

CHAPTER 8: IMPACT ON PRESCRIBING

8.1 OVERVIEW

This chapter presents findings relating to ***Evaluation Question 6 which asks: To what extent has the Better Access initiative impacted on the use of medications commonly prescribed for treatment of mental disorders, in particular antidepressant medications?***

To assess whether the *Better Access* initiative has impacted on the use of medications commonly prescribed for treatment of mental disorders analyses combining MBS and PBS data were undertaken. Firstly, analyses examined whether there been a change in demand for PBS-subsidised antidepressant and anxiolytic medications, at the level of Division of General Practice, since the introduction of *Better Access*. Division-level analyses were conducted comparing supply of these medications for the two years prior to the introduction of *Better Access*, with the period of available data after the introduction of *Better Access* (i.e. up to the March 2009 quarter). Secondly, analyses examined whether *Better Access* uptake has impacted on demand for antidepressant and anxiolytic medications, since the introduction of *Better Access*.

For the purpose of these analyses, the focus was restricted to antidepressant and anxiolytic medications as these are the principal pharmacological agents used in the treatment of affective and anxiety disorders, which are the key disorders targeted by *Better Access*. Evidence-based treatments for affective and anxiety disorders include antidepressant and anxiolytic medications, as well as psychological therapies such as cognitive behavioural therapy.⁴⁵ The medical treatment of depression is based on antidepressant medications. Antidepressants have, over time, replaced benzodiazepines (the class of medications that traditionally comprises anxiolytics) as the preferred medication for longer term management of anxiety disorders, including obsessive compulsive disorder and panic disorder.⁴⁶ The primary application of benzodiazepines is now for the short-term treatment of anxiety disorders.^{46, 47}

The following series of research questions was examined:

1. Has there been a change in demand for antidepressant and anxiolytic medications since the introduction of *Better Access*?
2. Has there been a change in demand for antidepressant and anxiolytic medications since the introduction of *Better Access* among people eligible to receive medications at a concession price?
3. What is the relationship between *Better Access* uptake and demand for antidepressant and anxiolytic medications at a Division level?

8.2 HAS THERE BEEN A CHANGE IN DEMAND FOR ANTIDEPRESSANT AND ANXIOLYTIC MEDICATIONS SINCE THE INTRODUCTION OF *BETTER ACCESS*?

Patterns of antidepressant medication supply were examined. The rate of persons supplied PBS-subsidised antidepressant medications ranged from 63.5 per quarter per 1,000 total population in the December 2004 quarter to 59.3 per quarter per 1,000 in the December 2009 quarter (see Figure 8.1). Scripts for PBS-subsidised antidepressant medications ranged from 170.3 per 1,000 total population to 166.4 per 1,000 total population over the same period (see Figure 8.2). Figures 8.1 and 8.2 also show the rate of persons using *Better Access* services after the initiative was introduced in November 2006.

