data, whereas the figures presented in this section are the results of a time series regression analysis which takes into account seasonality and pre-existing time trends.

In the case of all service groups combined (excluding general practice and pathology), there was a drop in the average fee per service of \$8.67 in 2010. On average, there has been no significant change in Medicare benefits or patient OOP costs since the introduction of the EMSN caps in January 2010.

In the field of obstetrics, we estimate there was a \$165.39 drop in the average fee and an estimated \$7.97 increase in the average rebate per service, which is a reflection of the increased Medicare benefit for some obstetric items (see Appendix A for more information). The estimated \$135.35 drop in the Medicare benefit (rebate + EMSN) is almost entirely explained by a drop in EMSN benefits. However, as noted previously, there is evidence of anticipatory behaviour which inflated the differences between observations for the last month of 2009 and the first months of 2010 (see Figure 4.5 above). When we exclude December 2009 and January 2010 from the analysis, the estimated drop in the average fee was \$57.03, the increase in average rebate was \$12.26, and the estimated drop in Medicare benefits (rebate + EMSN) was \$93.82. Average OOP cost per obstetric service rose by \$40.77, although this estimate was not statistically significant.

The model coefficients in Table 4.2 indicate that the introduction of the EMSN caps in 2010 has had no appreciable effect on average fees, benefits and OOP costs for obstetric ultrasound services. The area of obstetrics is investigated further in Section 5.5 where we examine changes in fees, benefits and OOP costs on the basis of episodes of care, rather than per service.

For ART services, Table 4.2 indicates that since the introduction of the EMSN caps the average fee per ART service has increased. At the same time, the average Medicare rebate increased by around \$211.43, reflecting changes in the MBS for some ART items. However, the sum of the Medicare rebate and EMSN benefits fell by an estimated \$200.55, indicating that the average EMSN contribution per ART service decreased by around \$411.98 in 2010.¹⁶ The ongoing increase in average fees and the drop in average Medicare benefits has resulted in patient OOP costs increasing by an average of \$200.27. However, the ART results should be interpreted with care due to the restructuring of relevant MBS items. Section 5.4 examines ART on the basis of cycles, rather than services.

For vascular procedures (one capped item), we estimate there was a significant drop in average fees of \$95.70 in 2010. Average Medicare benefits fell by \$105.72. Since there was no significant change in the average Medicare rebate, this reduction is due to the EMSN cap. However, as the drop in average fees was matched by the drop in average Medicare benefits, there was no evidence of a change in OOP costs for vascular services.

16. This is derived by the fact that Medicare benefit = Medicare rebate + EMSN benefit. If the Medicare benefit has decreased by \$200.55 and the Medicare rebate has increased by \$211.43, then the EMSN benefit must have fallen by (-\$200.55 minus \$211.43) \$411.98.

For ophthalmology services (one capped item), there was a drop in average fees of \$13.86 and in Medicare benefits of \$23.71. OOP costs for ophthalmology services increased by an average of \$12.77. In the area of plastic and reconstructive surgery services (one capped item), our model estimates that in 2010 there was a significant decrease of \$24.06 in the average fee and \$25.92 in the average Medicare benefit (rebate + EMSN) associated with the EMSN cap. There was no change in average OOP costs.

Table 4.2: The effect of the EMSN cap on average fees, rebates and OOP costs for out of hospital services by service group

Service Group	Average Fee \$	Average Medicare rebate \$	Average Medicare rebate + EMSN \$	Average OOP \$
All services (excluding GP and pathology)	-8.67 *	-1.74	-8.90	-0.18
General practice	-0.56	-0.67	-0.93	0.42
Specialist attendances	-2.24 *	-0.72	-3.38 **	1.07
Specialist attendances (including items 16401 16404)	-1.77	-0.72	-3.38 **	1.52 **
Consultant physician	-0.60	-0.48	-2.35 *	1.91 **
Psychiatry	-4.02	-3.38	-9.97 **	5.37 **
Optometrist	-0.92	-0.95	-0.93	0.02
Miscellaneous diagnostic procedures and investigations	-1.30 *	-0.80	-1.08 **	0.17
ART services	68.82 *	211.43 **	-200.55 **	200.27 **
Radiation oncology	-0.06	-1.25 *	-3.24	2.33 **
Obstetrics	-165.39 **	7.97 **	-135.38 **	-24.63
Obstetrics (without Dec09, Jan10 or items 16401 16404)	-57.03	12.26	-93.82	40.77
Anaesthetics	-4.96 **	-2.70	-3.16 **	-1.22 *
Vascular procedures	-95.70 **	6.04	-105.72 **	10.53
Ophthalmology	-13.86 **	-4.51	-23.71 **	12.77 **
Plastic and reconstructive surgery	-24.06 *	3.03	-25.92 **	-1.84
Other therapeutic procedures	-1.31	-0.62	-2.63	0.33
Obstetric ultrasound	-2.60	4.27	-6.18	5.63
Other ultrasound	-1.86	-0.31	-2.71	0.65
CT scan	-1.40	-0.87	-2.26	0.09
MRI	1.40	3.28	0.37	-1.59
General radiology and other diagnostic imaging	-1.48	-1.43	-1.99	-0.17
Pathology	-0.28	-0.19	-0.32	0.07

The asterisks are indicators of statistical significance based on the p-values obtained from the regression analysis. In this instance, the p-values measure the probability of observing a difference between the EMSN cap and the long term time trend even if there is no difference.

* indicates a p-value less than 0.1, which in turn reflects a 10% probability of chance finding.

** indicates a p-value less than .05 – which, in turn, reflects a 5% probability of a chance finding.

4.13 Conclusion – results by service group

For most individual service groups we do not observe a statistically significant change in fees, benefits or OOP cost following the introduction of EMSN caps. In some others (e.g. specialist attendances) we do observe some significant changes but these are primarily explained by changes that were made to the MBS at the same time the EMSN caps were introduced. For example, new specialists' consultation items for obstetrics attendances were introduced at this time, which would have had an impact on the specialist service group as well as the obstetrics group.

For the service groups that have been directly affected by the capping arrangements, we observe substantial and significant changes in 2010. Not surprisingly, the regression models show that Medicare benefits fell for all service groups that were affected by EMSN caps, with the exception of obstetric ultrasounds. For this service group, the impact is similarly negative but not statistically significant. Some service groups not affected by caps also showed evidence of a decline in Medicare benefits (psychiatry and anaesthetics), but here the drop in Medicare benefits is explained by the rebate rather than the EMSN.

There is some evidence that average provider fees have fallen in 2010 and this is especially true amongst those service groups affected by caps. There were significant decreases in provider fees for vascular procedures, plastic and reconstructive surgery and ophthalmology. Provider fees for obstetric ultrasounds also declined but this finding was not statistically significant. Average provider fees for obstetric services fell but there is evidence of anticipatory behaviour that exaggerates the difference between average fees in the latter part of 2009 and the early part of 2010. To account for this anticipatory behaviour, we excluded the December 2009 and January 2010 data from the analysis. When we do so, the coefficient that estimates the 2010 impact on average obstetrics fees remains negative but is not statistically significant. The model estimates that the average fee for ART services has continued to rise, although this finding needs to be interpreted with care due to the restructuring of ART related MBS items.

We also examined the long term trend for one of the ophthalmology items (42740 for the injection of therapeutic substances into the eye) that was originally identified for capping but where the proposed cap was subsequently removed during the passage of legislation. The results show that whilst the EMSN remains a significant contributor to the overall Medicare benefits of this item, this is a reflection of the large gap between provider fees and the Medicare rebate. It is not a reflection of provider fee changes, which have shown a negative trend since 2006.

We also examined per capita service use following the introduction of EMSN caps. We found that claims for ART services dropped from an average of 85 services per month per 100,000 population in 2009 to 69 services per month per 100,000 population in 2010. However, there was no effect of the EMSN caps on the rate of obstetric services or obstetric ultrasound services. There has been an increasing trend in the per capita rate for ophthalmology services since 2004 and rates have continued to rise in 2010. There was a small but insignificant drop in the per capita rate of vascular procedures in 2010 and a small increase in the per capita rate for plastic and reconstructive surgery services in 2010.

5. Impact of Extended Medicare Safety Net capping

This section of the review is divided into two subsections.

In the first subsection the unit of analysis is a capped item. It is organised as follows: for each item we firstly discuss the number of services performed in and out of hospital and the associated bulk-billing rates over time. Bulk-billed services have provider fees equal to the Medicare rebate and zero out of pocket (OOP) costs. For services provided in hospital the Medicare rebate is 75 per cent of the Medicare Benefits Schedule (MBS) fee and for services provided out of hospital it is generally 85 per cent of the MBS fee (see section 2.1 for exceptions to this rule).

We then examine changes in the distribution of provider fees and OOP costs over time for the subset of services where patients face OOP costs (i.e. not bulk-billed). If the bulk-billing rate is stable over time, the distributional analysis captures the same proportion of users over time. If the bulk-billing rate falls over time, the distributional analysis captures a larger proportion of users with OOP costs which may underestimate increases in fees and OOP costs over time.

Finally, we compare provider fee distribution for the capped item with a similar item that is not capped within the same service group.

In the second subsection, dealing with obstetrics and assisted reproductive services (ART), in which all items are capped, the unit of analysis is an episode of pregnancy for obstetrics and an ART cycle for ART. On the Department's recommendation, an episode of pregnancy is defined as all out of hospital services reported up to 300 days (10 months) prior to the birth date. A cycle of ART is defined as all out of hospital procedures reported up to 30 days after planning and management of an ART cycle (MBS item 13209). We focus on birth date for pregnancy or planning and management of an ART cycle occurring in June and October for the selected years. We analyse utilisation and the distribution of provider fees and OOP costs by socioeconomic groups and geographical location over the time period.

5.1 Capped MBS item 32500 – varicose veins

Item 32500 is for the injection of a sclerosant into varicose veins measuring 2.5mm or greater in diameter. The 2010 MBS fee for this item was \$105.65, the Medicare rebate for out of hospital claims was \$89.85, with an Extended Medicare Safety Net (EMSN) cap of \$111.65.

Table 5.1 shows the small number of item 32500 services performed in hospital and the very low percentage of these which are bulk-billed. It also shows that the number of services and the bulk-billing rates out of hospital have been stable over the period following the introduction of the EMSN.

Table 5.1: Number of services and percentage bulk billed, item 32500 (varicose vein treatment)

Year	In hospital		Out of hospital	
	Number of services	% bulk-billed	Number of services	% bulk-billed
2003	110	0.9	46,589	19.6
2004	132	0.8	50,040	14.3
2005	106	0.9	51,160	13.3
2006	126	2.4	52,368	13.6
2007	173	1.7	56,936	12.4
2008	113	0.9	57,654	10.7
2009	148	1.4	60,248	12.3
2010	206	1.0	54,882	13.7

Figure 5.1 illustrates provider fee levels over time for services provided in and out of hospital. The graph shows four fees categories. These were derived by ranking all fees charged for MBS item 32500 in each time period from lowest to highest, and then selecting the:

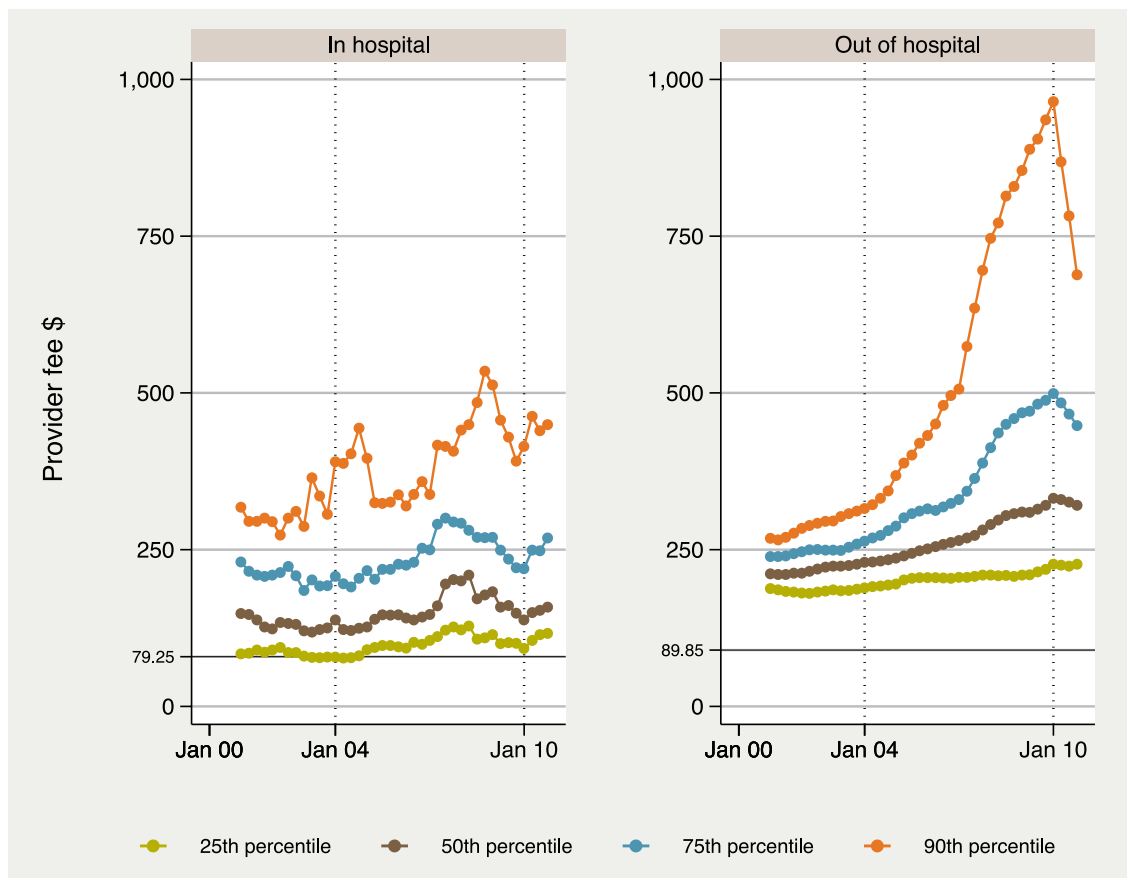
- P25 (25th percentile) fee: 25 per cent of services are charged below this amount.
- P50 (50th percentile) fee: this is the median provider fee. 50 per cent of services are charged below (and 50 per cent above) this amount.
- P75 (75th percentile) fee: 75 per cent of services are charged below this amount.
- P90 (90th percentile) fee: 90 per cent of services are charged below this amount.

We refer to the P25, P50, P75 and P90 fee levels as the fee cut-offs marking different parts of the fee distribution.

The left and right hand panels show the provider fee distribution for services provided in hospital and out of hospital, respectively. In each panel the first dotted vertical line corresponds to the introduction of the EMSN and the second corresponds to the introduction of the capping of EMSN benefits. We also plot horizontal lines indicating the Medicare rebates in 2010 (\$79.25 in hospital and \$89.85 out of hospital). The provider fee charged for services provided in hospital at the 25th percentile level lies just above the Medicare rebate. On the other hand, the 25th percentile provider fee charged out of hospital is about \$80.00 above the Medicare rebate (in 2010 dollars).

Provider fees in hospital have been relatively stable over time and are comparable to the level charged for out of hospital services prior to the introduction of the EMSN. Following the introduction of EMSN benefits, out of hospital fees grew substantially amongst providers who charged more than the median fee (P50) compared to in hospital fees. However, following capping of EMSN benefits, provider fee levels at the median and above fell. For example, before capping the top 10 per cent of the most expensive services (P90) cost around \$1,000. After capping, the top 10 per cent (P90) of provider fees fell to below \$750. Given the limited time period available for this review it is difficult to predict the post capping stable level of provider fees.

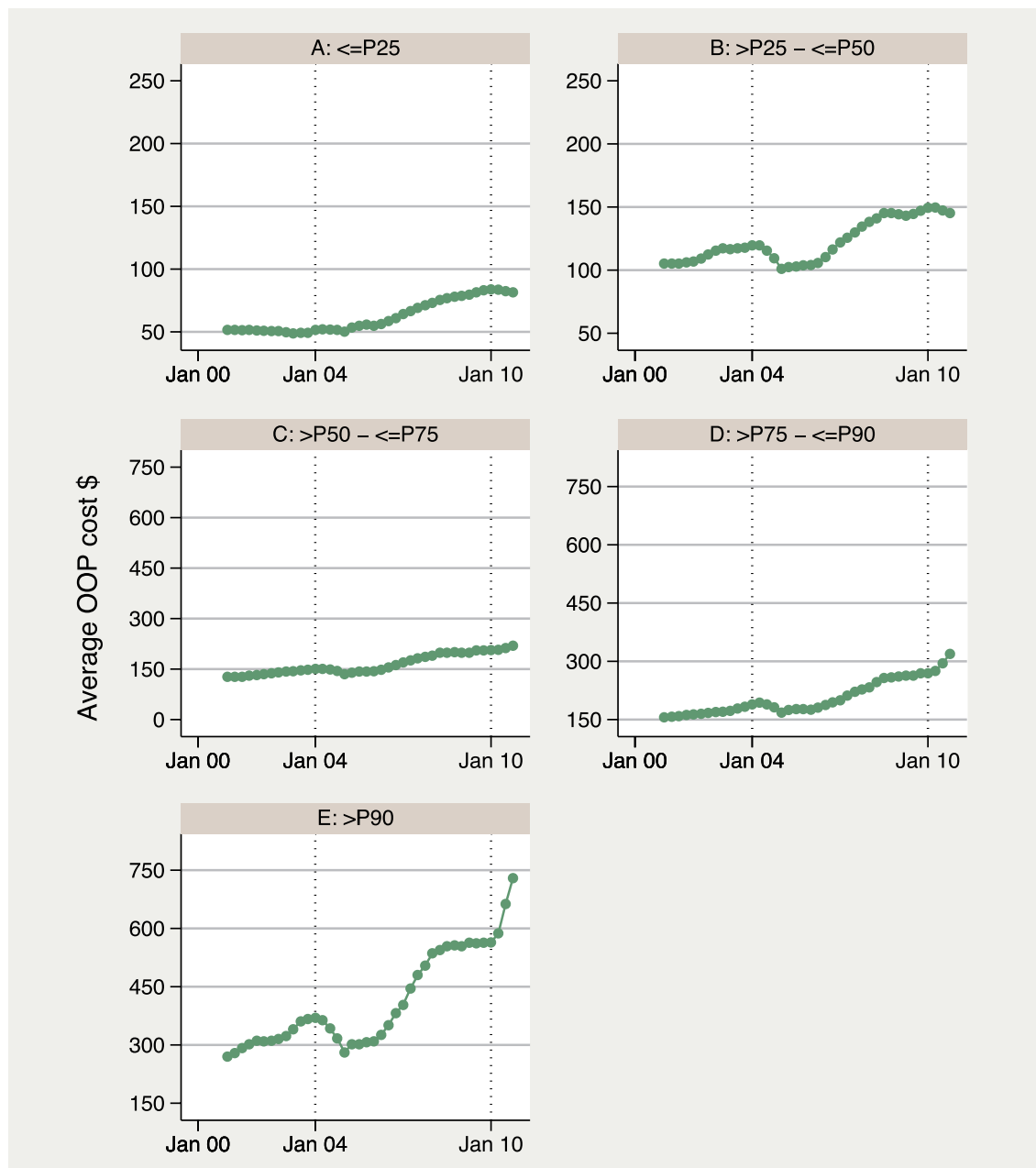
Figure 5.1: Provider fee cut-offs in and out of hospital services where fee charged exceeds Medicare rebate, item 32500 (varicose vein treatment)



Note: seasonally-smoothed series. The first observation is January 2001.

Figure 5.2 presents the distribution of OOP costs between 2001 and 2010. The first panel (A: $\leq P25$) shows the OOP costs for patients who received a service where the provider fee was in the lowest 25 per cent of all fees charged for item 32500. Similarly, the final panel (E: $> P90$) shows OOP costs for services charged above the 90th percentile provider fee. After the EMSN capping of item 32500, OOP costs for services charged below the median fee stabilised or fell slightly while the OOP costs for services charged above the median fee continued to rise. In the final panel (E: $> P90$) average OOP costs rose by more than \$150 in 2010. This indicates that despite the drop in provider fees in the upper tail of the fee distribution, the drop in EMSN benefits was greater, causing OOP costs to rise.

Figure 5.2: Average OOP cost for out of hospital services where the fee charged exceeds the Medicare rebate, item 32500 (varicose vein treatment)



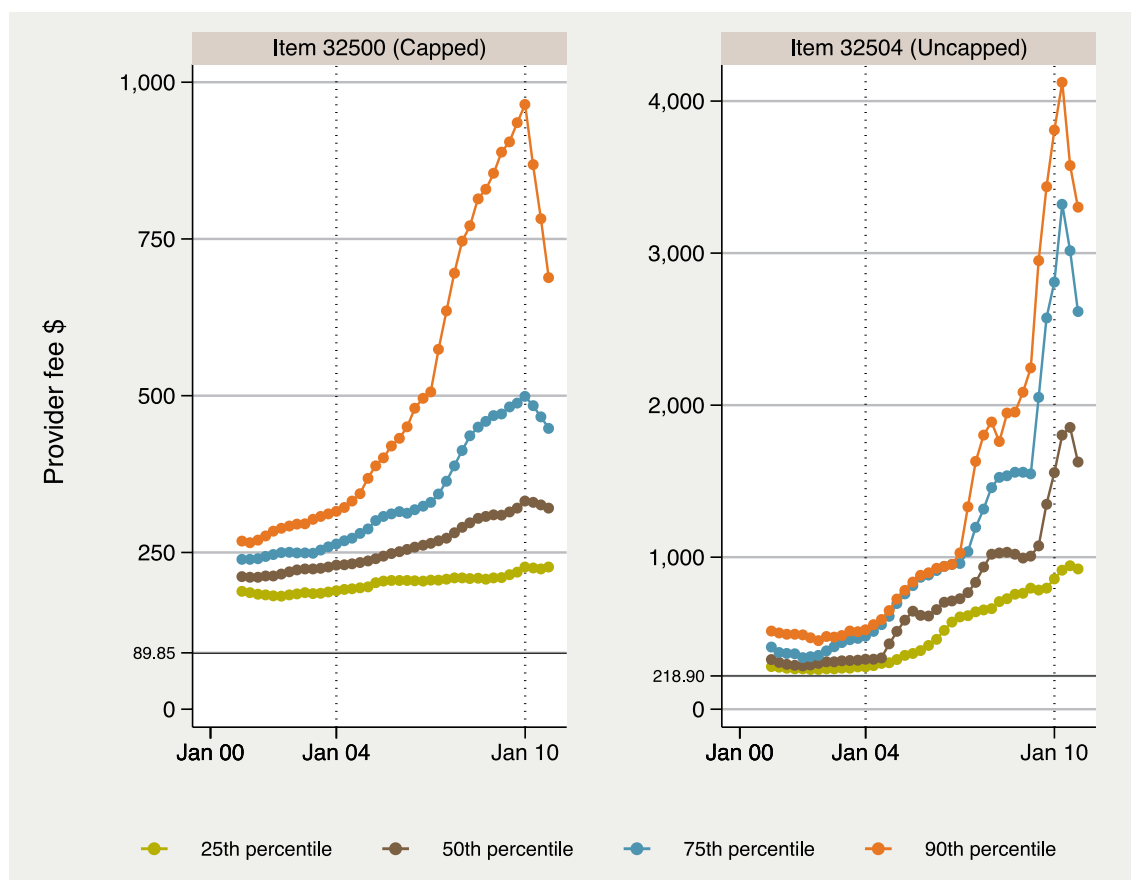
Note: seasonally-smoothed series. The first observation is January 2001.

Item 32504 is an uncapped item from the same service group, vascular procedures. It is for the multiple excision of varicose veins. The 2010 MBS fee was \$257.50 and the Medicare rebate for this item, when provided out of hospital, was \$218.90.

Figure 5.3 compares the out of hospital fee levels for capped item 32500 and uncapped item 32504. The MBS fee level for item 32504 is much higher than for the capped item 32500. Between 2004 and 2010, provider fee levels for item 32504 grew by more than 300 per cent, with the most rapid increase in 2009 when the provider fee doubled within a year. Prior to the introduction of the EMSN in 2004, provider fees for item 32504 and item 32500 were similar. By the end of 2009 the difference in the median provider fees had grown to \$1,500 and the difference in the 90th percentile provider fee had increased to over \$3,000.

Although item 32504 is not capped, after the introduction of the EMSN cap in 2010, its provider fee levels dropped. It fell by nearly \$200 at the median fee, by \$500 at the 75th percentile and \$900 at the 90th percentile. Furthermore, as Table 5.2 shows, the number of services for item 32504 doubled in 2010. In contrast, the number of services for item 32500 steadily increased until the introduction of the EMSN cap, then decreased by 10 per cent following the cap. It is not clear why the changes for item 32504 occurred, but it would be worthwhile monitoring these varicose veins procedure items in the future.

Figure 5.3: Comparison of provider fee cut-offs for out of hospital services where the fee charged exceeds the Medicare rebate, capped item 32500 and uncapped item 32504 (varicose vein treatment)



Note: seasonally-smoothed series. The first observation is January 2001. Vertical axes have a different scale for different items. The graph for the capped item is a reproduction.

Table 5.2: Number of services for capped item 32500 and uncapped item 32504 and percentage of overall services within vascular procedures

Year	Item 32500*		Item 32504	
	Number of OOH services	% of all vascular procedures	Number of OOH services	% of all vascular procedures
2003	46,589	91.5	750	1.5
2004	50,040	91.3	863	1.6
2005	51,160	89.1	1,190	2.1
2006	52,368	87.2	1,298	2.2
2007	56,936	89.0	1,492	2.3
2008	57,654	88.0	1,453	2.2
2009	60,248	88.1	1,440	2.1
2010	54,882	85.2	2,754	4.3

Note: *capped item.

5.2 Capped MBS item 42702 – cataract surgery

Item 42702 is for lens extraction and insertion of an artificial lens. The 2010 MBS fee for this item was \$731.80, the Medicare rebate for out of hospital claims was \$660.60, with an EMSN cap of \$101.50.

Table 5.3: Number of services and percentage bulk-billed, item 42702 (cataract surgery)

Year	In hospital		Out of hospital	
	Number of services	% bulk-billed	Number of services	% bulk-billed
2003	89,828	4.9	3,307	69.1
2004	97,937	5.0	4,101	63.8
2005	104,448	5.2	3,463	55.5
2006	109,535	5.2	2,627	51.6
2007	114,524	4.8	4,578	52.1
2008	123,200	4.5	5,197	48.8
2009	134,997	4.0	6,106	39.4
2010	125,708	3.1	4,708	40.7

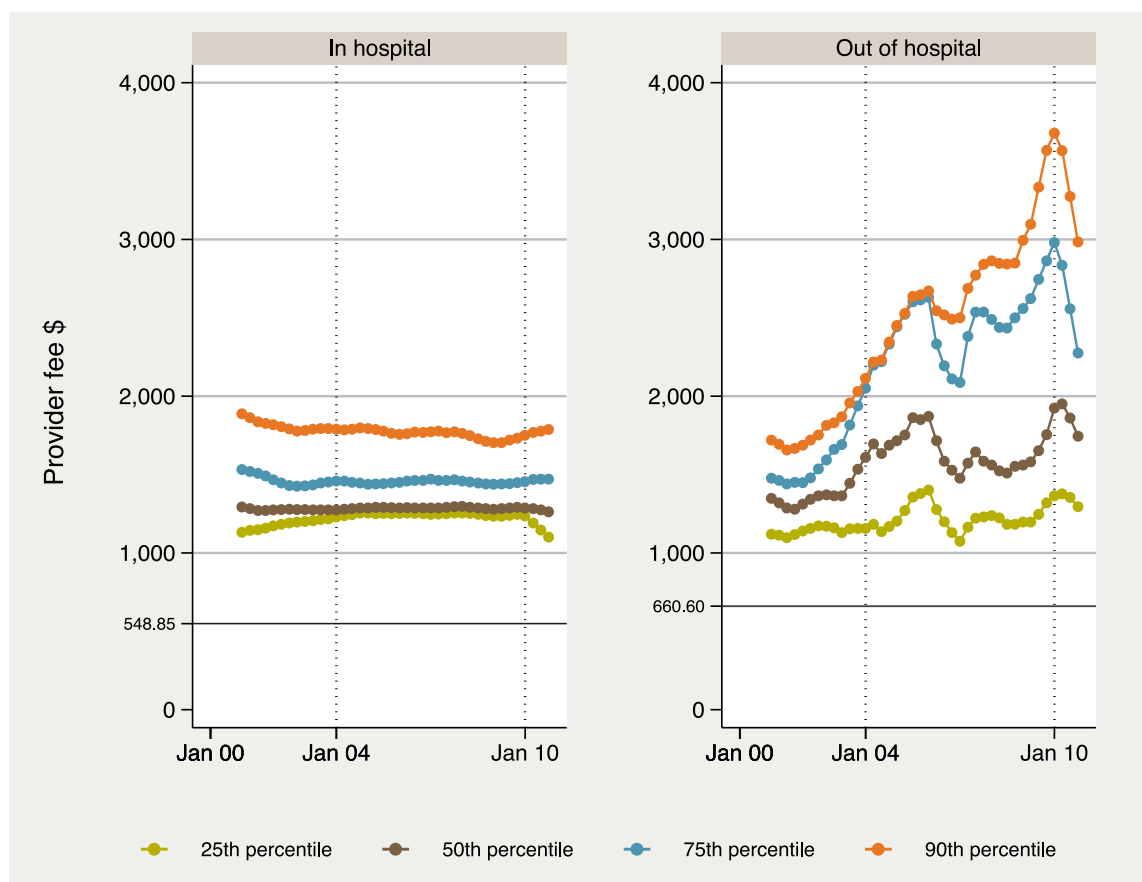
Table 5.3 shows that the vast majority of services for item 42702 are performed in hospital. With the surgery being performed and billed as both in and out of hospital services, providers may be able to substitute between the two settings. In 2010, the total number of cataract surgery items claimed under MBS item 42702 declined by 7.5 per cent from the previous year's level. However, the drop was relatively greater in the out of hospital services (23 per cent) compared to the in hospital services (6.8 per cent). A very small percentage of in hospital services are bulk-billed. For out of hospital services the bulk-billing rates are much higher. Before the introduction of EMSN capping, these rates were steadily falling, with a large decline in 2009.

Our ability to examine the impact of caps was complicated by the reduction in the MBS fee for this item (see page 55 for details) that occurred in November 2009.

Figure 5.4 illustrates the distribution of provider fees over time for services provided in and out of hospital. The horizontal lines indicate the Medicare rebate in 2010 (\$548.85 for in hospital services and \$660.60 for out of hospital services) for item 42702.

For services provided in hospital, the provider fee levels are stable over time at all points of the fee distribution. The 25th percentile fee level for in hospital services is approximately \$500 above the Medicare rebate and interestingly this pattern is also observed for the 25th percentile fee level for services provided out of hospital. Prior to the introduction of the EMSN, item 42702 had a similar distribution of provider fees for in and out of hospital services. However, out of hospital fees above the median began to increase in the year prior to the introduction of the EMSN. In 2009, the 75th percentile and 90th percentile provider fees for out of hospital services increased dramatically, by \$1,000 and \$1,500 respectively. Fee levels in the lower half of the distribution (25th percentile and 50th percentile) were relatively stable. After the introduction of EMSN capping, the 75th percentile and 90th percentile fees dropped by more than \$500. Fees below the median also dropped but by smaller amounts.

Figure 5.4: Provider fee cut-offs for in and out of hospital services where the fee charged exceeds the Medicare rebate, item 42702 (cataract surgery)

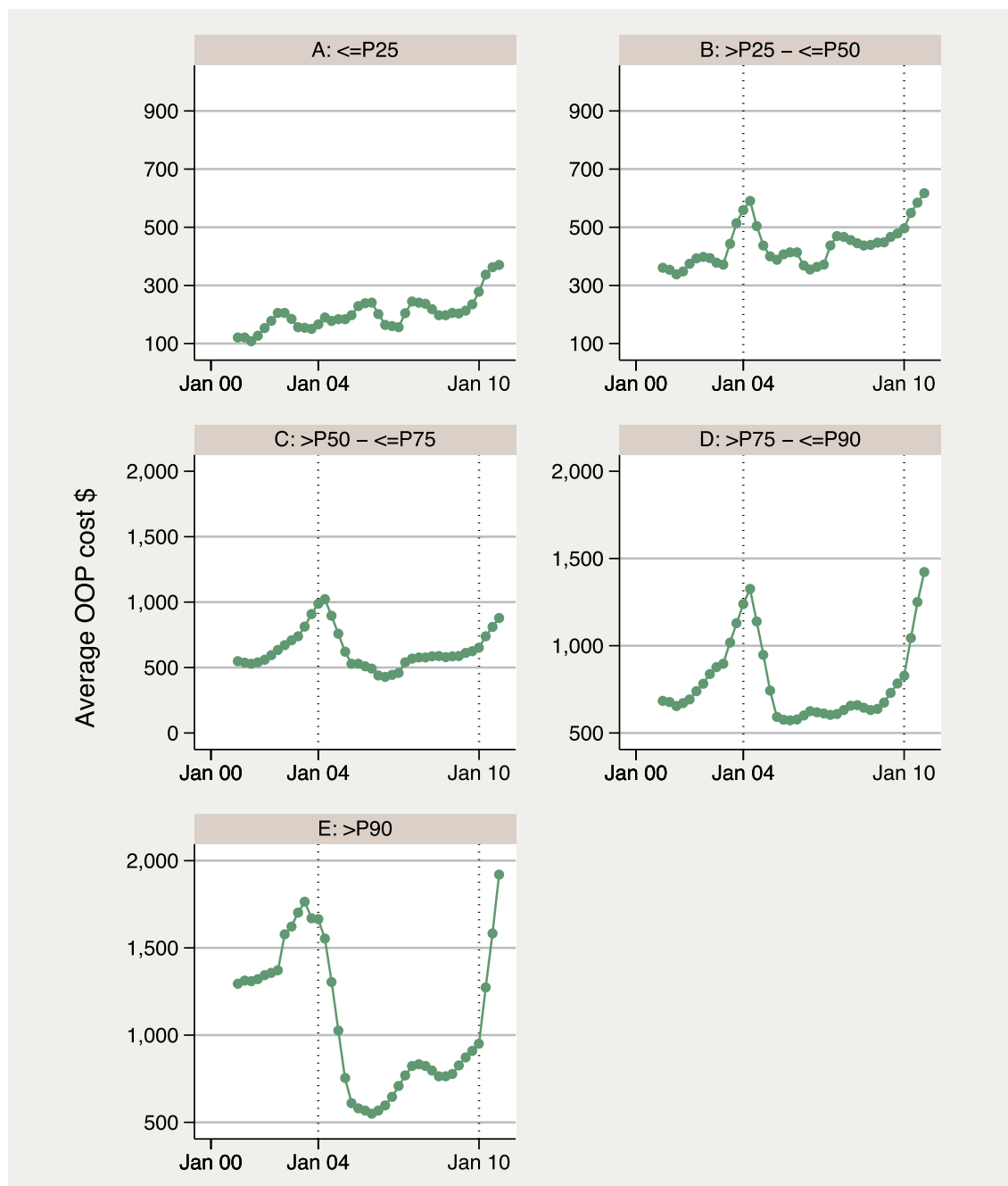


Note: seasonally-smoothed series. The first observation is January 2001.

Figure 5.5 presents the distribution of OOP costs for item 42702 over the period. For services below the median provider fee, the EMSN had a minor impact and OOP costs continued to rise steadily over time. In contrast, for services above the median provider fee, OOP costs initially fell at least to their pre-EMSN levels, followed by gradual increases over time.

After capping, OOP costs for services below the median fee increased by at least \$100 and for services above the median provider fee, OOP costs appear to have returned to their pre-EMSN levels.

Figure 5.5: Average OOP cost for out of hospital services where the fee charged exceeds the Medicare rebate, item 42702 (cataract surgery)

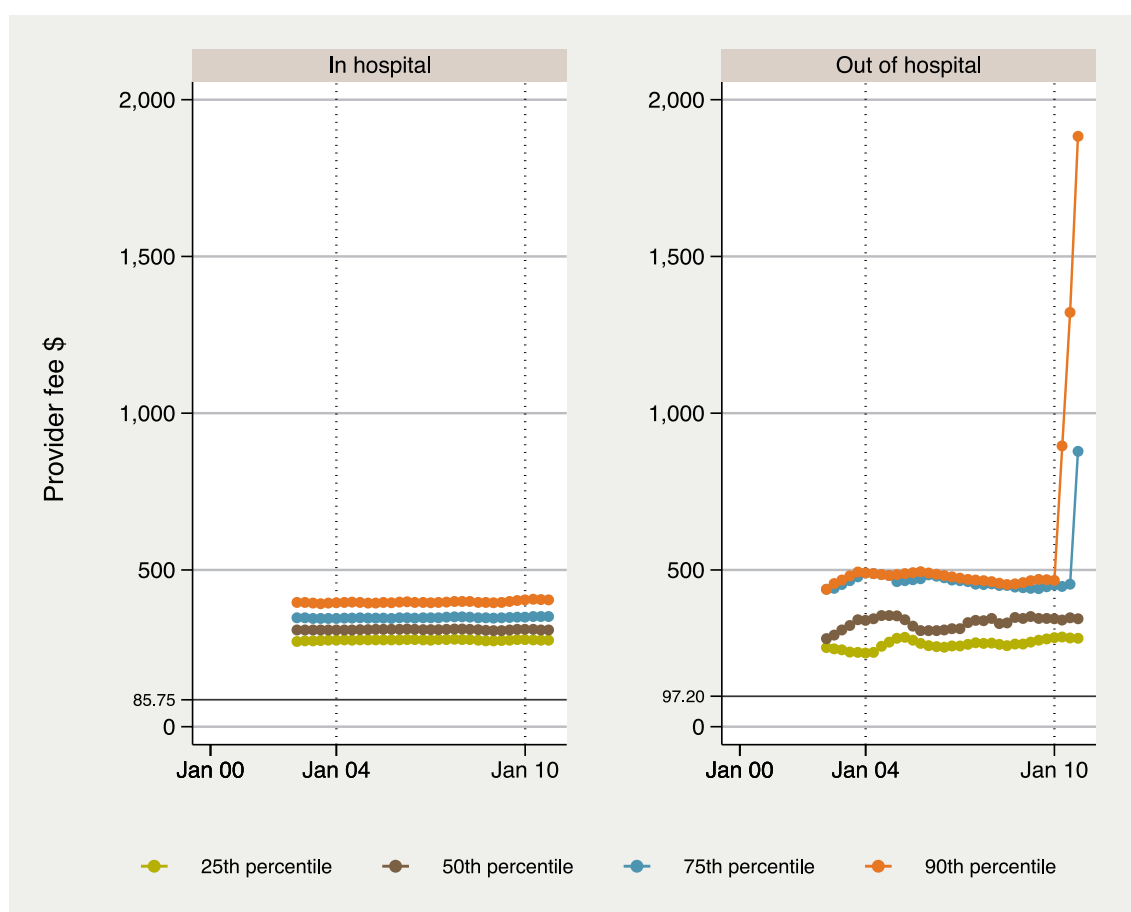


Note: seasonally-smoothed series. The first observation is January 2001.

For MBS item 42702, the only similar uncapped items (items 42701 and 42698) have very small numbers of services and so provide unsuitable comparisons. However, we have identified a complementary anaesthetic procedure for lens surgery, MBS item 20142. This item is for the initiation of management of anaesthesia for lens surgery and it is not capped. The 2010 MBS fee was \$114.30 for this item and the Medicare rebates were \$85.75 in hospital and \$97.20 out of hospital.

Figure 5.6 presents the fee distribution of item 20142 provided in and out of hospital. Prior to the introduction of EMSN capping, at all points of the distribution, fee levels are comparable. Immediately following EMSN capping, provider fee levels above the median for item 20142 increased dramatically: by almost 100 per cent for the 75th percentile provider fee level and 400 per cent for the 90th percentile provider fee. While this item comprises a small dollar share of anaesthesia items, the number of services is large, approximately half the number of services for capped item 42702. The lack of change at and below the median provider fee suggests that the rapid increase in fees was not due to an increase in the cost of technology or any other structural change that would affect the whole fee distribution. This suggests the possibility of provider fee sharing between service groups involved in lens surgery.

Figure 5.6: Provider fee cut-offs where the fee charged exceeds the Medicare rebate for in hospital and out of hospital services, uncapped item 20142 (anaesthesia for lens surgery)



Note: seasonally-smoothed series. The first observation is January 2001.

5.3 Capped MBS item 45560 – hair transplantation

Item 45560 is a hair transplantation procedure for the treatment of alopecia. The 2010 MBS fee for this item was \$455.70, the Medicare rebate for out of hospital claims was \$387.35 and the EMSN cap was \$152.25.

Table 5.4 shows that there were a relatively small number of services for this item and the majority were performed out of hospital. For services provided out of hospital, the bulk-billing rate dropped dramatically from 65 per cent in 2004 to 29 per cent in 2005, and declined over the period of the EMSN. In 2010, the bulk-billing rate for services provided out of hospital increased but remained quite low.

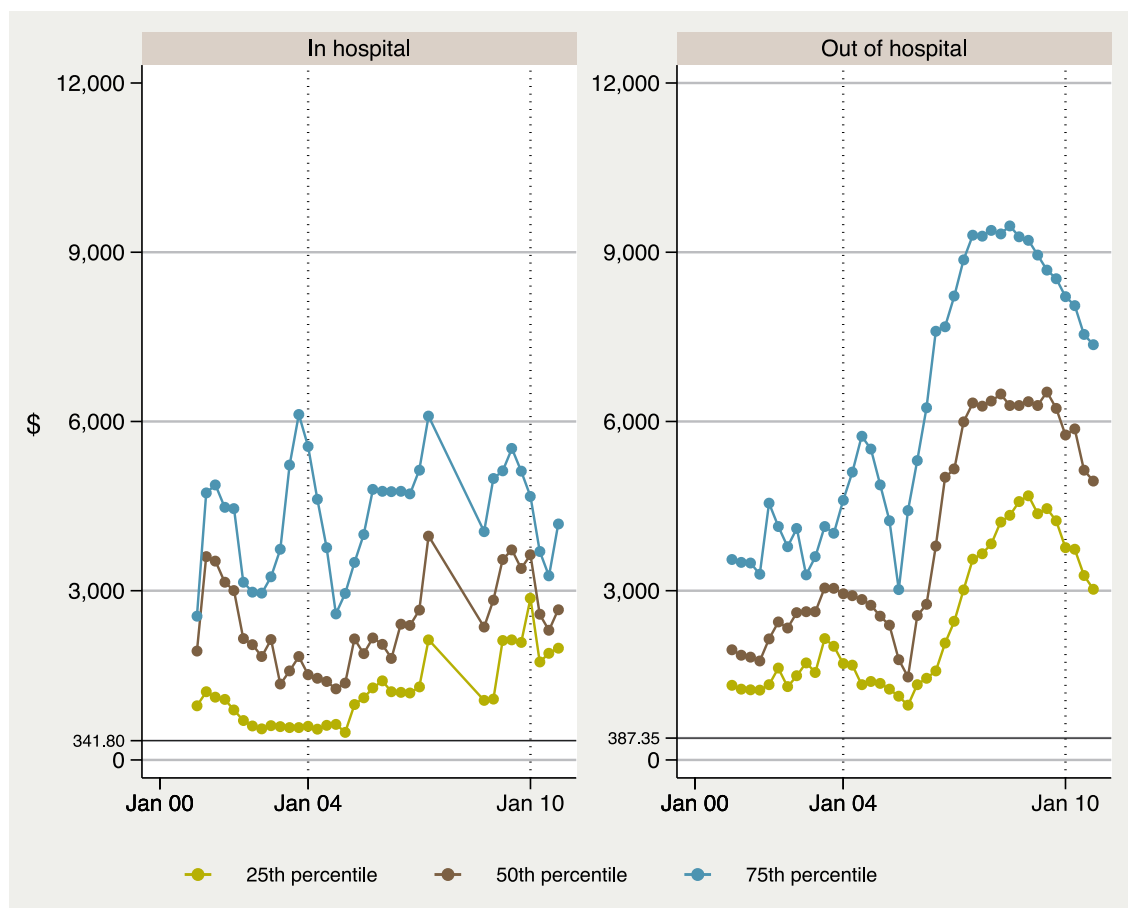
Table 5.4: Number of services and percentage bulk-billed, item 45560 (hair transplantation)

Year	In hospital		Out of hospital	
	Number of services	% bulk-billed	Number of services	% bulk-billed
2003	25	0	121	66.1
2004	25	0	136	65.4
2005	28	0	177	29.4
2006	24	4.2	173	20.8
2007	13	0	193	12.4
2008	14	0	192	13.0
2009	11	0	205	4.9
2010	14	0	100	15.0

Figure 5.7 illustrates the distribution of provider fees over time for services provided in and out of hospital. The horizontal lines indicate the 2010 Medicare rebates (\$341.80 in hospital and \$387.35 out of hospital) for item 45560. Due to the small number of services we group the 25 per cent of services (P75) with the highest provider fees and do not provide a separate plot for the 90th percentile (P90).

Prior to the EMSN the provider fee distribution is broadly similar for services provided in and out of hospital. The small number of in hospital observations explains the volatility of the provider fee distribution for this group. The introduction of the EMSN was associated with increased provider fees for services provided out of hospital, particularly those above the median fee. At all points of the distribution, provider fee levels peaked during 2008 and have declined since. There is no discernible impact on this trend from the EMSN cap.

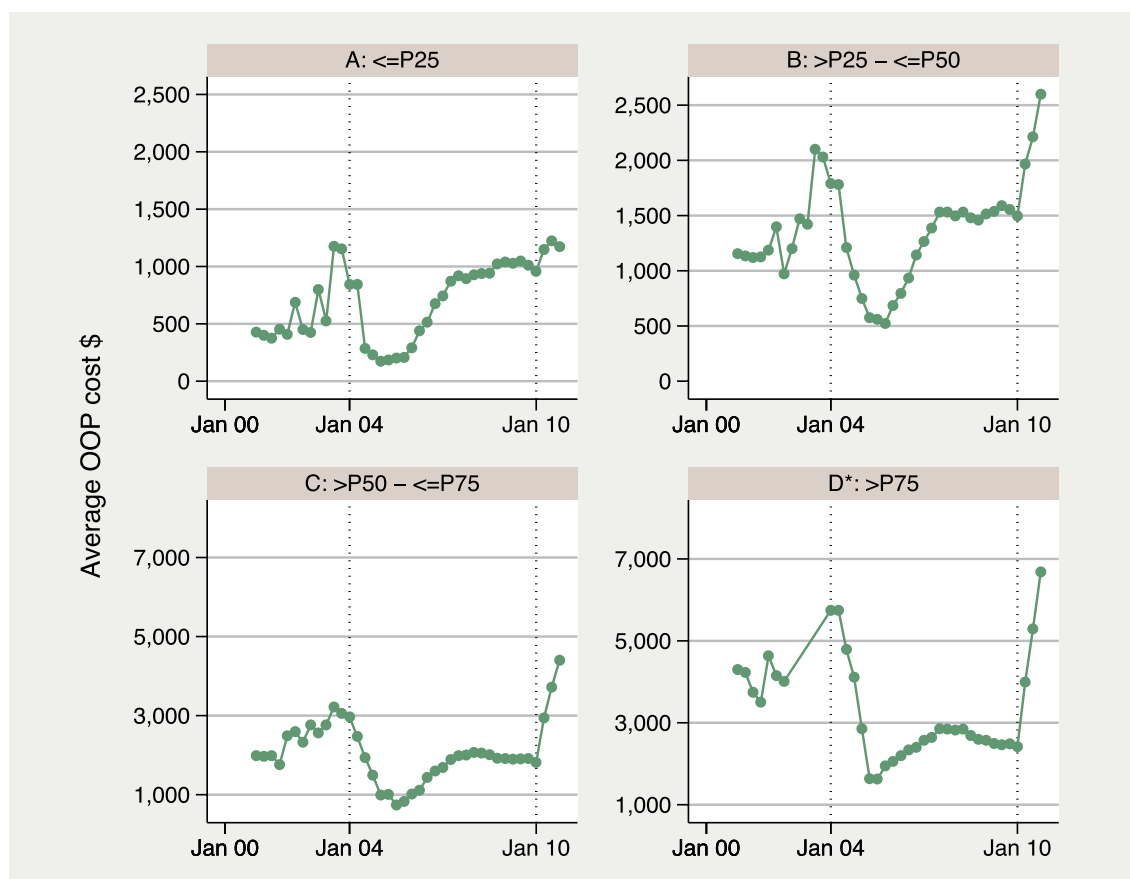
Figure 5.7: Comparison of provider fee cut-offs for in and out of hospital services where the fee charged exceeds the Medicare rebates, capped item 45560 (hair transplantation)



Note: seasonally-smoothed series. The first observation is January 2001.

Figure 5.8 presents the distribution of OOP costs for item 45560 over the period. As with Figure 5.7, we group the 25 per cent of services with the highest provider fees and do not provide a separate plot for the 90th percentile. Following the introduction of the EMSN, OOP costs fell at all points of the distribution, reaching their lowest levels during 2005. Between 2005 and 2008, OOP costs increased again at all points of the distribution. Following capping, OOP costs increased, particularly at higher points of the provider fee distribution.

Figure 5.8: Average OOP cost for out of hospital services where the fee charged exceeds the Medicare rebate, item 45560 (hair transplantation)



Note: seasonally-smoothed series. The first observation is January 2001. Due to small number of services, average OOP cost is reported for the top 25 per cent fees.

Item 45617 is an uncapped item from the same service group, plastic and reconstructive surgery. It is for the reduction of the upper eyelid and its MBS fee was \$226.15 in 2010. This is the only uncapped item within the plastic and reconstructive surgery service group for which we have data. We therefore use it to compare the fee behaviour for an uncapped plastic surgery item compared to capped item 45560. We neither suggest that these two items are similar procedures nor that they were provided by the same doctor. Table 5.5 reports the number of services for the two items. Unlike item 45560, there were a large number of services performed for this item and the number has been growing over time.

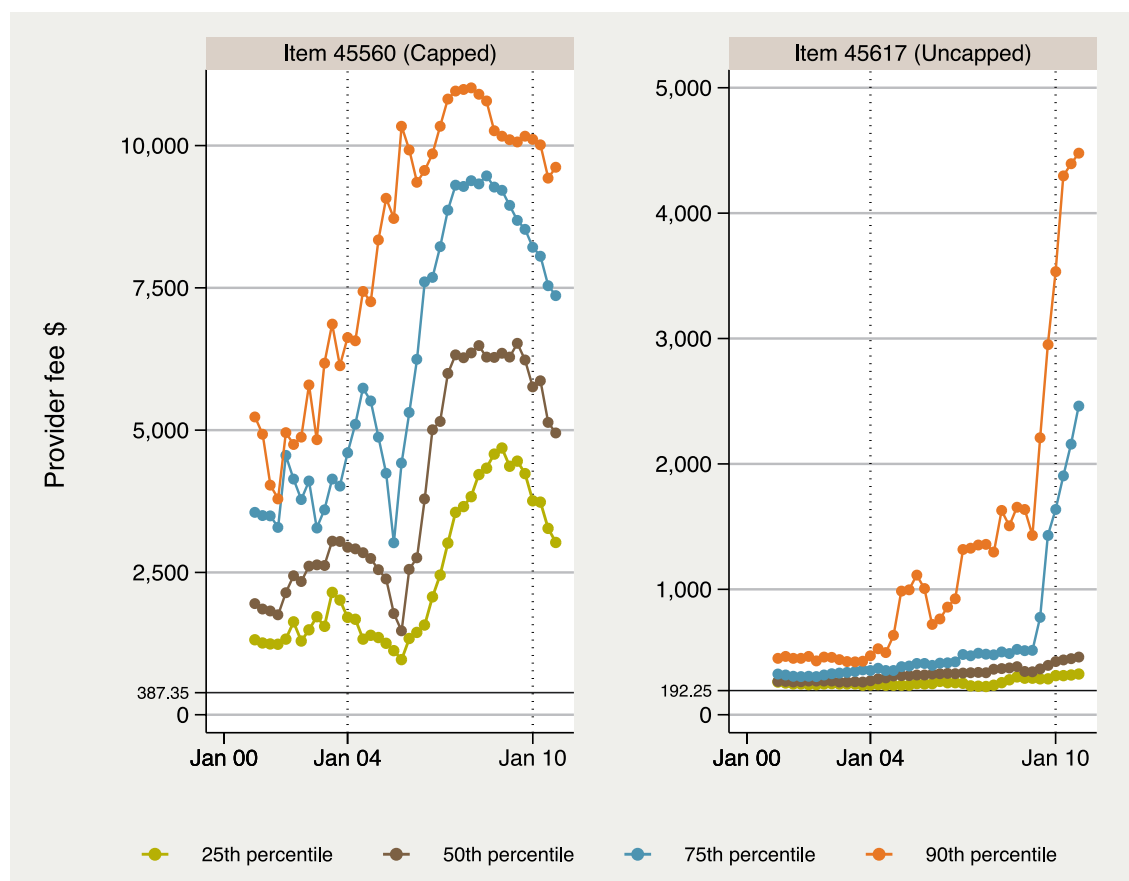
Table 5.5: Number of services for capped item 45560 (hair transplantation) and uncapped item 45617 (eyelid reduction) and percentage of overall services within plastic and reconstructive surgery

Year	Item 45560*		Item 45617	
	Number of OOH services	% of plastic and reconstructive surgery	Number of OOH services	% of plastic and reconstructive surgery
2003	121	0.2	1,135	1.6
2004	136	0.2	1,446	1.8
2005	177	0.2	1,530	2.0
2006	173	0.2	1,720	2.4
2007	193	0.3	1,793	2.5
2008	192	0.3	2,235	3.1
2009	205	0.3	2,967	3.9
2010	100	0.1	3,187	4.0

Note: *capped item.

Figure 5.9 compares the out of hospital provider fee distributions of the capped item 45560 and uncapped item 45617. The horizontal line plots the 2010 Medicare rebate of \$192.25 for item 45617. Prior to the EMSN there was relatively small variation in provider fees across the distribution. Following the introduction of the EMSN, the 90th percentile fee increased dramatically – 700 per cent by the end of 2009. The 75th percentile fee also shows an increase but only in the last quarter of 2009, an increase of 300 per cent. At the median and below, provider fees were stable. In 2010, the 75th percentile and 90th percentile fees increased by a further \$1,000.

Figure 5.9: Comparison of provider fee cut-offs for out of hospital services where fee exceeds Medicare rebate, capped item 45560 (hair transplantation) and uncapped item 45617 (eyelid reduction)



Note: seasonally-smoothed series. The first observation is January 2001. Vertical axes have a different scale for different items. The graph for capped item is a reproduction.

5.4 Capped group – assisted reproductive technology (ART) services

Before we analyse ART cycles, we first present the general trend of ART services over time based on all Medicare patients, not just those in our sample. The aggregate data show a growing demand for ART services over the period. Table 5.6 shows that the number of services for item 13209 (planning and management of an ART cycle) generally increased over time and reached its peak in 2009. Following the introduction of EMSN capping, the number of item 13209 services dropped by nearly 15 per cent within a year. However, some of this decrease may be explained by anticipatory behaviour where some patients moved their ART cycle forward ahead of the EMSN caps implementation. The effect of this was to inflate the 2009 service use and deflate the 2010 service use.

**Table 5.6: Number of services and annual percentage change
– for capped item 13209 (planning and management of an ART cycle)**

Year	Item 13209	
	Number of services	Annual % change
2003	40,031	
2004	46,321	15.71
2005	51,754	11.73
2006	55,147	6.56
2007	61,085	10.77
2008	65,352	6.99
2009	73,062	11.80
2010	62,396	-14.60

The unit of analysis in the remainder of this section is an episode of care and where all items within the episode are capped. In the case of ART, an episode of care is an ART cycle. The analysis uses patient level data with masked identifiers, which means that individual patients cannot be identified.

Patients were selected on the basis that they used the MBS item 13209 for the planning and management of an ART cycle and at least one other ART item in the subsequent 30 days. The sample is based on all individuals whose ART planning and management occurred during either June or October of each year. It is important to note therefore that the figures provided in this section are based on a sample of patients and do not reflect the total annual cycles. This sample data will enable us to detect changes in trends over time, which is the focus of this analysis. Patient-level data were available for this review from 2003 onwards.

As noted earlier in this review, the introduction of EMSN caps coincided with a restructure of a number of ART MBS items, including increases in the MBS fee for some items. See Appendix A of this review for more details on the changes in MBS fees in 2010, as well as information on the Medicare rebate and EMSN cap amounts for ART services. The increase in MBS fees (and by implication the Medicare rebate) for some ART items can have a direct impact on provider fees. The Medicare rebate acts as a floor price for provider fees. Therefore, if the Medicare rebate increases, it would be expected that providers who charge fees below the new Medicare rebate would adjust their fees accordingly. This implies an adjustment of provider fees who charge at or near the Medicare rebate amount, but not necessarily to fees charged above the Medicare rebate.

Based on the Department's advice, we define four types of ART cycles:

1. **Stimulated cycle:** this cycle consists of planning and management for the purpose of ART treatment or for artificial insemination (item 13209), ART superovulated treatment cycle proceeding to oocyte retrieval (items 13200 and 13201), oocyte retrieval (item 13212) and the transfer of embryos (item 13215). Intracytoplasmic sperm injection (ICSI) (item 13251) may also be used. As part of the MBS item restructure in 2010, a new item (13202) was introduced for stimulated cycles that were cancelled and item 13221 (preparation of semen) could no longer be claimed for this cycle.

We make a distinction between a stimulated cycle without item 13251 (ICSI) which we term 'stimulated A' cycle, and a stimulated cycle with item 13251, which we term 'stimulated B' cycle.

2. **Non-stimulated cycle:** this cycle consists of planning and management for the purpose of ART treatment or for artificial insemination (item 13209), ART treatment cycle (item 13206), oocyte retrieval (item 13212), and the transfer of embryos (item 13215). Similar to the stimulated cycle, from 1 January 2010 onwards item 13221 could no longer be claimed.
3. **Artificial insemination and natural implantation cycle:** this cycle consists of planning and management for the purpose of ART treatment or for artificial insemination (item 13209), ovulation monitoring services (item 13203) and preparation of semen (item 13221).
4. **Implantation of frozen embryo cycle:** this cycle consists of planning and management for the purpose of ART treatment or for artificial insemination (item 13209), preparation of frozen embryos or donated embryos or donated oocytes (item 13218) and the transfer of embryos (item 13215).

Each type of cycle has a unique item and we use this to categorise ART episodes. For example, a person with item 13200 or 13201 without 13251 is defined as having a stimulated A cycle. A person with item 13200 or 13201 and 13251 is defined as having a stimulated B cycle. A person with item 13206 is defined as having a non-stimulated cycle. A person with item 13203 is defined as having an artificial insemination cycle. And a person with item 13218 is defined as having a frozen/donated embryo cycle.

With regard to the item for cancelled stimulated cycle, item 13202, it is grouped together with successful stimulated cycles. Prior to the introduction of this item, it is unclear how cancelled stimulated cycles were treated; it was suggested that they may have been billed as item 13203, which identifies an artificial insemination cycle, but providers may also have altered their fees for item 13200 or 13201 following the failure of the treatment. It is useful to keep this issue in mind when comparing stimulated and artificial insemination cycles in 2010 with their outcomes in earlier years.

It should be noted that not all cycles could be allocated to the four cycle types listed above as some cycles had more than one unique item. This applied to less than one per cent of all cycles in any year. The most common of these types of unallocated cycles are a combination of stimulated and frozen/donated embryos. In addition, in any year less than two per cent of cycles did not have any uniquely identifying items within the cycle. We do not report on unallocated cycles separately, but they are included in the overall analysis.

In this section we present analysis for each type of cycle on the:

- number of cycles;
- number of services in and out of hospital;
- distribution of provider fees and OOP costs, out of hospital;
- number of cycles by Socioeconomic Index for Areas (SEIFA) and remoteness area; and
- distribution of provider fees and OOP costs for out of hospital services, by SEIFA and remoteness area.

In the analysis of fees charged and out of pocket costs ‘provider fees’ is the sum of the fee charged for out of hospital Medicare funded services. It is not possible to determine the net OOP for in hospital services as Medicare Australia does not have data on the amount of private health insurance benefits paid.

The Australian Bureau of Statistics’ SEIFA score of advantage and disadvantage estimates the relative socioeconomic status of geographic areas using information such as income and education from the Census. The current SEIFA scores are based on the 2006 Census.¹⁷ The Australian Bureau of Statistics’ classification of remoteness defines five types of regions: major cities, inner regional, outer regional, remote and very remote. Both SEIFA and remoteness are based on the postcode of the person as recorded by Medicare Australia.¹⁸

Table 5.7 presents the number of types of cycle over time from our sample. Stimulated cycles are by far the most common ART cycle, representing about half of all ART cycles in any given year. Item 13251, for ICSI, was introduced in 2007. Since then, the demand for stimulated cycles has been divided between stimulated A cycles (without ICSI) and stimulated B cycles (with ICSI). Prior to capping, the artificial insemination and natural implantation cycle (from here on, artificial insemination cycle) was the second most popular ART cycle. The third most common cycle was the implantation of frozen/donated embryo. All cycles had grown steadily over time. Following capping, the number of stimulated A and B cycles in total fell by 18 per cent in 2010 and the frozen/donated embryo cycle overtook the artificial insemination cycle as the second most common cycle; artificial insemination cycles fell by 26 per cent whilst frozen/donated embryo cycles grew by 17 per cent. These changes suggest substitution among types of cycle from the more expensive stimulated cycle to the less expensive frozen/donated embryo cycle. Overall, the number of ART cycles in 2010 fell by 11 per cent from its peak 2009 level. Again, this may be a reflection of anticipatory behaviour with the demand for ART services being brought forward to 2009, thereby artificially inflating 2009 figures and deflating the number of cycles in 2010. Comparisons between 2008 and 2010 show very similar levels of demand.

17. See page 32 in Section 3.4 of this review for more details on SEIFA.

18. Where a postcode covers two or more socioeconomic or regional area categories, the postcode is allocated to the category where the majority of the residents residing in that postcode live.

Table 5.7: Number of cycles by type of ART cycle in the patient sample

Year	Stimulated A	Stimulated B	Non-Stimulated	Artificial insemination	Frozen/donated embryo	TOTAL ^
2003	2,927	0	57	1,896	1,641	6,628
2004	3,740	0	44	2,053	1,989	7,966
2005	4,194	0	59	2,107	2,245	8,745
2006	4,422	0	47	2,218	2,369	9,150
2007	2,407	2,746	28	2,257	2,833	10,369
2008	2,420	3,298	28	2,263	2,744	10,878
2009	2,857	4,030	37	2,216	2,910	12,189
2010	2,224	3,423	13	1,641	3,407	10,802

Note: year refers to the year in which planning and management (item 13209) occurred.

^ includes a small number (approx 1%) of episodes of care that have multiple identifying items or could not be allocated to any of the five cycle types.

Table 5.8 presents the number of ART services (sum of claimed MBS items) performed in and out of hospital for each type of ART cycle in our sample. Most ART services are provided out of hospital, especially for artificial insemination and frozen/donated embryo cycles. The number of services performed in and out of hospital increased annually up to 2009 for stimulated A and B and frozen/donated embryo cycles. Following capping the number of services fell for all ART cycle types, with the exception of frozen/donated embryo cycle where the number of services rose by 56 per cent. As will be shown in Table 5.9, this increase is almost driven entirely by the restructuring of ART items.

The decline in the number of services for non-stimulated cycles (the least common type of cycle) was expected as the restructure of ART items on 1 January 2010 means that this cycle is comprised of fewer MBS items. Services for the artificial insemination cycle had been relatively stable since 2005 but fell after the introduction of caps. The pattern of changes in the number of services following capping is not consistent with substitution between in and out of hospital as services fell in both settings for all cycles, except for the frozen/donated embryo cycle.

Table 5.8: Number of in and out of hospital services by type of ART cycle in the patient sample

Year	In hospital					TOTAL ^
	Stimulated A	Stimulated B	Non-stimulated	Artificial insemination	Frozen/donated embryo	
2003	4,216	0	64	11	492	4,902
2004	5,260	0	47	n.p	709	6,150
2005	5,885	0	68	5	685	6,743
2006	6,143	0	48	16	611	6,908
2007	2,788	4,185	27	7	824	7,898
2008	2,754	4,896	27	16	814	8,608
2009	3,281	5,945	38	n.p	805	10,163
2010	2,305	4,678	8	5	1,605	8,659

Table 5.8: Number of in and out of hospital services by type of ART cycle in the patient sample – continued

Year	Out of hospital					TOTAL ^
	Stimulated A	Stimulated B	Non-stimulated	Artificial insemination	Frozen/donated embryo	
2003	9,143	0	176	5,418	2,837	17,793
2004	11,693	0	135	5,916	3,327	21,354
2005	13,161	0	194	6,113	3,845	23,596
2006	14,115	0	147	6,341	4,192	25,005
2007	7,482	11,778	79	6,429	4,896	30,998
2008	7,524	14,190	80	6,442	4,724	33,414
2009	8,688	17,406	106	6,284	5,100	38,024
2010	5,171	11,412	27	4,739	7,932	29,568

Note: year refers to the year in which planning and management (item 13209) occurred.

^ includes a small number of services that have multiple identifying items or could not be allocated to any of the five cycle types.

n.p not published for data confidentiality reasons.

Table 5.9 focuses on stimulated A and B and frozen/donated embryo cycles and shows the composition of services for all items involved in these two cycles in and out of hospital. Note that item 13221, which provides for the preparation of semen for artificial insemination, is no longer used in conjunction with stimulated and frozen/donated embryo cycles in 2010 as the service is included in the fee for other MBS items. We combine stimulated A and B cycles in order to make a comparison with 2004 when the EMSN was introduced.

A feature of Table 5.9 are the substantial changes in the number of items claimed in 2010 compared to 2009. Consistent with the decrease in stimulated cycles, the total number of services used in stimulated cycles between 2009 and 2010 decreased. In contrast, the increase in services for frozen/donated embryo cycles is entirely driven by item 13215 (transfer of embryos). There were over 2,500 (in and out of hospital) claims for this item in 2010 compared to almost none in 2009. The Department has advised that this increase was related to the change in the definition of item 13215 which makes it part of a typical frozen/donated embryo cycle in 2010; in 2009, a typical frozen/donated embryo cycle consisted only of items 13209 and 13218. It implies that some aspects of ART service that would previously been claimed under 13218 are from 2010 onwards being claimed under item 13215.

Table 5.9: Number of in and out of hospital services by item for stimulated and frozen/donated embryo cycles in 2004, 2009 and 2010 in the patient sample

In hospital						
Cycle Type	Year	Item 13209	Item 13212	Item 13215	Item 13221	Unique item*
stimulated A and B	2004	9	3,115	1,755	381	0
	2009	16	5,853	2,880	434	43
	2010	28	4,450	2,455	0	50
frozen/donated embryo	2004	6	n.p	n.p	0	700
	2009	8	n.p	30	0	765
	2010	9	0	1,587	0	9
Out of hospital						
Cycle Type	Year	Item 13209	Item 13212	Item 13215	Item 13221	Unique item*
stimulated A and B	2004	3,731	165	1,073	2,982	3,742
	2009	6,871	304	2,399	5,694	10,826
	2010	5,619	327	1,613	0	9,024
frozen/donated embryo	2004	1,983	0	n.p	45	1,297
	2009	2,902	0	5	42	2,151
	2010	3,398	0	1,128	0	3,406

Note: year refers to the year in which planning and management (item 13209) occurred.

* Items that identify the type of cycle: items 13200, 13201, 13202 and 13251 for stimulated cycle and items 13218 for frozen/donated embryo cycle.

n.p not published for data confidentiality reasons.

Table 5.10 reports the average provider fee per cycle (for out of hospital services) for all cycles combined by calendar year in constant 2010 dollars. It distinguishes the fee for the planning and management item (item 13209) from the overall provider fee per cycle. Over time, average fees per cycle increased but fell slightly in 2010. The planning and management fee also trended upwards but declined sharply following capping in 2010. Prior to capping, 10 per cent of item 13209 had a fee of less than \$103 and 10 per cent were charged above \$4,637. Following capping, 80 per cent of cycles had a planning and management fee of between \$69 and \$650. As a result, the planning and management item that used to be a high proportion of the total provider fee became a small proportion of the total provider fee for ART cycles in 2010.

The changing pattern in the allocation of fees across items was expected following capping and the restructure of the ART items. Prior to capping, in vitro fertilization (IVF) practitioners appeared to be loading up the planning and management item 13209 with a large proportion of the overall fee to take advantage of the EMSN payment arrangements. The patient may then have qualified for EMSN benefits upon payment of the planning and management item. In the presence of the EMSN cap, the incentives are for providers to distribute fees across items, so that no single item's fee is below the sum of the standard rebate and its EMSN cap. This maximises patients' access to EMSN benefits and also reflects a closer alignment with the cost of providing the service.

Table 5.10: Fees charged for ART planning and management (item 13209) and an ART cycle (all cycles combined), out of hospital services in the patient sample

Year	ART planning and management (MBS item 13209)				
	Average ART cycle fee \$	Average fee \$	% of average cycle fee	Fees charged at the 10th percentile (P10) \$	Fees charged at the 90th percentile (P90) \$
2003	2,057	407	25	72	1,672
2004	2,548	714	33	73	2,138
2005	2,739	591	29	72	2,258
2006	2,825	646	29	71	2,752
2007	3,382	861	32	84	3,216
2008	3,886	1,394	42	105	4,056
2009	4,414	1,629	41	103	4,637
2010	4,306	284	10	69	650

Provider fees and OOP costs by cycle type

To analyse changes in the distribution of provider fees over time we construct cumulative density plots. For each year, we order cycles according to the level of provider fee and summing the percentage of cycles with a lower provider fee. We chose three representative years for comparison: 2004 (first year of the EMSN), 2009 (a year prior to the EMSN cap) and 2010 (the first year of the EMSN cap).

Understanding Cumulative Density Plots: example for provider fee distribution

Figure 5.10 shows the cumulative density plots by type of cycle. The vertical axis shows the cumulative percentage of cycles (for example, 1 represents 100 per cent of cycles and 0.50 represents 50 per cent of cycles) and the horizontal axis shows the total of provider fees for all ART services during a cycle. The horizontal axis is set to a maximum of \$10,000 (top-coded) to avoid an overly long horizontal axis due to the presence of a few cycles with very expensive provider fees, which reduces the visibility of the majority of cycles in the graph. The prevalence of provider fees above \$10,000 is indicated as a vertical line at \$10,000.

The median fee is shown by the intersection of 0.50 on the vertical axis and the fee on the horizontal axis. The median fee is where 50 per cent of cycles are charged more and 50 per cent of cycles are charged less. For example, for the artificial insemination cycle, the plot shows that 50 per cent of cycles (0.50 on the vertical axis) in 2004 had provider fees of about \$900. The fee distribution had shifted slightly to the right by 2009, indicating increases in provider fees, but these were largely unchanged in 2010. For any year, the shape of the provider fee distribution is steep, indicating a relatively small variation in provider fees across a large proportion of cycles. The flatter section at the top (above 0.90) of the plot indicates a large variation in provider fees for the 10 per cent of cycles with the highest fees.

The plots for the stimulated A and B cycles have similar distributions, with median total fees around \$7,000 in 2010. These cycles contain the two most expensive ART related MBS fees for items 13200 and 13201, although these items would not appear together in a single cycle. The 2010 MBS fees for these two items were \$2,992.90 and \$2,799.50, respectively. In contrast, the 2010 MBS fee for, say, item 13203, which defines an artificial insemination cycle, was \$468.30.

The stimulated A cycle (without ICSI) provider fee distribution in 2009 shows a large shift to the right from provider fee levels in 2004. For the stimulated A cycle, the median fee had increased from \$4,000 in the first year of the EMSN to \$6,500 in 2009. Stimulated B cycles (with ICSI) were more expensive, with a median fee of \$7,300 in 2009. For both stimulated A and B cycles, the distributions of provider fees in 2009 and 2010 are very close to each other suggesting that EMSN capping had a very small impact.

The cumulative density plots for non-stimulated, artificial insemination and frozen/donated embryo cycles show similar patterns: they are steep, relative to the stimulated cycle. There was a quite small reduction in provider fees for non-stimulated cycles in 2010. The distribution of provider fees for the artificial insemination cycle shows a small upward shift from 2004 to 2009 but a downward shift for most part of the distribution in 2010. Between 2004 and 2009, the median fee for frozen/donated embryo cycles increased by around \$1,000. Following capping, the median fee remained relatively stable but the 25th percentile fee increased by over \$500 and the fee charged at the 90th percentile decreased by around \$300.

Figure 5.10: Cumulative distributions of total provider fee for out of hospital services over time by type of ART cycle in the patient sample

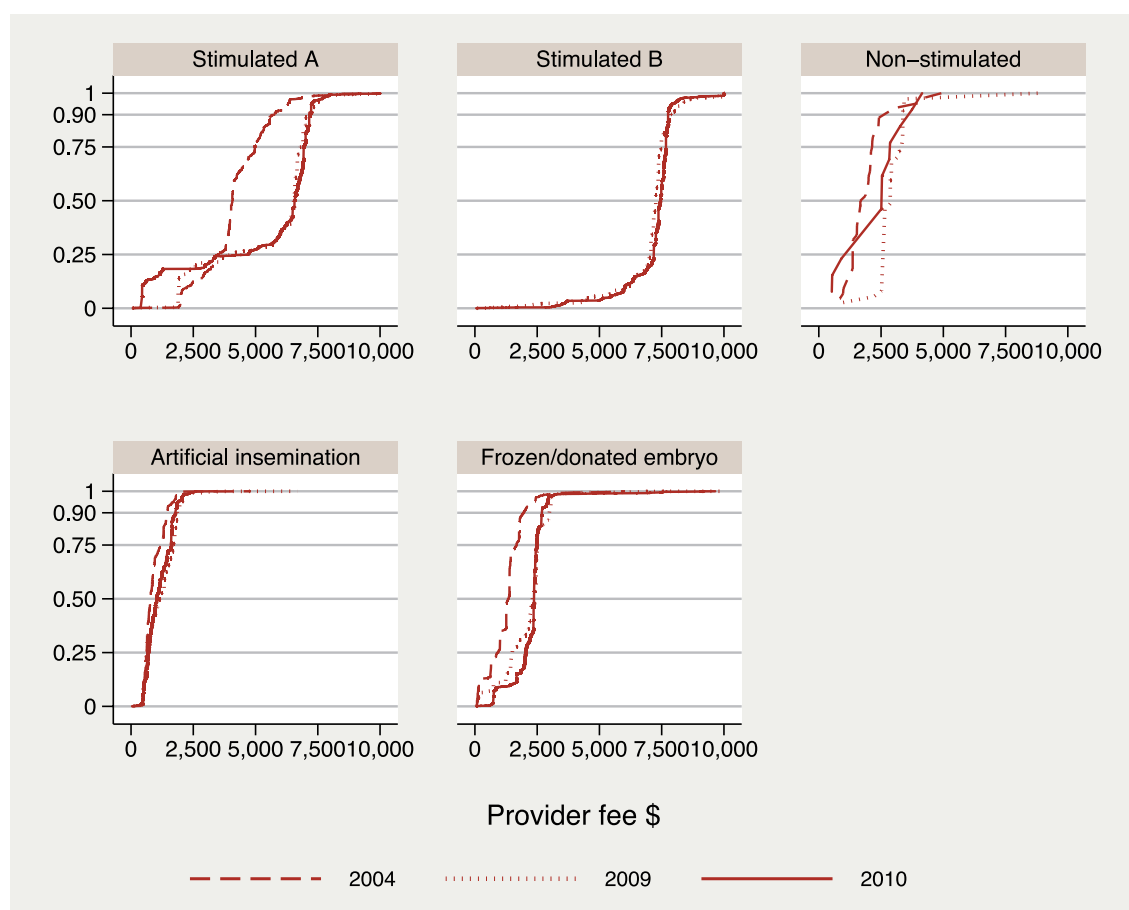


Figure 5.11 presents the cumulative density plots of OOP costs by type of cycle over time. The OOP costs on the horizontal axis are top-coded at \$8,000. The prevalence of OOP costs above this level is indicated as a vertical line at \$8,000.

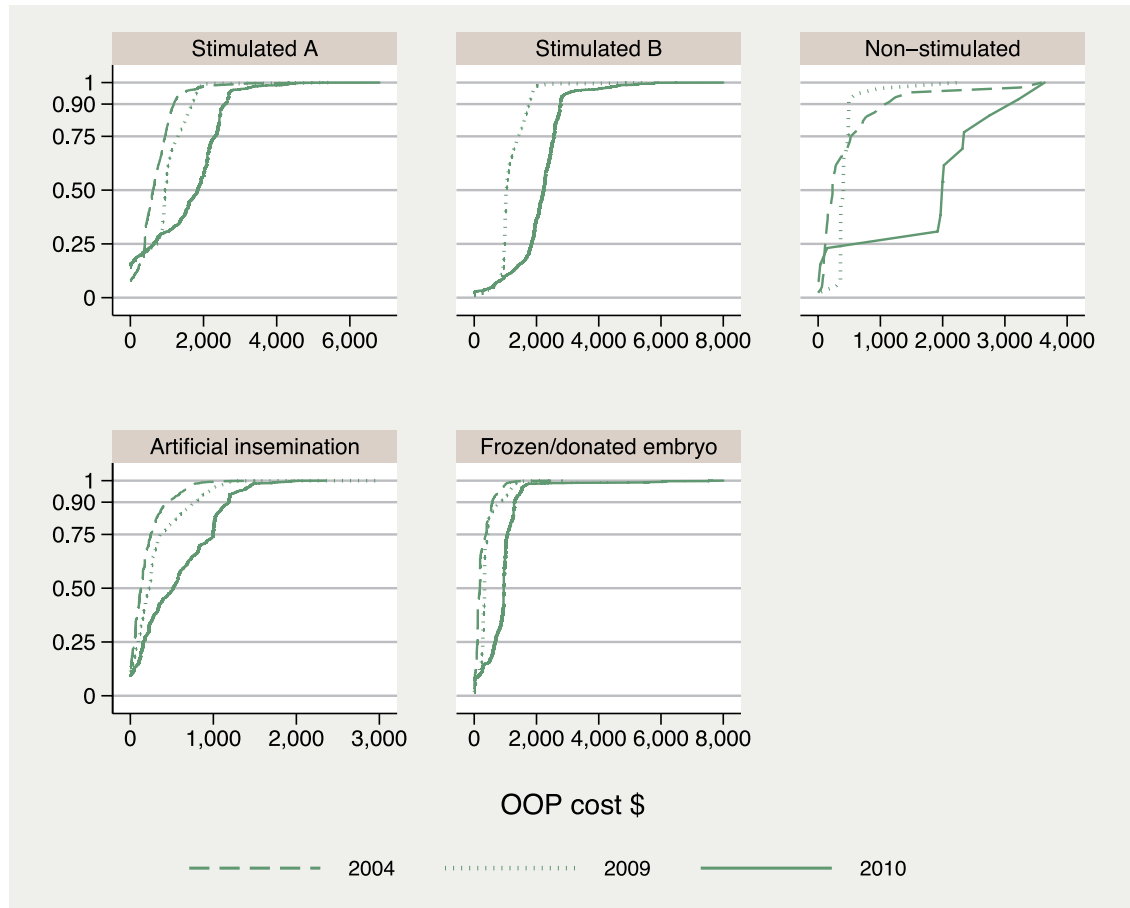
For stimulated A cycles, in 2004, 25 per cent of cycles had OOP costs below \$400, 50 per cent had OOP costs of less than \$650 and all cycles had OOP costs of less than \$4,400. There were modest increases by 2009, when 50 per cent had OOP costs less than \$950. However, following capping in 2010, only 50 per cent had OOP costs of less than \$2,000 and the top 10 per cent had OOP costs in excess of \$2,600. OOP costs per stimulated A cycle increased by about \$900 in 2010, regardless of the provider fee distribution. This suggests that those charged at the bottom of the provider fees distribution experienced the largest relative rise in OOP costs. For stimulated B cycles, there was a bigger absolute increase in OOP costs affecting those in the top 10 per cent of the distribution, as indicated by an increase in the 90th percentile OOP. However, in relative terms those in the bottom 25 per cent suffered more; the 25th percentile OOP increased by almost 90 per cent whilst the 90th percentile OOP experienced a more modest increase of 58 per cent.

While non-stimulated cycles constitute less than one per cent of all ART cycles performed (37 cycles in 2009 and 13 cycles in 2010 in the patient sample), there is a remarkable change after the introduction of capping. In 2010, 50 per cent of non stimulated cycles incurred OOP costs above \$2,000, and for those charged in the top 10 per cent of provider fees, OOP costs were at least \$3,200. By contrast, in 2009, 90 per cent of non-stimulated cycles cost less than \$500 in OOP costs. Prior to the introduction of the EMSN, 90 per cent of non-stimulated cycles cost less than \$1,200 in OOP costs.

There were large increases in OOP costs for artificial insemination cycles. Prior to the introduction of EMSN capping, 50 per cent of artificial insemination cycles cost less than \$200 in OOP costs, but after capping, this figure more than doubled to over \$500 in 2010. For frozen/donated embryo cycles, in 2009, 50 per cent of cycles had no more than \$330 in OOP cost. Following the introduction of capping, this portion of the distribution could pay up to \$950 in OOP costs.

As shown in Table 5.7, there was a shift towards greater use of frozen/donated embryo cycles in 2010. This cycle typically incurs lower fees and lower OOP costs than other commonly used cycles. This shift has had an impact on the fees, benefits and OOP costs per ART cycle (for all cycles combined). Table 5.11 provides data on the provider fee, Medicare and EMSN benefit per cycle for all ART cycles combined. Between 2003 and 2009, the table shows an increase of 115 per cent in the average fee per cycle and 209 per cent in the median fee. Following capping, both the average and median fee fell in 2010. However, the fees at the P25 and P75 levels rose in that year. This pattern can be attributed to the change in the distribution of the types of cycles used. More patients have shifted away from relatively expensive types of ART cycles towards a relatively cheaper cycle. This cycle substitution creates a change in the median fee. Pre-capping the 'median patient' was likely to have used a more expensive stimulated cycle, but post capping the 'median patient' is more likely to have used a relatively cheaper cycle (e.g. a frozen/donated embryo cycle).

Figure 5.11: Cumulative distributions of OOP costs for out of hospital services over time by type of ART cycle in the patient sample



Medicare benefits per cycle increased substantially in 2004 and this is explained by the introduction of the EMSN in that year. The growth in Medicare benefits between 2004 and 2009 is due to the relationship between the EMSN and provider fees. After the introduction of EMSN caps, average and median Medicare benefits per ART cycle fell by \$724 and \$1,847, respectively. After the introduction of EMSN caps, average OOP costs per ART cycle increased by \$616 and median OOP costs increased by \$334 in 2010 (compared to 2009).

Table 5.11: Average fees, Medicare and EMSN benefits and OOP cost per ART cycle (all ART cycle types combined) – 2003 to 2010 (in the patient sample)

Year	Average	P25	P50	P75	Average	P25	P50	P75
	Fees per cycle (\$)				Medicare benefit per cycle (\$)			
2003	2,057	759	1,418	3,498	1,231	541	858	2,022
2004	2,548	948	1,951	4,021	2,105	739	1,617	3,443
2005	2,739	1,036	1,991	4,358	2,295	812	1,955	3,777
2006	2,825	1,097	1,977	4,544	2,309	820	1,938	3,785
2007	3,382	1,369	2,409	5,688	2,783	903	2,032	4,702
2008	3,886	1,490	3,006	6,403	3,214	1,189	2,547	5,351
2009	4,414	1,859	4,388	7,083	3,645	1,527	3,419	5,897
2010	4,306	1,982	2,923	7,198	2,921	1,254	1,572	4,979
	EMSN benefit per cycle (\$)				OOP cost per cycle (\$)			
2003					827	82	390	1,504
2004	848	0	509	1,440	443	109	343	659
2005	1,019	45	688	1,761	444	114	333	633
2006	1,033	28	722	1,804	517	154	404	803
2007	1,407	213	900	2,544	599	194	465	916
2008	1,809	490	1,389	3,217	672	231	638	990
2009	2,168	660	1,787	3,728	769	282	846	1,073
2010	1,051	131	667	1,668	1,385	671	1,180	2,136

Note: P50: Median; P25/P75: 25/75 per cent of fees/benefits/OOP costs are below this amount.

Number of cycles by socioeconomic status and remoteness group

Table 5.12 presents the distribution of the number of cycles by socioeconomic quintiles. SEIFA Q1 is the least advantaged and SEIFA Q5 is the most advantaged group. ART cycles are strongly concentrated in the top two socioeconomic quintiles. Prior to the introduction of capping all quintile groups show increased usage of ART. Following capping, the number of cycles dropped by 11 per cent in SEIFA Q1, Q2 and Q5, 8 per cent in SEIFA Q3 and 16 per cent in SEIFA Q4 from their 2009 levels.

Table 5.12: Number of ART cycles by SEIFA quintile in the patient sample

Year	SEIFA Q1 (Least advantaged)	SEIFA Q2	SEIFA Q3	SEIFA Q4	SEIFA Q5 (Most advantaged)
2003	438	563	967	1,900	2,700
2004	468	648	1,166	2,223	3,409
2005	449	679	1,279	2,494	3,759
2006	475	703	1,340	2,530	4,052
2007	575	786	1,562	2,819	4,544
2008	543	824	1,513	3,053	4,833
2009	666	912	1,775	3,487	5,244
2010	593	818	1,639	2,936	4,668

Note: year refers to the year in which planning and management (item 13209) occurred. Discrepancy with the total numbers in Table 5.9 is due to observations with missing quintile information (945 observations or 1.23%).

Table 5.13 presents the distribution of the number of cycles by remoteness groups. As expected, the usage of ART services is concentrated among patients living in the major cities. The number of cycles recorded for patients from all areas has increased over time and the total number dropped with the introduction of capping in 2010, although the decrease for patients from inner regional areas was only marginal. In absolute terms, the drop in the number of cycles in the city is the largest.

Table 5.13: Number of ART cycles by remoteness group in the patient sample

Year	Very remote	Remote	Outer regional	Inner regional	Major city
2003	20	31	356	985	5,247
2004	17	58	403	1,125	6,394
2005	21	52	503	1,231	6,963
2006	16	65	435	1,136	7,526
2007	30	61	562	1,287	8,462
2008	22	78	495	1,299	9,025
2009	29	84	612	1,412	10,103
2010	24	61	538	1,392	8,770

Note: year refers to the year in which planning and management (item 13209) occurred. Discrepancy with the total numbers in Table 5.9 is due to observations with missing remoteness information (52 observations or 0.07%).

Figure 5.12 presents a modified box and whiskers plot of ART provider fees across socioeconomic quintiles and cycle type. We focus on 2009 and 2010 to compare provider fees before and after capping arrangements were introduced. The following describes how to interpret the information conveyed in the figure:

Understanding box and whisker graphs: example for provider fee distributions

The box represents 50 per cent of cycles in the middle of the provider fee distribution. The left edge of the box indicates the 25th percentile provider fee and the right edge of the box indicates the 75th percentile fee. The size of the box therefore represents the difference in the highest provider fee charged to the bottom 25 per cent and the lowest fee charged to the top 25 per cent of the fee distribution. When it is narrow, the difference in provider fees is small, and half of all cycles were charged at similar levels.

The vertical line inside the box indicates the median provider fee (P50).

The whiskers are the horizontal lines extending beyond the box. The line to the left of the box (left whisker) represents the distance between the 25th percentile and the 10th percentile provider fee. The 10th percentile fee is the maximum fee charged to the cheapest 10 per cent of cycles. The line to the right of the box (right whisker) represents the distance between the 75th percentile and the 90th percentile fees. The focus on the top 10 per cent of cycles is consistent with the use of the 90th percentile provider fee in the previous sub-sections. Each whisker captures 15 per cent of cycles, so the fee levels indicated by the beginning and end of the whiskers (including the box) capture 80 per cent of cycles.

The horizontal axis spans all observed provider fees (100 per cent of cycles). For privacy reasons, the 10 per cent of cycles to each side of the whiskers (very cheap or very expensive cycles) are not indicated in the graph as individual points (as would usually be done in a standard box and whisker plot).

The red triangles indicate the average provider fee. When it is located to the right (left) of the median, the distribution is positively (negatively) skewed: there are cycles with very high (low) fees, pulling up the average provider fee. The median fee is not affected by such extremely high provider fees.

The green triangles mark the average OOP cost. The gap between the red and green triangles therefore indicates the average size of the Medicare benefits, which is the sum of the Medicare rebate and EMSN.

For each type of cycle, the plots are organised as a vertical pair with the upper graph presenting provider fees in 2009 and the lower graph presenting fees in 2010. For each vertical pair the horizontal axes are identical in both years. For example, to compare the median provider fee over time, one can simply look at the relative location of the line inside the box in the top and bottom graphs. An increase in the median fee is indicated by the line in the bottom graph to the right of that in the top graph.

Fees and OOP costs by socioeconomic status of areas

Figure 5.12 presents the modified box and whisker plot for the stimulated A cycle. Before capping (2009), the average provider fee was about \$5,400, except for those in the top socioeconomic quintile (SEIFA Q5) who were charged \$300 more. The median fee on the other hand was \$6,500, similar across quintiles and higher than the average fee. This indicates relatively more high fees than low fees. There was a considerable dispersion in fees, as indicated by the width of the boxes spanning over \$3,000, for all groups except SEIFA Q5. This indicates that for this group, 50 per cent of stimulated A cycles had relatively similar fees. The lower variability in fee for SEIFA Q5 is due to a high fee at the 25th percentile for the most advantaged patients. In all other socioeconomic quintiles, the 25th percentile fee was about \$3,700, creating a distance of \$2,800 from the median fee. In SEIFA Q5, the 25th percentile fee was \$5,700, just \$800 short of the median fee. Nevertheless, the left whisker was longer in SEIFA Q5 suggesting a wider range of fees for the 15 per cent of cycles between the 10th percentile and 25th percentile fee levels. The right whisker was short. In any quintile, 90 per cent of cycles had fees between \$2,000 and \$7,000, although those in the top socioeconomic quintile had a different fee profile in the middle of the distribution than those in the lower socioeconomic quintiles.

Following capping in 2010, there is almost no change in the average and median provider fee. The only group that showed some reduction in fee is SEIFA Q2, whose average fee fell by \$700. For SEIFA Q1 and Q4, the range of fees charged to the middle 50 per cent of cycles narrowed to \$2,300. In contrast, there was more dispersion in fees for SEIFA Q2 and Q3. The behaviour of the 25th percentile fee was, again, the driving factor for the size of the box. The fee at the 25th percentile increased for SEIFA Q1 and Q4 and decreased for SEIFA Q2 and Q3. The cap did not alter high fees at and above the 75th percentile to the same extent as it altered the bottom of the fee distribution.

With regard to the average OOP cost (shown by green triangles it increased by \$600 (68 per cent) to \$1,500 in 2010. The average provider fee was \$5,400 in 2010, the average Medicare benefit (distance between red and green triangles) was \$3,900, a reduction of \$600 (13 per cent) from its level in 2009 (difference in distance between red and green triangles in the two years).

Figure 5.12 Provider fee distribution and average OOP costs for out of hospital services by socioeconomic area – 2009 and 2010 for Stimulated A cycles in the patient sample

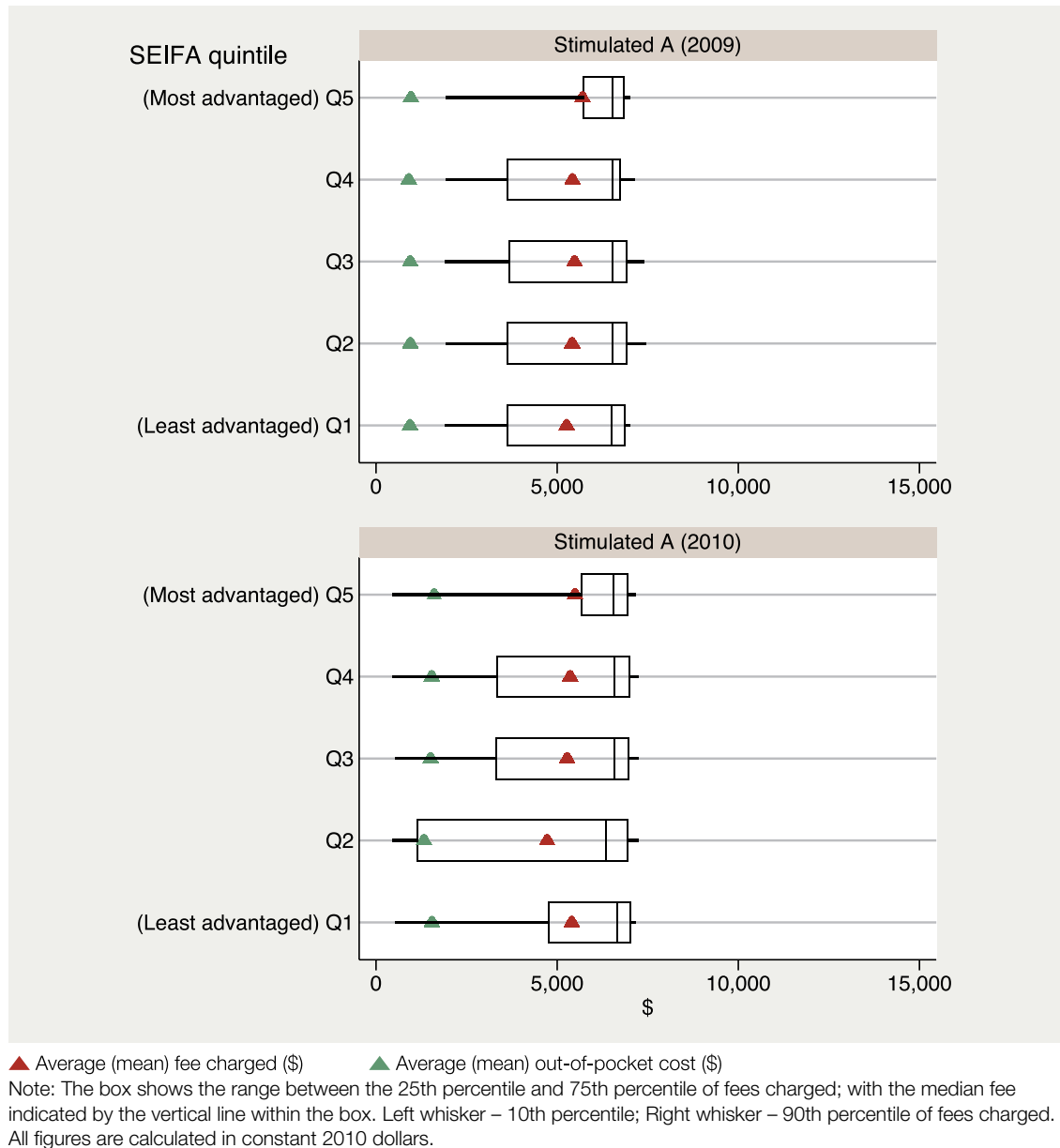


Figure 5.13 presents the modified box and whisker plot for stimulated B cycle. It showed a different picture. There were extremely low and high fees as indicated by the span of the horizontal axis but, for 90 per cent of cycles, there was much less variation in fees across all quintiles. In 2010, average and median fees increased slightly by \$200 to \$300, but fell in SEIFA Q4 by \$200. The more substantive change following capping was an increase in the 10th percentile fee for those in the lowest socioeconomic quintile by nearly \$800. The average OOP cost increased by almost \$1,000 (84 per cent) and the Medicare benefit fell by \$800 (13 per cent).

Figure 5.13: Provider fee distribution and average OOP costs for out of hospital services by socioeconomic area – 2009 and 2010 for Stimulated B cycles in the patient sample

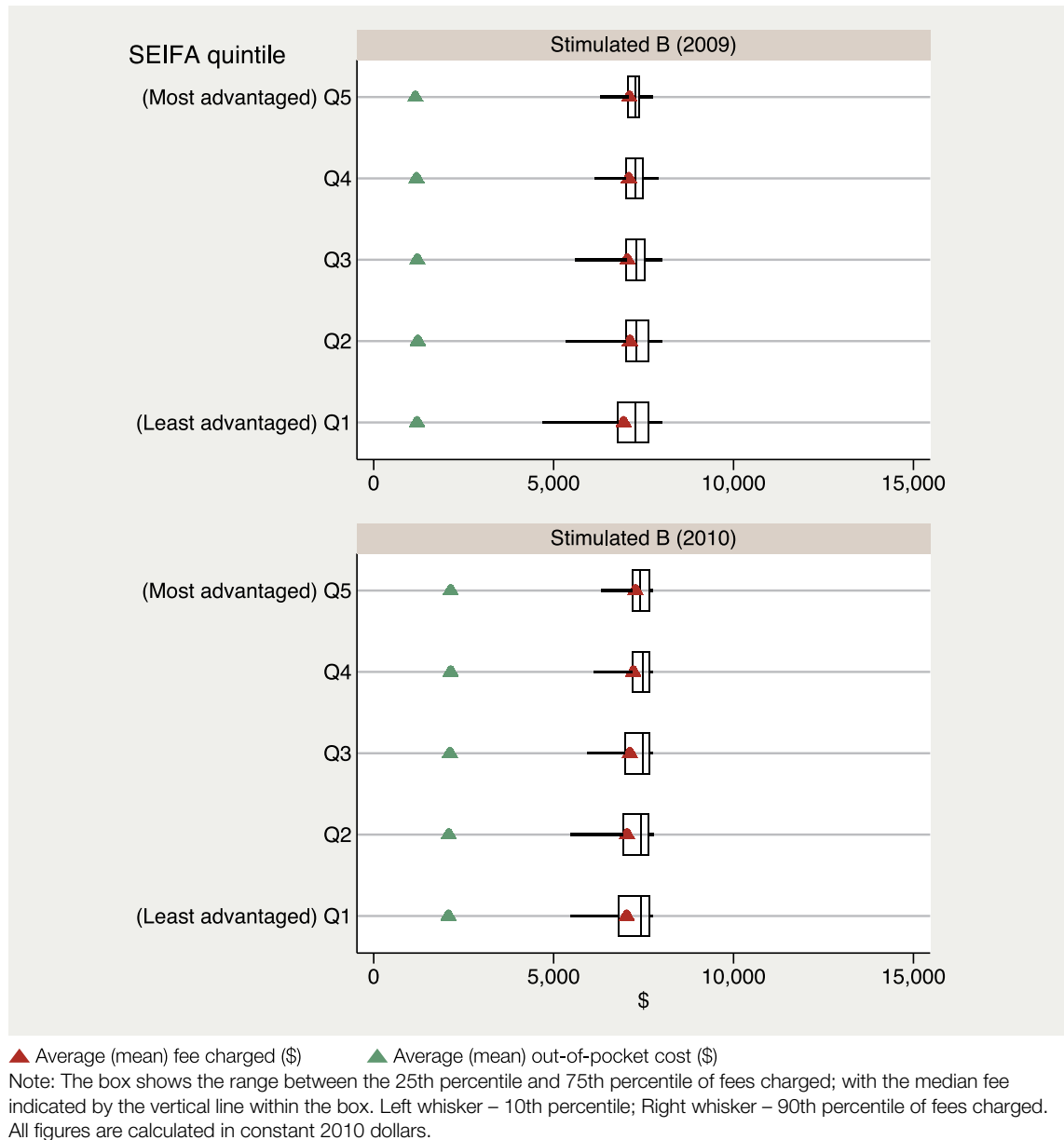


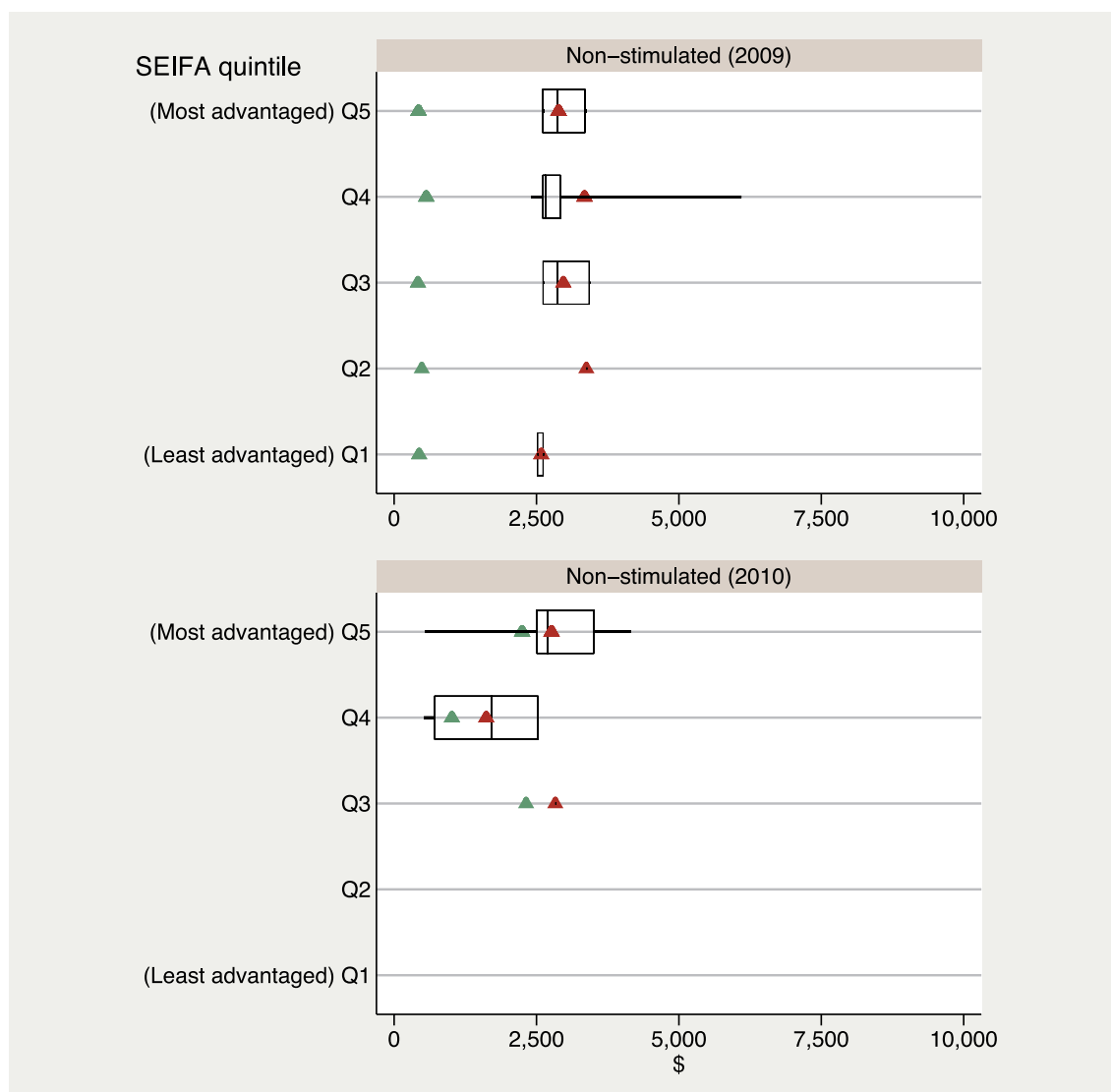
Figure 5.14 presents the modified box and whisker plot for non-stimulated cycles, which are the least common type of cycle with very few observations in some years and some quintiles. This causes the box and whisker plot to look as if it is incomplete; for example, when there are only three observations, the first observation will be both the bottom 10 per cent and 25 per cent (P10 and P25) and the last observation will be both the 75th percentile and 90th percentile fees resulting in a zero value for the left and right whiskers.

Prior to capping, the average provider fee is similar in the top, middle and bottom quintiles (about \$3,000). The long whisker for SEIFA Q4 needs to be interpreted with caution due to the small number of cycles (eight), the end of the right whisker reflects the maximum possible fee, which in this case was also the 90th percentile fee. After capping, non-stimulated

cycles were concentrated in quintiles 4 and 5, and fees fell. The fee charged to patients in SEIFA Q5 was around \$1,000 higher than those in SEIFA Q4.

In 2009, the average OOP cost was about \$400 – \$600 across quintiles. This increased to \$2,200 for those in the top quintile. Unlike stimulated, and frozen/donated embryo cycles, Medicare benefits for non-stimulated cycles were reduced; for SEIFA Q4, it dropped by over 80 per cent from \$2,800 to \$500 and for SEIFA Q5, it dropped by 75 per cent from \$2,500 to \$600. In the graph, this is depicted by the narrowing of the gap between the red and green triangles.

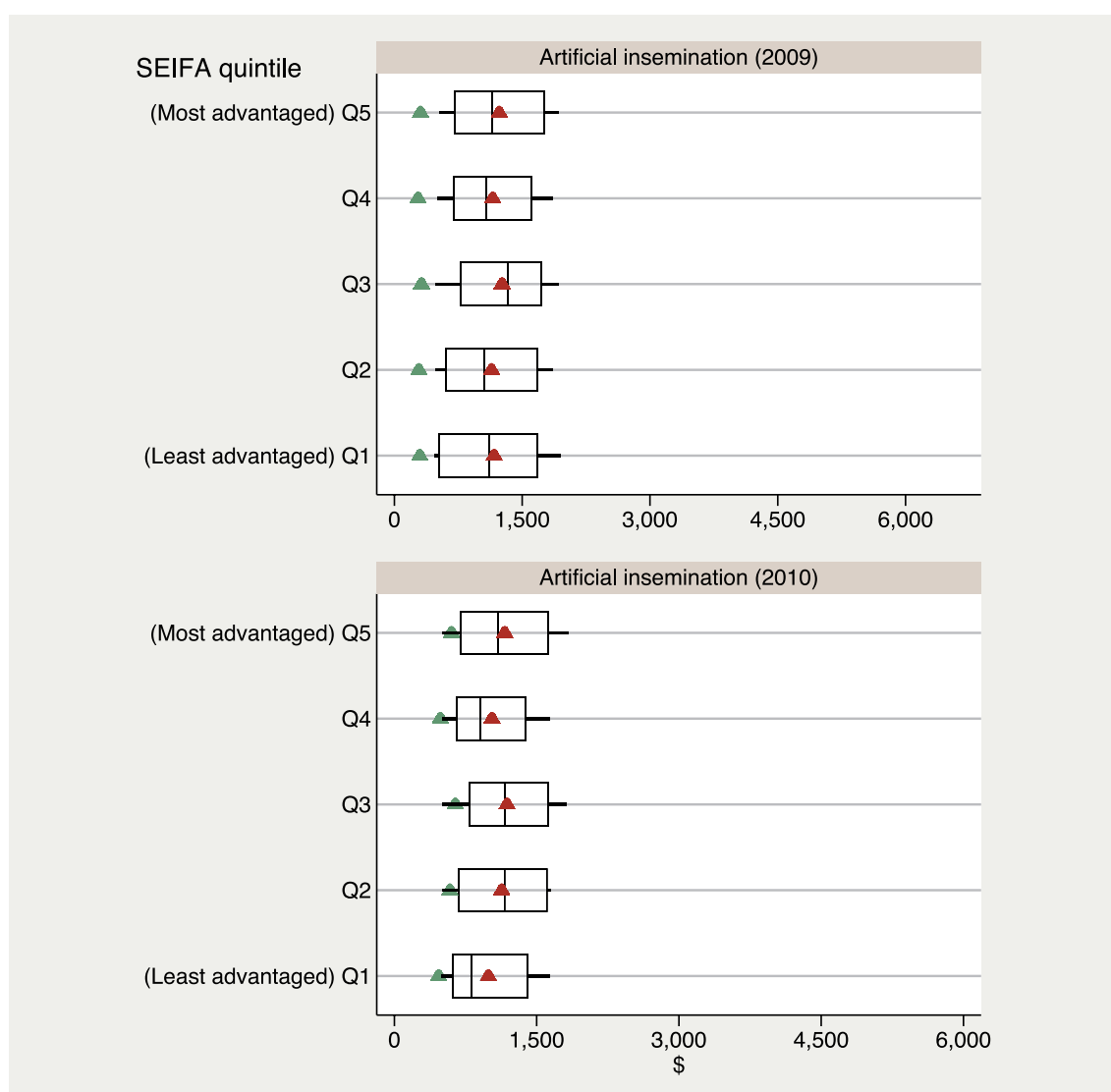
Figure 5.14: Provider fee distribution and average OOP costs for out of hospital services by socioeconomic area – 2009 and 2010 for Non-stimulated cycles in the patient sample



▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)
 Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

Figure 5.15 presents the modified box and whisker plot for artificial insemination cycles. Prior to capping, the fee distribution was very similar across quintiles. After capping, the median fee for SEIFA Q1 and Q4 fell by \$170 (15 per cent) and \$300 (27 per cent), respectively. For SEIFA Q1, its 25th percentile fee increased by 16 per cent, bringing the 25th percentile fee and the median fee closer together. Its upper tail was also shorter in 2010, with 90 per cent of cycles charged below \$1,700, \$300 less than what it used to be in 2009. Average OOP costs more than doubled for those living in SEIFA Q2 and SEIFA Q3. For those living in SEIFA Q1, OOP costs increased by 60 per cent.

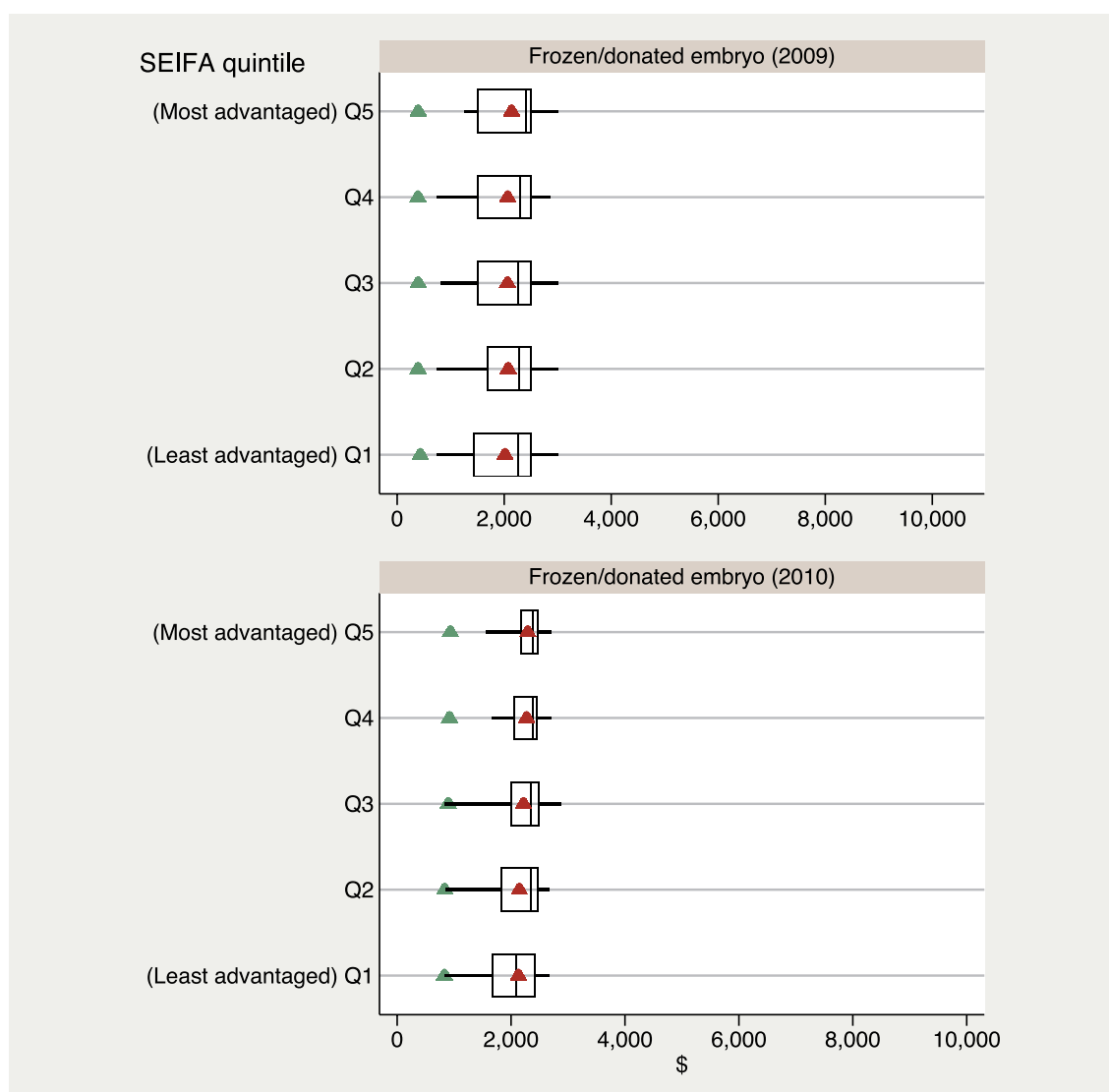
Figure 5.15: Provider fee distribution and average OOP costs for out of hospital services by socioeconomic area – 2009 and 2010 for artificial insemination cycles in the patient sample



▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)
 Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

Figure 5.16 presents the modified box and whisker plot for frozen/donated embryo cycles. Prior to capping, fee distribution was similar across quintiles with 50 per cent of cycles charged between \$1,400 and \$2,500. After capping, the fee distribution collapsed in most quintiles as the 25th percentile fee increased by 16 per cent in SEIFA Q1, nine per cent in SEIFA Q2, over 30 per cent in SEIFA Q3 and 44 per cent in SEIFA Q5. The median fee dropped by \$180 (eight per cent) for SEIFA Q1, and increased by about \$100 (four per cent) for SEIFA Q2-Q4. For SEIFA Q5, the median fee remained relatively stable. The average OOP cost increased rather uniformly across quintiles from \$400 to \$900 (125 per cent) and the Medicare benefits dropped by \$300 (17 per cent).

Figure 5.16: Provider fee distribution and average OOP costs for out of hospital services by socioeconomic area – 2009 and 2010 for Frozen/donated embryo cycles in the patient sample



▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)
 Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

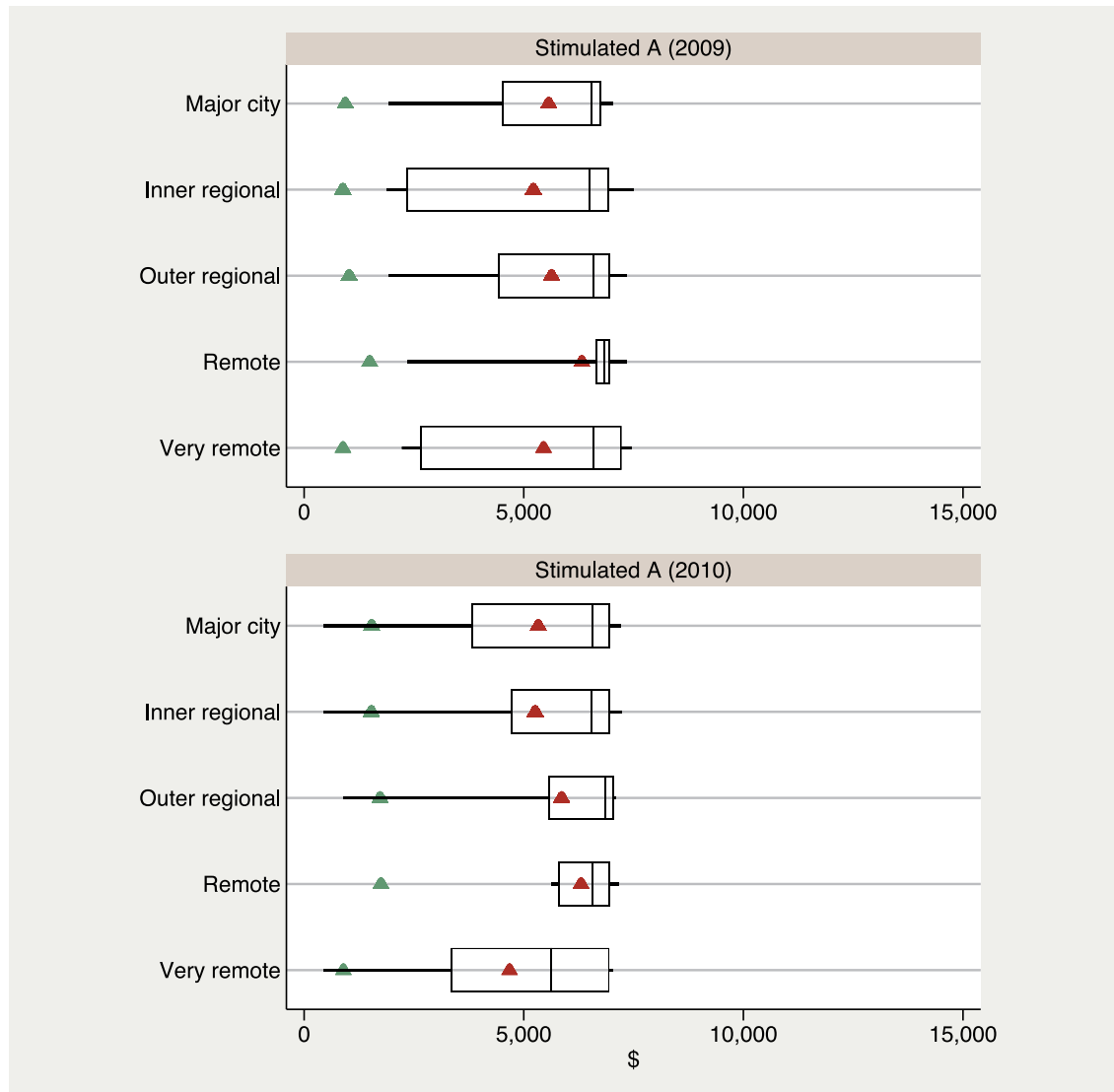
Fees and OOP costs by remoteness group

We analysed the provider fee distribution and average OOP cost by type of cycle and remoteness group.

Figure 5.17 presents the modified box and whisker plot for stimulated A cycles. The EMSN capping had the effect of condensing the provider fee distribution more around the median and average fees for those living in regional areas (inner and outer regions) and very remote areas. In inner regional areas, the range of fees charged to 50 per cent of cycles narrowed from over \$4,500 to just over \$2,000. Between 2009 and 2010 the 25th percentile fee increased by \$2,300 (100 per cent) in inner regions and by \$1,100 (26 per cent) in outer regions. The median and the 90th percentile fees also increased but by much less (one per cent and four per cent respectively). The variability in fees at the lower end increased. In the city, EMSN capping did not alter the median provider fee but the 90th percentile fee increased slightly. As in regional areas, the left whisker was lengthened as the 10th percentile fee fell by over 75 per cent to \$450. The number of cycles was relatively small in very remote and remote areas. In remote areas, the 10th percentile fee in 2010 was \$5,600, compared to \$450 – \$900 elsewhere. The average fee remained stable. In very remote areas, the average fee fell following capping.

The average OOP costs, prior to capping, were similar in major cities and regional areas. Remote areas had higher OOP costs as their fees were higher. The introduction of EMSN capping increased OOP costs both in the cities and regional areas. In 2010, the OOP cost of a stimulated A cycle increased to about \$1,600, except in very remote areas, where it remained unchanged at \$900.

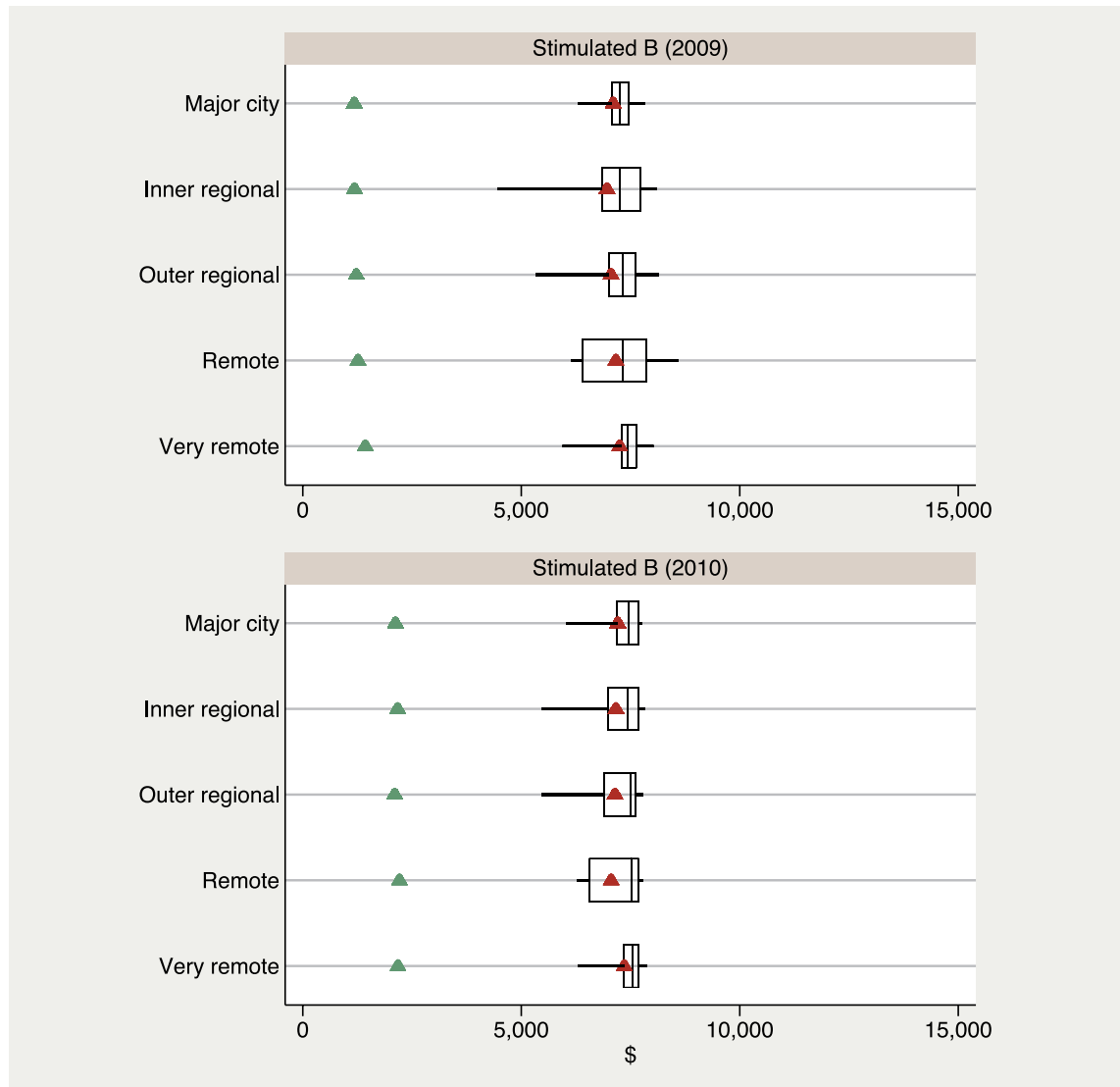
Figure 5.17: Provider fee distribution and average OOP costs for out of hospital services by remoteness group – 2009 and 2010 for Stimulated A cycles in the patient sample



▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)
 Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

Figure 5.18 presents the modified box and whisker plot for stimulated B cycles. There was hardly any variation in fee since the level prevailing in 2009. Average OOP costs doubled in all regions.

Figure 5.18: Provider fee distribution and average OOP costs for out of hospital services by remoteness group – 2009 and 2010 for Stimulated B cycles in the patient sample



▲ Average (mean) fee charged (\$)

▲ Average (mean) out-of-pocket cost (\$)

Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

Figure 5.19 presents the modified box and whisker plot for non-stimulated cycles. All non-stimulated cycles were used by those living in major cities and inner regions. Provider fees fell after capping. In 2009, the median and average fees in major cities were \$2,900 and \$3,000, respectively. In 2010, they fell by \$400. In major cities, average OOP costs in 2010 were five times their level in 2009.

Figure 5.19: Provider fee distribution and average OOP costs for out of hospital services by remoteness group – 2009 and 2010 for Non-stimulated cycles in the patient sample

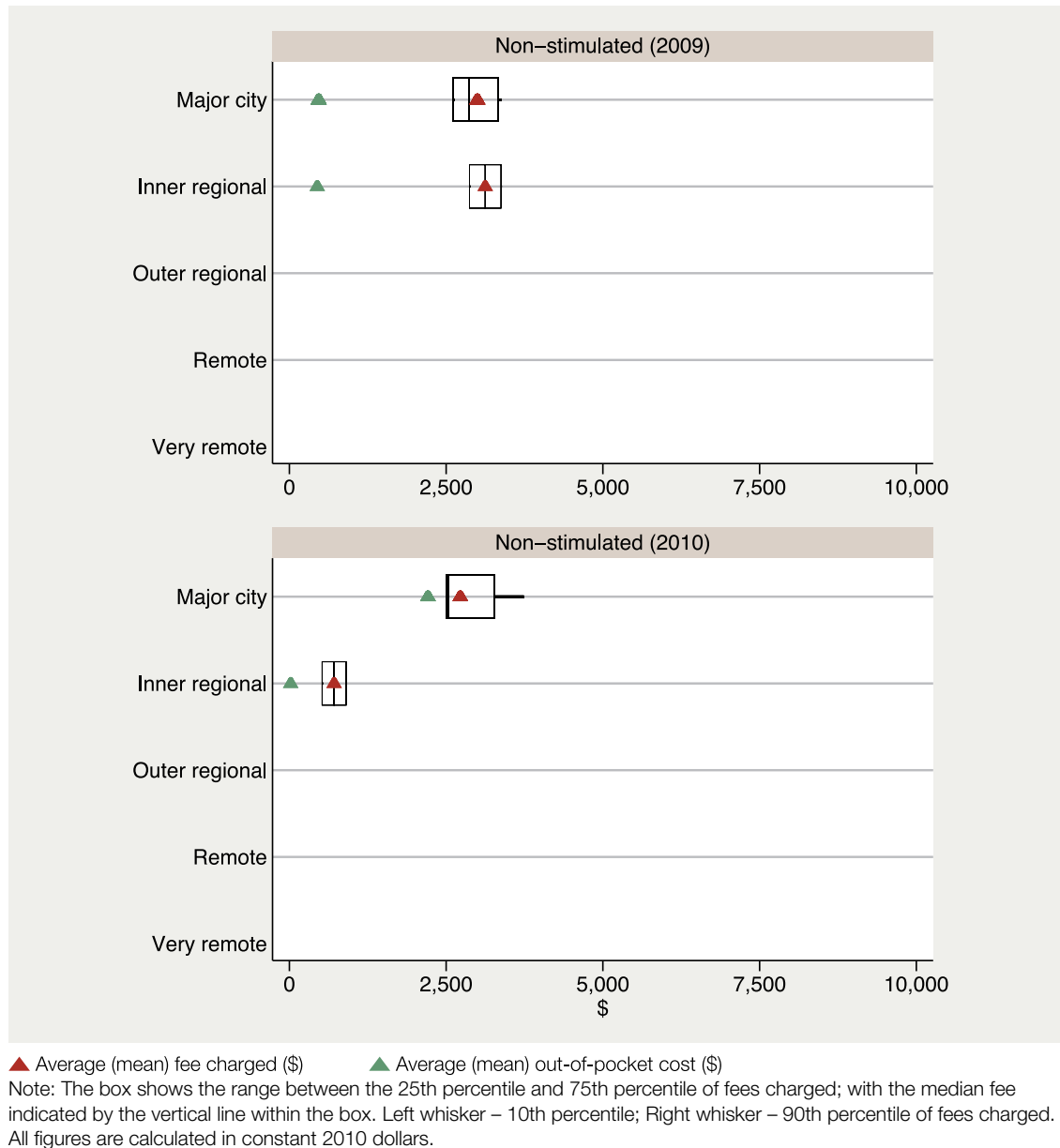
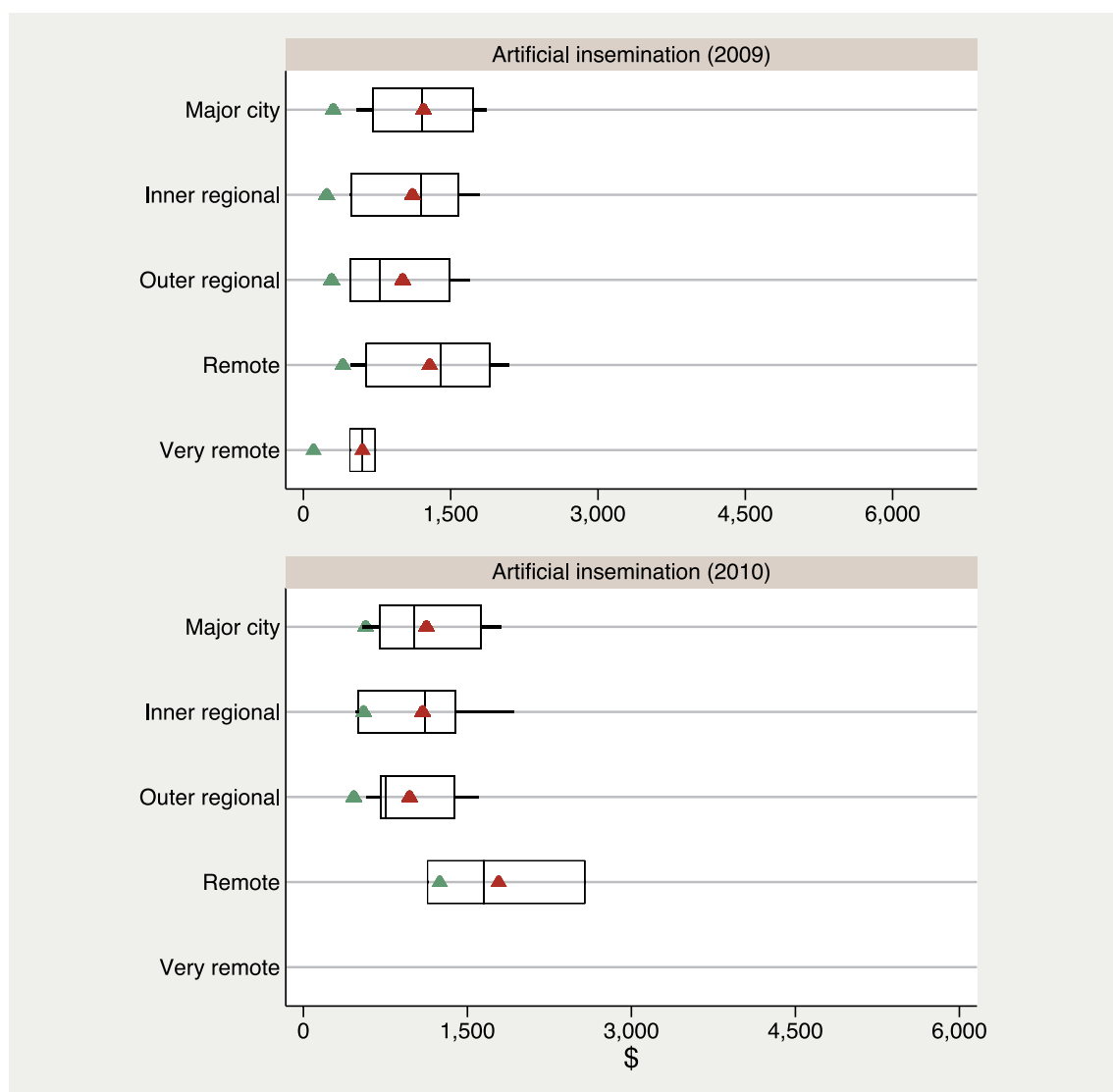


Figure 5.20 presents the modified box and whisker plot for artificial insemination cycles. Provider fees were higher for those living in remote areas. Prior to capping, the average provider fee in remote areas was \$1,300, whilst those provided in major city and regional areas (inner and outer regions) was about \$1,000. After capping, the average provider fee increased to \$1,800 in remote areas, while remaining relatively stable in city and regional areas. For those living in outer regions, the 25th percentile fee and median fee converged in 2010. The average OOP costs increased most dramatically for those living in remote areas.

Figure 5.20: Provider fee distribution and average OOP costs for out of hospital services by remoteness group – 2009 and 2010 for Artificial insemination cycles in the patient sample

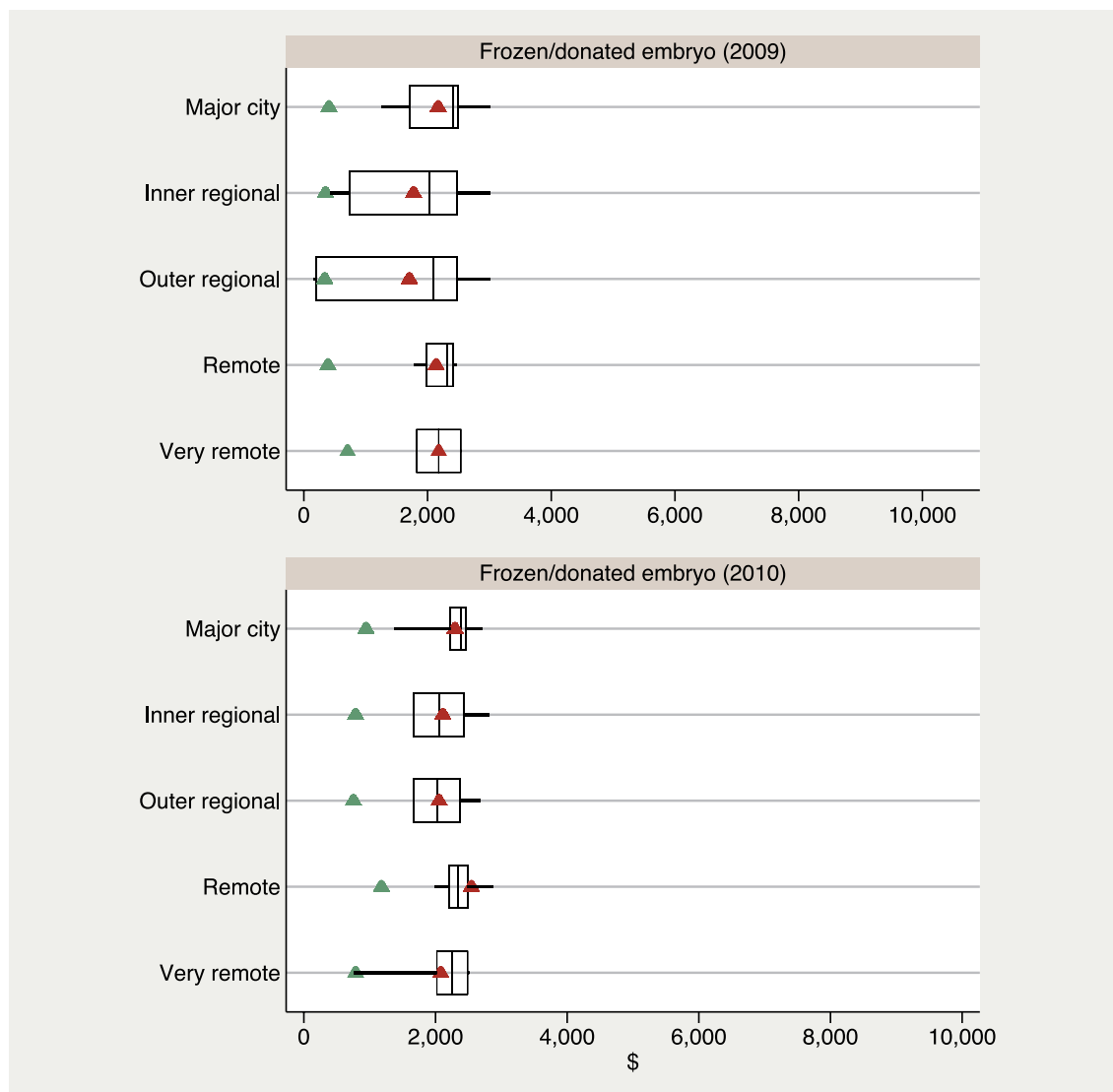


▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)
 Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

Figure 5.21 presents the modified box and whisker plot for frozen/donated embryo cycles. Prior to capping, there were some variations in low fees. In 2009, the 25th percentile fee in major city, inner region, outer region, remote and very remote areas was \$1,700, \$750, \$190, \$2,000 and \$1,800, respectively. Following capping, the fee distribution became more condensed following the increase in the 25th percentile fee. City, remote and very remote areas, had a 25th percentile fee of about \$2,200 in 2010, while regional areas had a lower 25th percentile fee of \$1,700. In the city and regional areas, median and higher provider fees also increased in 2010, but the change was less dramatic than the changes that occurred in the lower part of the distribution. Due to the small number of cycles in very remote areas, care needs to be taken in interpreting this data.

Average OOP costs increased everywhere. For very remote however, the increase in OOP costs is marginal. In remote areas, average OOP costs doubled (\$400 to \$1,200), and in regional areas, average OOP costs increased from \$350 to nearly \$800 (125 per cent). In the city, it increased by 130 per cent to \$950.

Figure 5.21: Provider fee distribution and average OOP costs for out of hospital services by remoteness group – 2009 and 2010 for Frozen/donated embryo cycles in the patient sample



▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)
 Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

This review could not examine the fees, Medicare benefits and OOP costs per successful pregnancy because Medicare data does not collect this information. However, as noted by providers, ART success rates are an important determinant of the number of cycles required for a successful pregnancy, and on the cost to government and patients for every birth. See Appendix B for further information.¹⁹

5.5 Capped group – obstetrics

The demand for private obstetrics is presented in Table 5.14, which shows the number of private confinement claims between 2000 and 2010. The table provides annual figures as well as June and October for confinements to allow comparison with the sample data used below. The annual figures show an increase in the number of private confinements in 2001 and 2002, reflecting the large increases in private health insurance membership at that time. Following the introduction of the EMSN, annual growth rates were a very steady two per cent per annum, although it should be noted that no growth occurred in 2009. In 2010, following the introduction of EMSN capping, the number of private confinement claims fell by four per cent.

Table 5.14 reveals that in 2010 the June private confinements were steady compared to June 2009 but the October number fell by 13 per cent. It should be noted that the October figures represent a pregnancy where the entire episode of care would have occurred in the 2010 calendar year whereas the June confinements represent a pregnancy where at least some part of the pregnancy occurred in 2009. Whilst the monthly June and October figures are generally more volatile when compared to the annual number of private confinement claims, the figures in Table 5.14 provide some indication that the effect of EMSN capping may have become more pronounced as the 2010 calendar year progressed.

Table 5.14: Number of private confinements and annual percentage change – June, October and annual

Year	June		October		Annual	
	Services claimed	% change	Services claimed	% change	Services claimed	% change
2000	5,762		6,430		70,816	
2001	6,429	12	7,607	18	79,714	13
2002	6,768	5	7,378	-3	84,210	6
2003	6,852	1	7,501	2	81,929	-3
2004	6,224	-9	6,934	-8	81,906	0
2005	6,963	12	7,342	6	85,092	4
2006	6,944	0	7,584	3	87,007	2
2007	7,199	4	7,721	2	88,515	2
2008	7,045	-2	8,103	5	90,204	2
2009	7,556	7	8,080	0	90,441	0
2010	7,571	0	7,042	-13	86,919	-4

Based on Medicare claims for items 16515 to 16522.

The unit of analysis in the remaining section of the review is an episode of care where all items within the episode are capped. In the case of obstetrics, an episode of care is a pregnancy period. Following the Department's recommendation, we define antenatal care as use of obstetric services within 10 months (300 days) prior to birth.²⁰ The following items identify birth: management of vaginal delivery (item 16515), management of labour that results in a transfer to another medical practitioner for delivery (item 16518), management of labour and delivery by any means, including Caesarean section (item 16519), Caesarean section where the patient is transferred by another medical practitioner (item 16520) and management of labour and delivery with complication(s) (item 16522). See Appendix A of this review for more information on the Medicare rebate and EMSN cap amounts for obstetric services. The data for obstetrics is based on patient-level data with masked identifiers, meaning that individual patients have not been identified. These data are restricted to a sample of patients who had a private confinement (that is, a birth in the private sector) in either June or October from 2006 to 2010. Data for 2010 public confinements were not available at the time of writing this review.

We excluded data from earlier years as there was little information on fees charged for planning and management of pregnancy prior to the introduction of a specific item (16590) in 2004. As this section is focused on the impact of capping for women who used private obstetric services, women who had previously used ART services were excluded from the analysis. It is recognised that the impact of capping may be different for women who use both ART and private obstetric services. To some extent, the impact on women who utilise both ART and private obstetric services will depend on whether both the episodes of care take place over a single or multiple calendar years. However, it is likely that those who access ART and private obstetric services will face the impact of capping twice.

The remainder of this section is based on our patient sample data. We present our analysis of the:

- number of births in private confinements by month of birth and type of pregnancy (normal or complex);
- number of services by month of birth and type of pregnancy (normal or complex), in and out of hospital;
- overall change in provider fee and OOP costs distribution, out of hospital by month of birth and type of pregnancy (normal or complex);
- number of births in private confinements by SEIFA and remoteness area group; and
- provider fee and OOP costs distribution, out of hospital by SEIFA and remoteness group for each type of pregnancy (normal or complex).

Distinguishing births in June and October serves two purposes. Firstly, those who give birth earlier in the year may have a different utilisation pattern of obstetric services than those who give birth later in the year. Secondly, a birth in June involves obstetric services in two consecutive years, whilst all obstetric services during a pregnancy episode for a birth in October occur within a single year. For 2009 and 2010, this means that a birth in June 2010 used obstetric services when they were uncapped in the later months of 2009. On the other hand, a birth in October 2010 used only obstetric services when the EMSN cap had already been in place. For this reason, pregnancies that resulted in October 2010 births will give us a clearer picture of changes in outcomes following capping. Meanwhile, the June 2010 births may include the effect of providers' anticipatory behaviour in the last few months of 2009 prior to the beginning of capping in 2010.

20. The following MBS items were used to define antenatal care: 23, 36, 104 and 105, (when provided by an obstetrician), 16400-16514, 55700, 55703 – 55729 (inclusive).

To categorise types of pregnancies, we use item 16522 (management of labour and delivery with complication(s)) as a proxy for identifying patients who are likely to experience complex pregnancy or delivery. This item is used for the management of labour and delivery when one or more conditions are present including prolonged labour, multiple pregnancies and pre-existing conditions, such as diabetes and hypertension, which may lead to complications during delivery. Patients in the sample who had this item are categorised as having ‘complex’, as opposed to ‘normal’ pregnancies. Patients with multiple births during the sample period (2006 – 2010) are classified as complex if they ever had this item. Complex pregnancies may require more services.

Table 5.15 presents the number of pregnancies from our sample that resulted in a birth following private confinement between 2007 and 2010, inclusive. The number of pregnancies that resulted in June births increased modestly between 2007 and 2009. After the introduction of EMSN capping in 2010, the number fell by one per cent from the previous year’s level. This was largely attributable to the fall in the number of normal pregnancies. The number of October births had also been trending upwards prior to the introduction of capping. However, unlike June births, this number fell considerably in 2010 (by 14 per cent), with normal births again dominating the decline. This could reflect a fall in demand as capping increased the costs of a private confinement. As the overall number of normal births for private patients fell, the complex to normal pregnancies ratio went up from 0.50 in 2007 to 0.57 in 2009 to 0.61 in 2010. Although small, this growing share of complex pregnancies suggests a greater substitutability of public and private confinement for normal pregnancies. However, as data on public confinements for 2010 are not yet available we are unable to make an assessment of shifts from private to public care in this review.

Table 5.15: Number of private confinements by month of birth and type of pregnancy in the patient sample

Year	June births			October births		
	Normal	Complex	Total	Normal	Complex	Total
2007	4,179	2,177	6,356	4,628	2,268	6,896
2008	4,119	2,110	6,229	4,782	2,408	7,190
2009	4,194	2,438	6,632	4,620	2,589	7,209
2010	4,023	2,517	6,540	3,870	2,295	6,165

Note: year refers to the year in which birth occurred. Also note that the numbers reported in Table 5.15 do not match those in Table 5.14. This is due to differences in the methodology used to extract the data. The data reported in Table 5.15 excludes multiple private confinement claims and women who have previously used ART services.

Table 5.16 presents the number of services (sum of claimed items) performed in and out of hospital for each type of pregnancy. For normal pregnancies, in hospital services were mostly the birth event; so the number of services is close to the count of pregnancies in Table 5.15. On the other hand, most complex pregnancies involved multiple in hospital service items. The three most common in hospital services were admission due to pregnancy complications (item 16508), treatment of preeclampsia, eclampsia or antepartum haemorrhage (item 16509) and antenatal cardiotocography for high risk pregnancy (item 16514). Similarly for services provided out of hospital, on average, complex pregnancies involved one or two more services than normal pregnancies.

Following the introduction of EMSN capping, for pregnancies resulting in June births, the number of obstetric services provided in hospital fell by five per cent for both types of pregnancy. On the other hand, the total number of services provided out of hospital increased, driven largely by complex pregnancies. Prior to capping, the ratio of the number of services per pregnancy was 19. In June 2010, there were an additional 79 complex pregnancies and an additional 2,117 services compared to June 2009. This gave a service per pregnancy episode ratio of 27, but some of these services might have been obtained prior to capping. The increase in the number of services per pregnancy episode may explain why we did not find a significant change in the number of obstetric services per capita reported in Section 4.11, even though the number of private births had declined.

For October births, there was a reduction of 14 per cent in the total number of services used in the in and out of hospital setting. Services used in normal pregnancies fell by 16 per cent while services for complex cases fell by a smaller rate of 11 per cent.

Table 5.16: Number of in and out of hospital services by month of birth and type of pregnancy in the patient sample

Year	In hospital services					
	June births			October births		
	Normal	Complex	Total	Normal	Complex	Total
2007	5,110	4,117	9,227	5,547	4,204	9,751
2008	5,057	3,992	9,049	5,797	4,147	9,944
2009	5,150	4,596	9,746	5,791	4,642	10,433
2010	4,921	4,292	9,213	4,835	4,087	8,922
Year	Out of hospital services					
	June births			October births		
	Normal	Complex	Total	Normal	Complex	Total
2007	71,072	40,346	111,418	79,851	41,473	121,324
2008	70,039	38,738	108,777	81,968	44,394	126,362
2009	71,748	45,318	117,066	80,904	48,633	129,537
2010	70,583	47,435	118,018	67,346	43,597	110,943

Note: year refers to the year in which birth occurred.

Figure 5.22 presents changes in the distribution of total provider fees for antenatal services provided out of hospital leading to a private confinement, by month of birth and type of pregnancy over time. As in the previous analysis for ART (Section 4.4), the horizontal axis is set at a maximum level of \$8,000 (top-coded). The prevalence of fees above \$8,000 is indicated as a vertical line at \$8,000.

The plots for normal and complex pregnancies exhibit a similar pattern. There were small provider fee increases to 2009, the dotted line corresponding to fees in 2009 is hardly visible as, for most of the time, it coincides with the solid line representing fees in 2010.

In 2007, 50 per cent of all pregnancies were charged under \$2,900 and 10 per cent of pregnancies were charged over \$4,900. These fees increased by \$200 and \$300 in 2008. In 2009, the provider fee distribution shifted further to the right, with a relatively larger shift in the middle of the distribution. Compared to 2007 and 2008, there was almost no change in the fee for the bottom (cheapest) 10 per cent of cases (P10 fee) for both

normal and complex pregnancies. These services were charged less than \$700. Fifty per cent of all pregnancies were charged under \$3,300 and 10 per cent of pregnancies were charged over \$5,400. In 2010, fees for normal and complex pregnancies combined remained largely unchanged, however, there is some evidence that fees amongst the top 25 per cent of provider charges fell as the 2010 year progressed. The fee at the 75th percentile for pregnancies with October births decreased by \$191 to \$4,405 in 2010, when compared to 2009 October pregnancies.

The stable provider fee is different from the pattern of average provider fee for obstetrics in Section 3.6, which showed a significant drop from its level in December 2009. As previously discussed, the average fee in December 2009 might be higher than expected due to a provider's strategy to bring forward high cost items, such as the planning and management items (items 16590 and 16591) which cost almost ten times more than any other obstetrics item, to avoid capping in 2010. In the patient-level data, we also observed this kind of anticipatory behaviour. Among the June births, the proportion of item 16590 provided in December was five times higher for births in 2010 than it was for births in any other comparator years. Correspondingly, the proportion of item 16590 (and 16591) provided in January 2010 was lower. We do not observe a significant drop in provider fees here because the fee per pregnancy episode is not affected by timing of services within an episode. In contrast, provider fee per service, which was analysed in Section 4 was affected by the timing of the service.

Figure 5.22: Cumulative distributions of provider fees for out of hospital antenatal services over time by month of birth and type of pregnancy in the patient sample

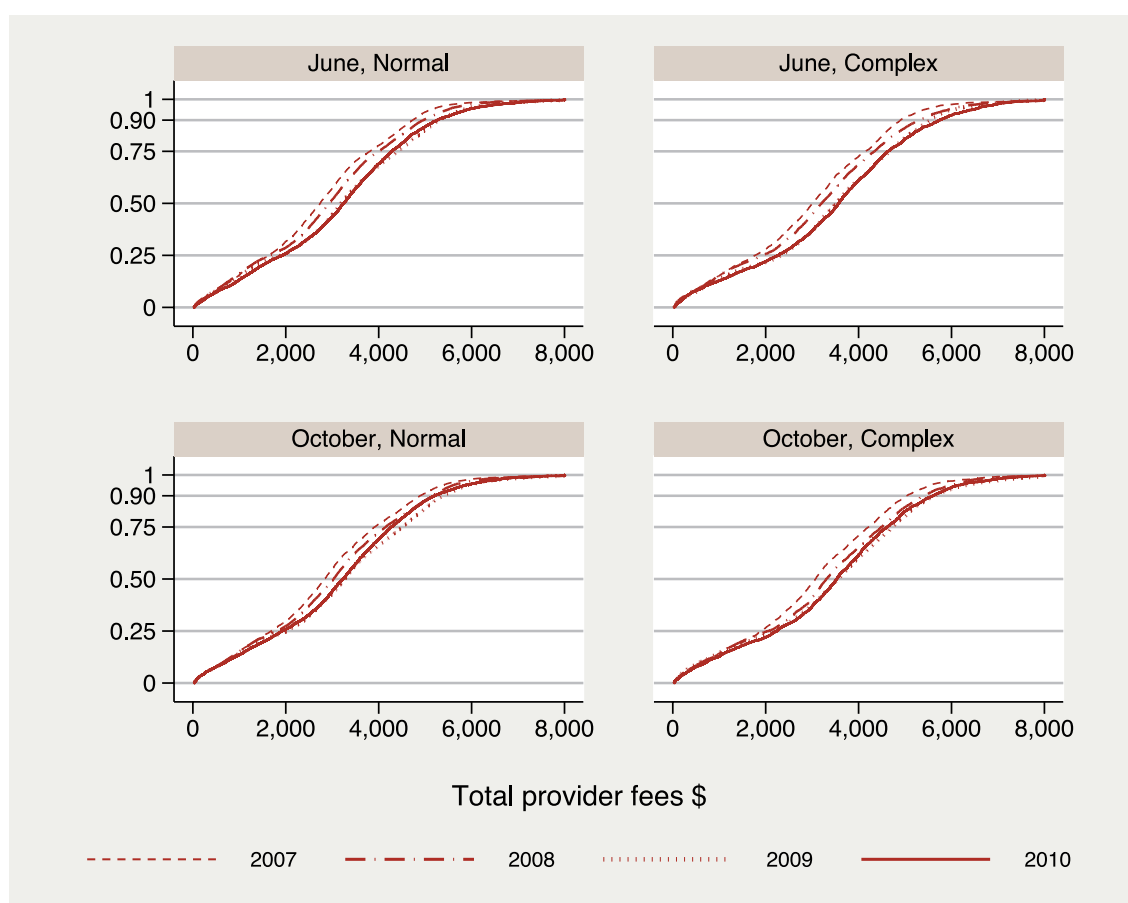
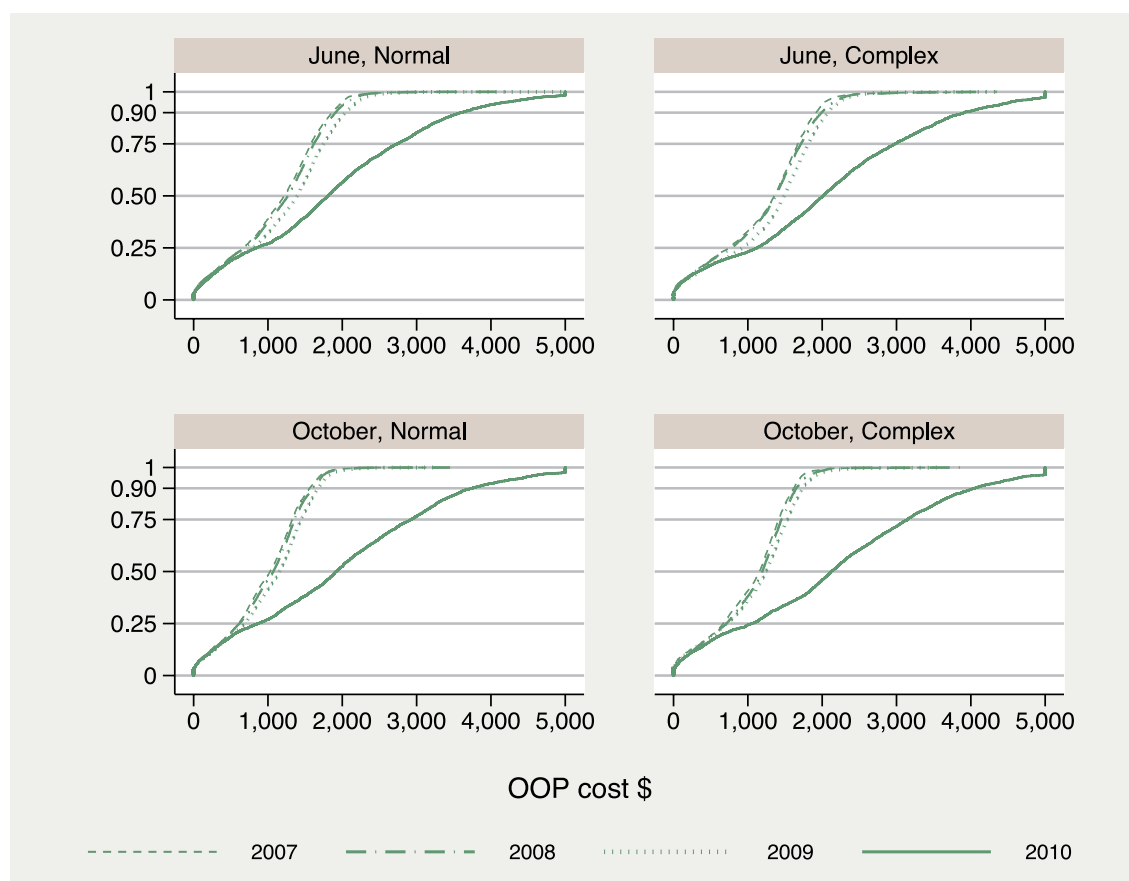


Figure 5.23 presents the cumulative density plots of OOP costs by month of birth and type of pregnancy over time for antenatal services provided out of hospital. The OOP costs on the horizontal axis are top-coded at \$5,000. The prevalence of OOP costs above this level is indicated as a vertical line at \$5,000.

Figure 5.23: Cumulative distributions of OOP costs for out of hospital antenatal services over time by month of birth and type of pregnancy in the patient sample



After capping in 2010, OOP costs increased markedly, especially for those who were in the upper half of the distribution. For normal pregnancies, regardless of month of birth, there was little change in OOP costs for the bottom 25 per cent compared with the 2008 level. For complex pregnancies, the bottom 20 per cent OOP costs was stable. For both types of pregnancies, the median OOP costs increased by about 50 per cent, the 75th percentile OOP cost increased by 80 per cent, and the 90th percentile OOP cost doubled (100 per cent). In 2010, 10 per cent of pregnancies involved at least \$3,700 in OOP costs if normal and \$4,000 if complex. In 2008, these figures were \$1,700 for both pregnancy types.

Below the median fee, there is a difference in OOP costs by month of birth. For both types of pregnancy, the increases in OOP costs for June births were more modest than those for October births. This could be explained by the June 2010 births being partly covered by the EMSN; the pregnancy episode would have started around October 2009 (three months before the cap applied).

Table 5.17 presents the distribution of the number of private confinements by socioeconomic quintile. Pregnancies that resulted in births at private confinements are concentrated in the top socioeconomic quintile. Prior to the introduction of capping the number of births was increasing over time for all quintile groups. Following capping, the number of births at private confinements dropped by 14 per cent in SEIFA Q1, 17 per cent in SEIFA Q2, and eight per cent in the top three quintiles.

Table 5.17: Number of private confinements by SEIFA quintile in the patient sample

Year	SEIFA Q1 (Least advantaged)	SEIFA Q2	SEIFA Q3	SEIFA Q4	SEIFA Q5 (Most advantaged)
2007	643	1,075	2,225	4,074	6,563
2008	640	1,137	2,247	4,147	6,553
2009	634	1,214	2,360	4,292	6,660
2010	546	1,010	2,178	3,947	6,156

Note: year refers to the year in which birth occurred. Discrepancy with the total numbers in Table 5.15 is due to observations with missing quintile information (930 observations or 1.6%).

Table 5.18 presents the distribution of the number of private confinements by remoteness groups. Around two thirds of the population reside in major cities and over 79 per cent of all private confinements fall in this area. Following the introduction of capping, the number of private confinements fell across all regions. Note that this data is based on a sample of private confinements that occurred in June and October of each year and does not include public confinements, which are not observed in Medicare data.

Table 5.18: Number of private confinements by remoteness group in the patient sample

Year	Very remote	Remote	Outer regional	Inner regional	Major city
2007	69	157	1,035	1,869	11,662
2008	82	155	1,118	1,914	11,678
2009	73	157	1,075	1,975	12,098
2010	66	137	906	1,801	11,153

Note: year refers to the year in which birth occurred. Discrepancy with the total numbers in Table 5.15 is due to observations with missing remoteness information (51 observations or 0.9%).

Figure 5.24 presents a modified box and whiskers plot of provider fees for normal and complex pregnancies across socioeconomic quintiles. We focus on October births in 2008 and 2010. Provider fees for complex pregnancies exhibit smaller variation than fees for normal pregnancies, especially for the top socioeconomic quintile (SEIFA Q5).²¹ Prior to capping, fees for normal pregnancies were greater for SEIFA Q5. The median provider fee was \$3,600 in SEIFA Q5 and \$2,000 in the bottom socioeconomic quintile (SEIFA Q1). This difference is statistically significant. Similarly for complex pregnancies, the median fee in SEIFA Q5 was \$3,900, \$1,700 higher than that in SEIFA Q1.

Indeed, the average fee for both types of pregnancies was significantly higher in SEIFA Q5 than in any other quintiles. The introduction of EMSN capping in 2010 increased the median fees for those in SEIFA Q2, Q3 and Q4 by about \$220 for normal births while leaving the 25th percentile fee and the 75th percentile fee level largely unchanged. For complex pregnancies, those in SEIFA Q1 experienced a fee increase of \$400 and those in SEIFA Q2 by \$600. The fee distribution for those in SEIFA Q5 appeared unaffected by EMSN capping.

The average OOP cost increased following capping. For mothers with normal pregnancies from the lowest three socioeconomic quintiles, the average OOP cost increased by \$400 to \$600 (50 per cent). For complex pregnancies, the average OOP costs increased by \$700 to \$1,000 (67 per cent to 75 per cent), depending on socioeconomic area. For those in the top two socioeconomic quintiles, the rise in OOP costs was greater. Those in the fourth socioeconomic quintile experienced an \$800 (85 per cent) increase in OOP costs for normal pregnancy and a \$1,044 (104 per cent) increase for complex pregnancy. Those in the top socioeconomic quintile experienced a \$1,400 (115 per cent) increase in OOP costs for both type of pregnancy.

Figure 5.24: Provider fee and OOP cost distributions for out of hospital antenatal services across socioeconomic areas (SEIFA quintiles) by type of pregnancy resulting in October births in the patient sample

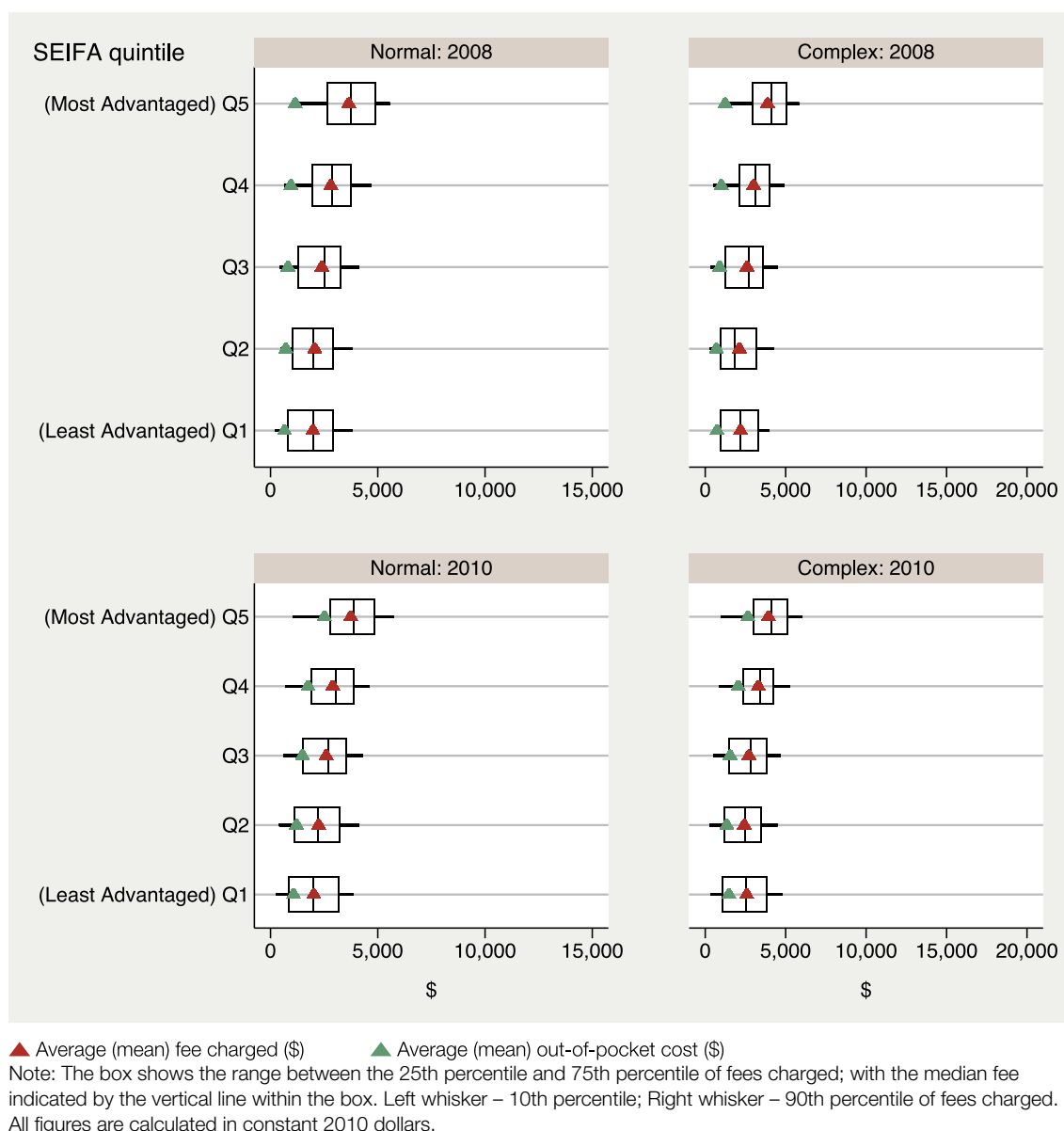
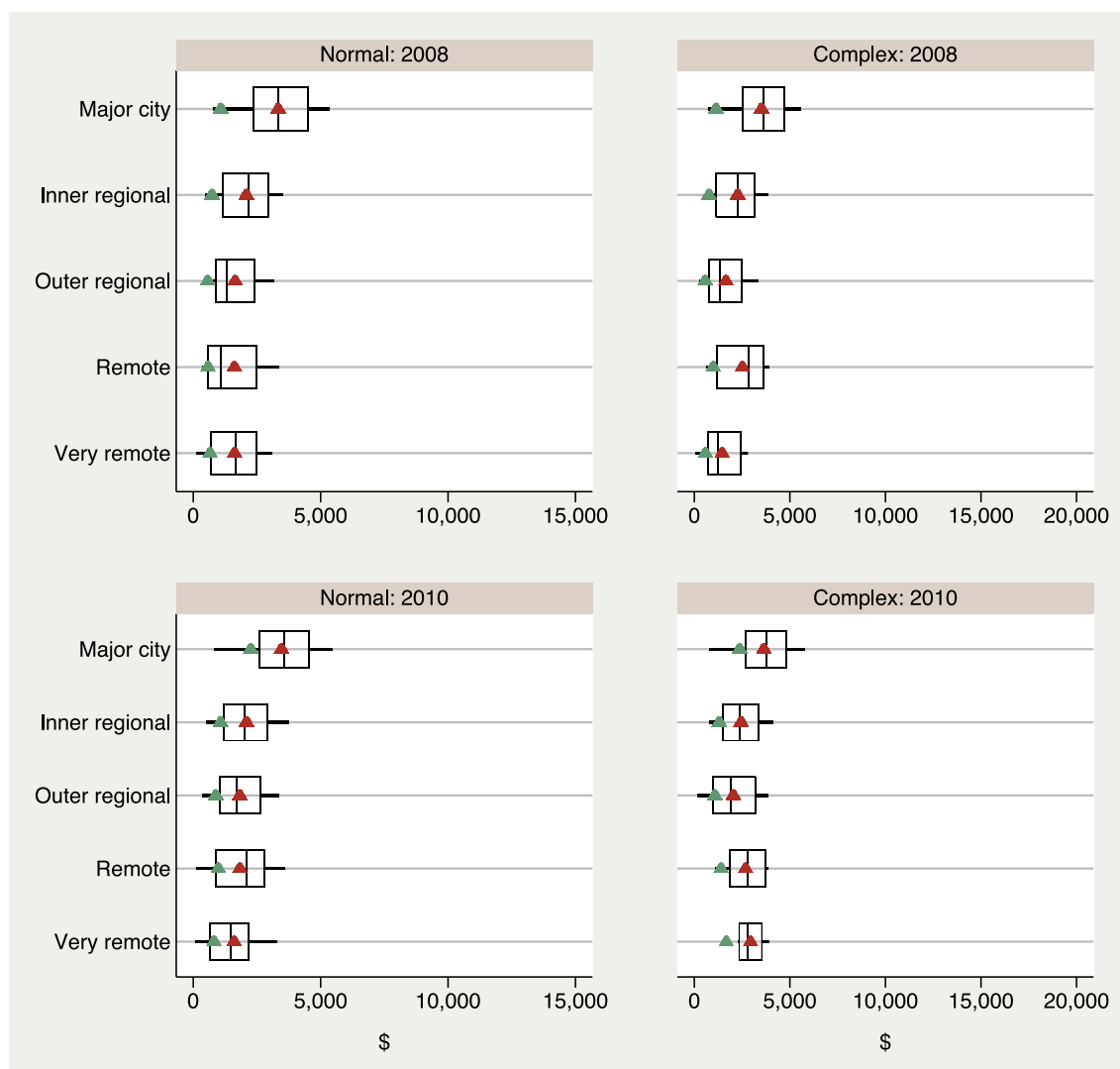


Figure 5.25 presents a modified box and whiskers plot of provider fees for normal and complex pregnancies across remoteness groups. For both normal and complex pregnancies, fees are significantly greater for those living in major cities. In 2008, for normal pregnancies, the average provider fee was \$3,300 in major cities, \$2,000 in inner regions and less than \$1,600 in outer regions and \$1,300 in remote and very remote areas. Similarly for complex pregnancies, the average provider fee in SEIFA Q5 was \$3,500 (\$400 to \$2,000 higher than that in other areas).

Following EMSN capping in 2010, provider fees remained stable in major cities and increased in other areas. This is most likely due to the increases in MBS fees in 2010. However, there was a very small number of complex pregnancies in very remote areas in the data.

The average OOP costs for normal pregnancies increased by about \$300 to \$400 outside cities and \$1,200 in major cities. For complex pregnancies, average OOP costs increased by about \$500 in regional and remote areas and \$1,200 in major cities.

Figure 5.25: Provider fee and OOP costs distributions for out of hospital antenatal services across remoteness groups by type of pregnancy resulting in October births in the patient sample



▲ Average (mean) fee charged (\$) ▲ Average (mean) out-of-pocket cost (\$)

Note: The box shows the range between the 25th percentile and 75th percentile of fees charged; with the median fee indicated by the vertical line within the box. Left whisker – 10th percentile; Right whisker – 90th percentile of fees charged. All figures are calculated in constant 2010 dollars.

Services provided by eligible midwives

From 1 November 2010, Medicare benefits became payable for antenatal, intra-partum and postnatal services conducted by eligible privately practising midwives working in collaboration with a medical practitioner. These new MBS items were introduced with EMSN benefit caps and are therefore within the scope of this review.

In the two months between MBS listing and the end of our observation period on the 31 December 2010, 147 midwifery items were claimed. The low number of claims is to be expected for items that have just been introduced into the MBS. For those 147 items, the average fee was \$204.69 and the average Medicare benefit was \$102.12 (including \$7.18 in EMSN benefits). The average OOP cost was \$102.58. Due to the legislated timetable of this review, it is too early to assess the effect of the EMSN and EMSN caps on midwife services.

5.6 Conclusion – the impact of EMSN capping

In this part of the review we examined the impact of capping arrangements on provider fees and OOP costs. In addition we also examined the impact of EMSN caps on service utilisation. The focus of this section was on those MBS items where EMSN benefits were capped in January 2010. We employed several strategies to ensure that we could attribute changes to the capping policy. Nevertheless, the findings should be interpreted with caution. In particular, due to the timing of this review (as set out in legislation) we only have access to one year's worth of data post the introduction of EMSN caps. It is likely that the impact of caps has not yet been fully observed and that, as happened with the introduction of the EMSN itself, it will require data over a longer observation period to be able to make definitive conclusions about the true impact of the policy change.

Notwithstanding these limitations, we summarise the main findings for each of the capped items and service groups below.

Varicose veins treatment by sclerotherapy (capped item 32500)

The vast majority (over 99 per cent) of claims for the capped varicose veins item are for services provided out of hospital. The number of out of hospital services in 2010 fell by nine per cent from the previous year's level, whereas the number of services performed in hospital increased marginally. Furthermore, in our analysis of uncapped varicose veins item 32504 (multiple excision of varicose veins) we find that there was a near doubling of claims in 2010, although this uncapped item accounted for only 4.3 per cent of all vascular procedure items. Whilst it is too early to tell whether there is a substitution across service setting (from out of hospital to in hospital) or across items (from capped to uncapped) this issue may require future monitoring.

For the capped item, provider fees at the median and above fell for services provided out of hospital. The largest fall was for the 90th percentile fee, which fell by 33 per cent. In 2010, provider fee levels for the uncapped item also fell at all points of the distribution, but it should be noted that fees for this uncapped item were much higher than the capped item. This finding makes it difficult to identify the direct impact of capping arrangements for the capped varicose veins item, but it is consistent with the notion that some providers were substituting services and fees away from the capped and towards the uncapped item.

OOP costs for services charged below the median fee were relatively stable, while the OOP costs for services charged above the median fee continued to rise.

Cataract surgery (capped item 42702)

Only four per cent of cataract surgeries claimed under this item were claimed as out of hospital services in 2010. The remainder were billed as in hospital services where neither the EMSN nor EMSN caps apply. With the surgery being performed and billed in both in and out of hospital settings, providers may be able to substitute between the two settings. However, our ability to examine the impact of EMSN caps is complicated by the reduction in the MBS fee for this item (see page 55 for details) that occurred in November 2009.

In 2010, the total number of cataract surgery items claimed under MBS item 42702 declined by 7.5 per cent from the previous year's level. However, the drop was relatively greater in the out of hospital setting (23 per cent) compared to the in hospital setting (6.8 per cent).

Provider fee levels at all points of the distribution fell for services provided out of hospital but particularly so for fees charged at the median and above (reductions of around \$500). By contrast, fees for this item in the in hospital setting remained relatively stable in 2010. Despite the drop in fees, OOP costs for services charged below the median fee increased by at least \$100 (50 per cent) within a year. This is likely to have been caused by changes in the MBS fee, rather than capping arrangements. For services charged above the median provider fee, OOP costs returned to their pre-EMSN levels, an increase of 100 per cent or more.

In the analysis, we also examined a complementary anaesthetic procedure for lens surgery (item 20142) which showed a rapid increase in provider fees. The 90th percentile fee for out of hospital services increased by 400 per cent (from under \$500 to nearly \$2,000) for this item. Fees for in hospital services remained stable for this anaesthetic item. This finding introduces the possibility of some fee sharing between relevant service groups for complementary services.

Hair transplantation (capped item 45560)

On average, this item was only claimed around 180 times a year. Since the introduction of the EMSN, the proportion of services provided in hospital has decreased from 17 to five per cent. Following capping, the total number of services provided out of hospital fell by 51 per cent from the previous year's level but the number of services provided in hospital increased marginally.

Despite its small volume of services, this item attracted substantial EMSN benefits because of the high fees, relative to the Medicare rebate. For example, in 2010 the median fee for this item was around \$6,000 whereas the Medicare rebate was \$387.50. This gap would essentially mean that most patients would qualify for the EMSN and receive EMSN benefits on the basis of this item alone.

Prior to the introduction of the EMSN, fees were similar for in and out of hospital claims. Following the introduction of the EMSN in 2004, fees have increased for out of hospital services but have remained relatively stable for in hospital services. Provider fees for services provided out of hospital began to decline in 2008 and there was no discernible impact on this trend from the EMSN cap. OOP costs increased beyond the levels prior to the introduction of the EMSN in 2004, particularly for services with high fees charged by providers.

ART services – (capped group)

Data from our patient sample suggests that the number of ART cycles in 2010 fell by 11 per cent when compared to 2009 but was almost identical to the 2008 figure. Demand for all types of cycles fell, except for the frozen/donated embryo cycle which grew by 17 per cent from the previous year. This may suggest substitution to a frozen/donated embryo cycle which is relatively cheaper than other types of cycles. The exact causes of some of these changes are difficult to ascertain because of the restructuring of ART MBS items coinciding with the introduction of EMSN caps.

There was a major change in billing practices following the introduction of EMSN caps and the restructuring of ART MBS items. Prior to 2010 provider fees were frequently loaded on to a single item (commonly the planning and management item 13209). With the introduction of caps, in vitro fertilization (IVF) providers are now spreading fees across relevant ART items to optimise patients' access to EMSN benefits.

Provider fees for a typical stimulated cycle and a typical artificial insemination cycle (together constituting around 67 per cent of all cycles) remained largely stable from their levels in the previous year. Fees for a typical frozen/donated embryo cycle (accounting for around 31 per cent of all cycles) became more condensed, as the 25th percentile fee increased and the 90th percentile fee fell. The increase in provider fees in the middle and lower parts of the fee distribution may be due to increases in the MBS fee for some ART items as well as the restructuring of items.

On the basis of all ART cycles combined, we found that after capping average and median fees fell by \$108 and \$1,465, respectively. However, this is an artefact of the change in the distribution of cycle type rather than a decrease in the provider fees for any type of cycle. That is, in 2010 more women utilised the relatively cheaper frozen/donated embryo type of cycle.

OOP costs rose substantially for those women who accessed stimulated cycles. The median OOP for stimulated A cycles increased from \$950 in 2009 to \$2,000 in 2010. Women who accessed frozen/donated embryo cycles saw OOP costs increase from \$330 to \$950 over the same period.

ART services were concentrated at higher socioeconomic quintiles, and this level of concentration remains unaltered following the introduction of the EMSN and EMSN caps. ART services were highly concentrated, with over 80 per cent of cycles claimed by residents of major cities in 2010. The pattern of ART use across regions has been consistent between 2003 and 2010 and does not appear to have been affected by the EMSN or EMSN caps.

Increases in provider fees for ART cycles over the period have affected those in low socioeconomic quintiles more adversely as their fees increased to the fee levels charged to those in the top socioeconomic quintile.

Obstetric services – (capped group)

The number of private confinement claims fell by four per cent in 2010 compared to 2009. The biggest falls came in the latter part of the year, suggesting that the impact of EMSN caps on the overall demand for private obstetric services may have become more apparent as the year progressed. This means that the 2010 data may not be an accurate reflection of the impact of caps on the demand for obstetrics.

Similar to the results reported in Section 4, we found some evidence of anticipatory behaviour which resulted in more planning and management items being charged in December 2009 for pregnancies with a June confinement.

Provider fees for antenatal services that were provided out of hospital and leading to a private confinement were largely stable. Nevertheless, we found some evidence to suggest that amongst those who charged fees in the top 25 per cent of the fee distribution, provider fees fell by \$191 in 2010. OOP costs increased markedly, especially for those who were in the upper half of the distribution. For both normal and complex pregnancies, the median OOP costs increased by \$1,000 (50 per cent), while the 90th percentile OOP costs doubled. OOP costs changed very little in 2010 for those at the bottom end of the distribution.

Private confinements were concentrated in high socioeconomic quintiles, with only 11 per cent of private confinements occurring amongst patients who live in the poorest 40 per cent of areas. The EMSN caps have led to a decline in private confinements in all socioeconomic areas, but there has been a relatively greater fall in poorer areas than in wealthier areas. Similarly, private confinements and obstetric services were highly concentrated in the major cities, with over 86 per cent of private confinements occurring in this type of area. OOP costs increased to a larger extent in major cities and in higher socioeconomic areas.

Midwife services – (capped group)

The midwifery related MBS items were introduced in November 2010. Due to the legislated timetable of this review, it is too early to assess the effect of the EMSN or EMSN caps on this group of items.

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Appendix A: List of capped items

List of MBS items subject to an EMSN benefit cap

The introduction of the caps coincided with a restructure of the Medicare Benefit Schedule (MBS) items for Assisted Reproductive Technology (ART) services. The restructure aimed to better reflect current clinical practice and to allow benefits to be redirected to the more technical and 'expensive' services, and it was designed to assist patients manage their cash flow by spreading the Medicare rebates and Extended Medicare Safety Net (EMSN) benefit across the treatment cycle. As part of this restructure, Medicare rebates for a typical in-vitro fertilisation (IVF) cycle were increased from around \$3,000 to around \$4,000.

Table A1: MBS items related to Assisted Reproductive Technology (ART) services

Item Number	Description of service	Nov 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	Jan 2010 MBS rebate (out of hospital) (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
13200	<p>Revised 2010 definition ASSISTED REPRODUCTIVE TECHNOLOGIES SUPEROVULATED TREATMENT CYCLE PROCEEDING TO OOCYTE RETRIEVAL, involving the use of drugs to induce superovulation, and including quantitative estimation of hormones, semen preparation, ultrasound examinations, all treatment counselling and embryology laboratory services but excluding artificial insemination or transfer of frozen embryos or donated embryos or ova or a service to which item 13201, 13202, 13203, 13206, 13218 applies – being services rendered during 1 treatment cycle – INITIAL cycle in a single calendar year.</p> <p>2009 definition ASSISTED REPRODUCTIVE SERVICES (such as in vitro fertilisation, gamete intrafallopian transfer or similar procedures) involving the use of drugs to induce superovulation, and including quantitative estimation of hormones, ultrasound examinations, all treatment counselling and embryology laboratory services but excluding artificial insemination or transfer of frozen embryos or donated embryos or ova or a service to which item 13203, 13206 or 13218 applies – being services rendered during 1 treatment cycle, if the duration of the treatment cycle is at least 9 days.</p>	1,889.55	2,940.00	2,870.90	1,550.00	4,420.90

Item Number	Description of service	Nov 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	Jan 2010 MBS rebate (out of hospital) (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
13201	<p>New item 2010 definition ASSISTED REPRODUCTIVE TECHNOLOGIES SUPEROVULATED TREATMENT CYCLE PROCEEDING TO OOCYTE RETRIEVAL, involving the use of drugs to induce superovulation, and including quantitative estimation of hormones, semen preparation, ultrasound examinations, all treatment counselling and embryology laboratory services but excluding artificial insemination or transfer of frozen embryos or donated embryos or ova or a service to which item 13200, 13202, 13203, 13206, 13218 applies – being services rendered during 1 treatment cycle – each cycle SUBSEQUENT to the first in a single calendar year</p> <p>2009 definition N/A</p>	NA	2,750.00	2,680.90	2,250.00	4,930.90
13202	<p>New item 2010 definition ASSISTED REPRODUCTIVE TECHNOLOGIES SUPEROVULATED TREATMENT CYCLE THAT IS CANCELLED BEFORE TO OOCYTE RETRIEVAL, involving the use of drugs to induce superovulation and including quantitative estimation of hormones, semen preparation, ultrasound examinations, but excluding artificial insemination or transfer of frozen embryos or donated embryos or ova or a service to which Item 13200, 13201, 13203, 13206, 13218, applies being services rendered during 1 treatment cycle</p> <p>2009 definition N/A</p>	NA	440.00	374.00	60.00	434.00

Item Number	Description of service	Nov 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	Jan 2010 MBS rebate (out of hospital) (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
13203	<p>Revised 2010 definition OVULATION MONITORING SERVICES, for artificial insemination – including quantitative estimation of hormones and ultrasound examinations, being services rendered during 1 treatment cycle but excluding a service to which item 13200, 13201, 13202, 13206, 13212, 13215, 13218, applies</p> <p>2009 definition OVULATION MONITORING SERVICES, for superovulated treatment cycles of less than 9 days duration and artificial insemination – including quantitative estimation of hormones and ultrasound examinations, being services rendered during 1 treatment cycle but excluding a service to which item 13200, 13206, 13212, 13215 or 13218 applies</p>	472.40	460.00	391.00	100.00	491.00

Item Number	Description of service	Nov 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	Jan 2010 MBS rebate (out of hospital) (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
13206	<p>Revised 2010 definition ASSISTED REPRODUCTIVE TECHNOLOGIES TREATMENT CYCLE using either the natural cycle or oral medication only to induce oocyte growth and development, and including quantitative estimation of hormones, semen preparation, and ultrasound examinations, all treatment counselling and embryology laboratory services but excluding artificial insemination, frozen embryo transfer or donated embryos or ova or treatment involving the use of injectable drugs to induce superovulation being services rendered during 1 treatment cycle but only if rendered in conjunction with a service to which item 13212 applies</p> <p>2009 definition ASSISTED REPRODUCTIVE SERVICES (such as in vitro fertilisation, gamete intrafallopian transfer or similar procedures), using unstimulated ovulation or ovulation stimulated only by clomiphene citrate, and including quantitative estimation of hormones, ultrasound examinations, all treatment counselling and embryology laboratory services but excluding artificial insemination, frozen embryo transfer or donated embryos or ova or treatment involving the use of drugs to induce superovulation being services rendered during 1 treatment cycle but only if rendered in conjunction with a service to which item 13212 applies</p>	809.70	440.00	374.00	60.00	434.00
13209	<p>Revised 2010 definition PLANNING and MANAGEMENT of a referred patient by a specialist for the purpose of treatment by assisted reproductive technologies or for artificial insemination payable once only during 1 treatment cycle</p> <p>2009 definition PLANNING and MANAGEMENT of a referred patient by a specialist for the purpose of treatment by assisted reproductive technologies including in vitro fertilisation, gamete intrafallopian transfer and similar procedures, or for artificial insemination payable once only during 1 treatment cycle</p>	80.85	80.00	68.00	10.00	78.00

Item Number	Description of service	Nov 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	Jan 2010 MBS rebate (out of hospital) (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
13212	<p>Revised 2010 definition OOCYTE RETRIEVAL for the purposes of assisted reproductive technologies – only if rendered in conjunction with a service to which item 13200, 13201 or 13206 applies (Anaes.)</p> <p>2009 definition OOCYTE RETRIEVAL by any means including laparoscopy or ultrasound guided ova flushing, for the purposes of assisted reproductive technologies including in vitro fertilisation, gamete intra-fallopian transfer or similar procedures – only if rendered in conjunction with a service to which item 13200 or 13206 applies (Anaes.)</p>	344.20	335.00	284.75	65.00	349.75
13215	<p>Revised 2010 definition TRANSFER OF EMBRYOS or both ova and sperm to the female reproductive system, excluding artificial insemination – only if rendered in conjunction with a service to which item 13200, 13201, 13206 or 13218 applies, being services rendered in 1 treatment cycle (Anaes.)</p> <p>2009 definition TRANSFER OF EMBRYOS or both ova and sperm to the female reproductive system, by any means but excluding artificial insemination or the transfer of frozen or donated embryos – only if rendered in conjunction with a service to which item 13200 or 13206 applies, being services rendered in 1 treatment cycle (Anaes.)</p>	108.00	105.00	89.25	45.00	134.25

Item Number	Description of service	Nov 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	Jan 2010 MBS rebate (out of hospital) (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
13218	<p>Revised 2010 definition PREPARATION of frozen or donated embryos or donated oocytes for transfer to the female reproductive system, by any means and including quantitative estimation of hormones and all treatment counselling but excluding artificial insemination services rendered in 1 treatment cycle and excluding a service to which item 13200, 13201, 13202, 13203, 13206, 13212 applies (Anaes.)</p> <p>2009 definition PREPARATION AND TRANSFER of frozen or donated embryos or both ova and sperm, to the female reproductive system, by any means and including quantitative estimation of hormones and all treatment counselling but excluding artificial insemination services rendered in 1 treatment cycle and excluding a service to which item 13200, 13203, 13206, 13212 or 13215 applies (Anaes.)</p>	809.70	750.00	680.90	650.00	1,330.90
13221	<p>Revised 2010 definition PREPARATION OF SEMEN for the purposes of artificial insemination – only if rendered in conjunction with a service to which item 13203 applies.</p> <p>2009 definition PREPARATION OF SEMEN for the purposes of assisted reproductive technologies or for artificial insemination</p>	49.30	48.00	40.80	20.00	60.80
13251	<p>Revised 2010 definition INTRACYTOPLASMIC SPERM INJECTION for the purposes of assisted reproductive technologies, for male factor infertility, excluding a service to which item 13203 or 13218 applies.</p> <p>2009 definition INTRACYTOPLASMIC SPERM INJECTION for the purposes of assisted reproductive technologies, for male factor infertility, excluding a service to which item 13218 applies.</p>	406.45	395.00	335.75	100.00	435.75

Table A2: Changes in MBS items related to obstetrics and pregnancy related ultrasounds

Item Number	Description of service	MBS Fee increase	Jan 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	MBS rebate from 1 January 2010 (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
16400	Antenatal service provided by a nurse, midwife or a registered Aboriginal Health Worker on behalf of a medical practitioner	10%	22.90	25.80	21.95	10.15	32.10
16401	Initial attendance by a specialist in the practice of obstetrics	0%	79.05	(80.85) Standard increase only	68.75	50.75	119.50
16404	Subsequent attendance by a specialist in the practice of obstetrics	0%	39.70	(40.60) Standard increase only	34.55	30.45	65.00
16500	Antenatal attendance	10%	39.55	44.55	37.90	30.45	68.35
16501	External cephalic version for breech presentation, after 36 weeks	0%	129.85	(132.85) Standard increase only	112.95	60.90	173.85
16502	Attendance for treatment of polyhydramnios, unstable lie, multiple pregnancy, pregnancy complicated by diabetes or anaemia, threatened premature labour treated by bed rest only or oral medication, requiring admission to hospital	10%	39.55	44.55	33.45*	20.30	Usually provided in hospital*
16504	Attendance for the treatment of habitual miscarriage by injection of hormones, each injection, up to a maximum of 12 injections, where the injection is not administered during a routine antenatal attendance	10%	39.55	44.55	37.90	20.30	58.20
16505	Attendance for threatened abortion, threatened miscarriage or hyperemesis gravidarum, requiring admission to hospital	10%	39.55	44.55	33.45*	20.30	Usually provided in hospital*

Item Number	Description of service	MBS Fee increase	Jan 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	MBS rebate from 1 January 2010 (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
16508	Attendance for pregnancy complicated by acute intercurrent infection, intrauterine growth retardation, threatened premature labour with ruptured membranes or threatened premature labour treated by intravenous therapy, requiring admission to hospital	10%	39.55	44.55	33.45*	20.30	Usually provided in hospital*
16509	Attendance for the treatment of preeclampsia, eclampsia or antepartum haemorrhage	10%	39.55	44.55	33.45*	20.30	Usually provided in hospital*
16511	Purse string ligation of cervix	0%	203.20	(207.85) Standard increase only	155.90*	101.50	Usually provided in hospital*
16512	Removal of purse string ligature of cervix	0%	58.65	(60.00) Standard increase only	45.00*	30.45	Usually provided in hospital*
16514	Antenatal cardiotocography in the management of high risk pregnancy	0%	33.85	(34.65) Standard increase only	29.50	15.25	44.75
16515	Management of vaginal delivery as an independent procedure where the patient's care has been transferred by another medical practitioner for management of the delivery	30%	320.25	425.95	319.50*	162.40	Usually provided in hospital*
16518	Management of labour, incomplete, where the patient's care has been transferred to another medical practitioner for completion of the delivery	30%	320.25	425.95	319.50*	162.40	Usually provided in hospital*
16519	Management of labour and delivery by any means (including Caesarean section) including post-partum care for 5 days	30%	493.15	655.85	491.90*	304.50	Usually provided in hospital*

Item Number	Description of service	MBS Fee increase	Jan 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	MBS rebate from 1 January 2010 (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
16520	Caesarean section and post-operative care for 7 days where the patient's care has been transferred by another medical practitioner	30%	576.35	766.55	574.95*	304.50	Usually provided in hospital*
16522	Management of labour and delivery, or delivery alone (including Caesarean section) for complicated birth	30%	1,157.90	1,539.90	1,154.95*	406.00	Usually provided in hospital*
16525	Management of second trimester labour, with or without induction, for intrauterine fetal death, gross fetal abnormality or life threatening maternal disease	30%	273.15	363.25	272.45*	142.10	Usually provided in hospital*
16564	Evacuation of retained products of conception (placenta, membranes or mole) as a complication of confinement, with or without curettage of the uterus	0%	201.40	(206.05) Standard increase only	154.55*	203.00	Usually provided in hospital*
16567	Management of postpartum haemorrhage by special measures such as packing of uterus	0%	294.55	(301.30) Standard increase only	226.00*	203.00	Usually provided in hospital*
16570	Vaginal correction of acute inversion of the uterus	0%	384.35	(393.20) Standard increase only	294.90*	203.00	Usually provided in hospital*
16571	Repair of extensive laceration or lacerations of the cervix	0%	294.55	(301.30) Standard increase only	226.00*	203.00	Usually provided in hospital*
16573	Repair of third degree tear, involving anal sphincter muscles and rectal mucosa	0%	240.05	(245.55) Standard increase only	184.20*	203.00	Usually provided in hospital*
16590	Planning and management of a pregnancy that has progressed beyond 20 weeks	150%	119.75	306.30	260.40	203.00	463.40

Item Number	Description of service	MBS Fee increase	Jan 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	MBS rebate from 1 January 2010 (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
16591	Planning and management of a pregnancy where the care of the patient will be transferred to another medical practitioner for the labour and delivery	10%	119.75	134.80	114.60	101.50	216.10
16600	Amniocentesis, diagnostic	0%	58.65	(60.00) Standard increase only	51.00	30.45	81.45
16603	Chorionic villus sampling	0%	112.60	(115.20) Standard increase only	97.95	60.90	158.85
16606	Fetal blood sampling from umbilical cord or foetus, including fetal neuromuscular blockade and amniocentesis	0%	224.70	(229.85) Standard increase only	195.40	121.80	317.20
16609	Fetal intravascular blood transfusion, using blood already collected, including neuromuscular blockade, amniocentesis and fetal blood sampling	0%	458.20	(468.75) Standard increase only	399.65	233.45	633.10
16618	Amniocentesis, therapeutic	0%	192.00	(196.40) Standard increase only	166.95	96.45	263.40
16624	Drainage of fetal fluid filled cavity	0%	276.30	(282.65) Standard increase only	240.30	131.95	372.25
16627	Feto-amniotic shunt, insertion of, into fetal fluid filled cavity, including neuromuscular blockade and amniocentesis	0%	562.60	(575.55) Standard increase only	506.45	284.20	790.65
16633	Procedure on multiple pregnancies relating to items 16606, 16609, 16612, 16615 and 16627	0%	Derived fee	No increase	The rebate depends on the item number claimed for the first foetus	213.15	The rebate depends on the item number claimed for the first foetus

Item Number	Description of service	MBS Fee increase	Jan 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	MBS rebate from 1 January 2010 (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
16636	Procedure on multiple pregnancies relating to items 16600, 16603, 16618, 16621 and 16624	0%	Derived fee	No increase	The rebate depends on the item number claimed for the first foetus	81.20	The rebate depends on the item number claimed for the first foetus
55700	Pregnancy related scan – less than 12 weeks, referred patient	0%	60.00	No increase	51.00	30.45	81.45
55703	Pregnancy related scan – less than 12 weeks, non referred patient	0%	35.00	No increase	29.75	15.25	45.00
55704	Pregnancy related scan – 12 to 16 weeks, referred patient	0%	70.00	No increase	59.50	35.55	95.05
55705	Pregnancy related scan – 12 to 16 weeks, non referred patient	0%	35.00	No increase	29.75	15.25	45.00
55706	Pregnancy related scan – 17 to 22 weeks, referred patient	0%	100.00	No increase	85.00	50.75	135.75
55707	Pregnancy related scan – rump length of 45 to 84mm, referred patient	0%	70.00	No increase	59.50	35.55	95.05
55708	Pregnancy related scan – rump length of 45 to 84mm, non referred patient	0%	35.00	No increase	29.75	15.25	45.00
55709	Pregnancy related scan – 17 to 22 weeks, non referred patient	0%	38.00	No increase	32.30	20.30	52.60
55712	Pregnancy related scan – 17 to 22 weeks, referred patient by obstetrician	0%	115.00	No increase	97.75	60.90	158.65
55715	Pregnancy related scan – 17 to 22 weeks, non referred patient, performed by obstetrician	0%	40.00	No increase	34.00	20.30	54.30
55718	Pregnancy related scan – after 22 weeks, referred patient	0%	100.00	No increase	85.00	50.75	135.75

Item Number	Description of service	MBS Fee increase	Jan 2009 MBS Fee (\$)	Jan 2010 MBS Fee (\$)	MBS rebate from 1 January 2010 (\$)	2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital (Jan 2010 – Nov 2010) (\$)
55721	Pregnancy related scan – after 22 weeks, referred patient by obstetrician	0%	115.00	No increase	97.75	60.90	158.65
55723	Pregnancy related scan – after 22 weeks, non referred patient	0%	38.00	No increase	32.30	20.30	52.60
55725	Pregnancy related scan – after 22 weeks, non referred patient, performed by obstetrician	0%	40.00	No increase	34.00	20.30	54.30
55729	Duplex scanning after 24th week	0%	27.25	No increase	23.20	15.25	38.45
55762	Pregnancy related scan – 17 to 22 weeks, non referred patient, which identifies multiple pregnancy	0%	60.00	No increase	51.00	30.45	81.45
55764	Pregnancy related scan – 17 to 22 weeks, referred patient, which identifies multiple pregnancy, performed by obstetrician	0%	160.00	No increase	136.00	81.20	217.20
55766	Pregnancy related scan – 17 to 22 weeks, non referred patient, which identifies multiple pregnancy, performed by obstetrician	0%	65.00	No increase	55.25	30.45	85.70
55768	Pregnancy related scan – after 22 weeks, referred patient, which confirms multiple pregnancy	0%	150.00	No increase	127.50	76.15	203.65
55770	Pregnancy related scan – after 22 weeks, non referred patient, which confirms multiple pregnancy	0%	60.00	No increase	51.00	30.45	81.45
55772	Pregnancy related scan – after 22 weeks, patient referred by obstetrician, which confirms multiple pregnancy	0%	160.00	No increase	136.00	81.20	217.20
55774	Pregnancy related scan – after 22 weeks, referred patient, which confirms multiple pregnancy, performed by obstetrician	0%	65.00	No increase	55.25	35.55	90.80

Table A3: Changes in MBS items related to varicose veins, cataract surgery and hair transplantation

Item Number	Description of service	Nov 2009 MBS Fee	Nov 2009 out of hospital MBS rebate	2010 EMSN Cap	Maximum Medicare benefit payable per claim out of hospital (November 2009 – November 2010)
32500	Varicose vein treatment via injection of sclerosant	103.80	88.25	111.65	199.90
42702	Cataract surgery	491.85	422.75	101.50	521.25*
45560	Hair transplantation	447.65	380.55	152.25	532.80

* Maximum benefit payable for out of hospital service. The majority of cataract surgeries are performed on an in-hospital basis.

Table A4: Capping arrangements in relation to midwifery items and associated obstetric items introduced on 1 November 2010

Item Number	Description of service	From 1 November 2010 (\$)		2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital from 1 November 2010 (\$)
		MBS Fee	Out of hospital MBS rebate		
82100	Initial antenatal attendance by a participating midwife – lasting at least 40 minutes	51.35	43.65	20.00	63.65
82105	Short antenatal attendance by a participating midwife – up to 40 minutes	31.10	26.45	15.00	41.45
82110	Long antenatal attendance by a participating midwife – lasting at least 40 minutes	51.35	43.65	20.00	63.65
82115	Attendance by a participating midwife for assessment and preparation of a Maternity Care Plan where the pregnancy has progressed beyond 20 weeks, lasting at least 90 minutes	306.90	260.90	50.00	310.90
82130	Short postnatal attendance by a participating midwife, within 6 weeks after delivery – up to 40 minutes	51.35	43.65	15.00	58.65
82135	Long postnatal attendance by a participating midwife within 6 weeks after delivery – lasting at least 40 minutes	75.55	64.25	20.00	84.25

Item Number	Description of service	From 1 November 2010 (\$)		2010 EMSN Cap (\$)	Maximum Medicare benefit payable per claim out of hospital from 1 November 2010 (\$)
		MBS Fee	Out of hospital MBS rebate		
82140	Six week postnatal attendance by a participating midwife	51.35	43.65	15.00	58.65
16406	Obstetric attendance at 32-36 weeks of the patient's pregnancy when the patient is referred by a participating midwife	128.85	109.55	100.00	209.65
16527	Management of vaginal delivery, if the patient's care has been transferred by a participating midwife for management of the delivery.	433.60	325.20*	162.40	Usually in hospital*
16528	Caesarean section and post-operative care for 7 days, if the patient's care has been transferred by a participating midwife for management of the birth	780.35	585.30*	304.50	Usually in hospital*

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