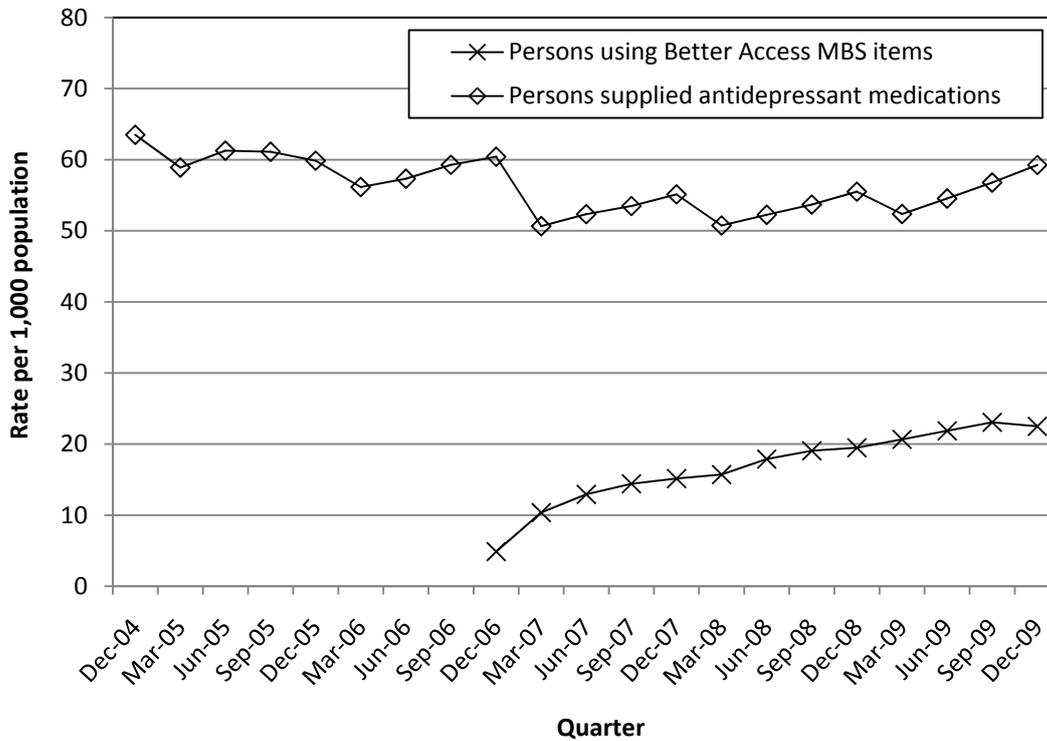


Fig 8.1 Persons using *Better Access* items and PBS-subsidised antidepressant medications, December 2004 quarter to December 2009 quarter (rate per 1,000 population).

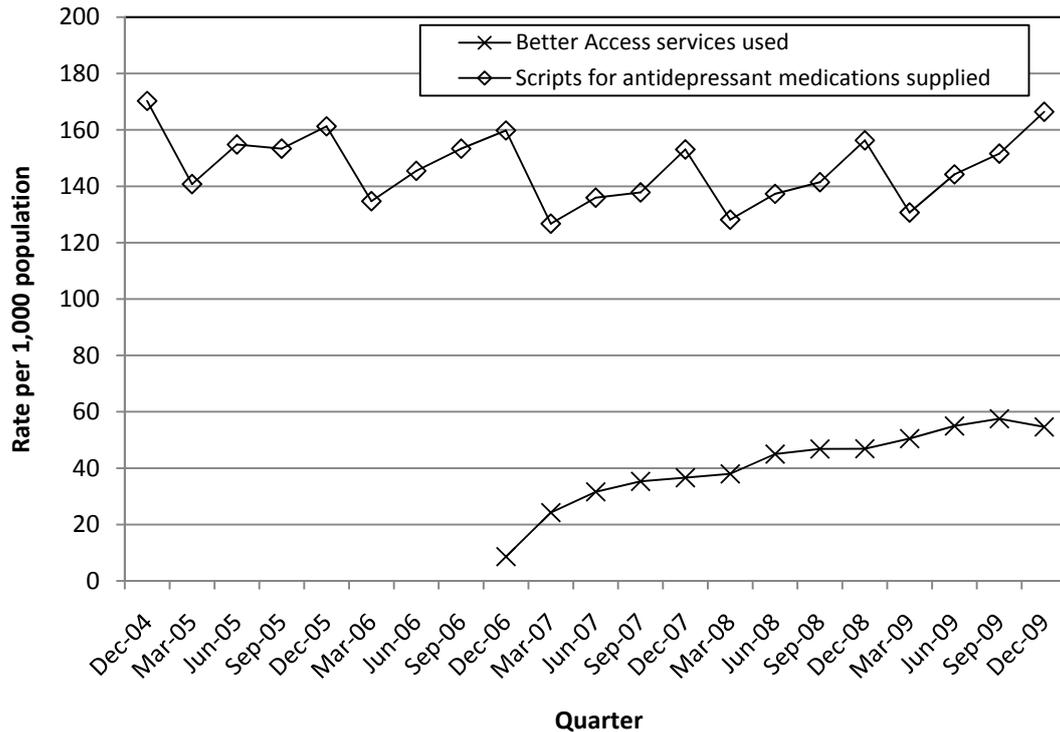


Fig 8.2 Persons using *Better Access* services and scripts supplied for PBS-subsidised antidepressant medications, December 2004 quarter to December 2009 quarter (rate per 1,000 population).

Analyses were undertaken to examine whether patterns of antidepressant supply had changed since the introduction of *Better Access*. As *Better Access* was introduced part-way through the December 2006 quarter, the following analyses exclude the December 2006 quarter. By doing this, analyses could be undertaken to compare two full years pre-*Better Access* and three full years post- *Better Access*, which has the advantage of minimising the influence of seasonal patterns.^j

In order to address whether *Better Access* has resulted in a change in demand for these medications, analyses must to assess whether any apparent decrease in antidepressant supply is modified after the introduction of *Better Access*. To achieve this, a series of negative binomial regression analyses (see section 2.3.4 for more information) were used to estimate the trends in medication supply for the pre-*Better Access* period and the post-*Better Access* period, and to determine whether a change in trend had occurred between these two time periods. Table 8.1 presents the results of these analyses for PBS-subsidised antidepressant medication supply. The results suggest that the rate of persons using antidepressant medications decreased by 1.1% per

^j As shown in Figures 8.1 and 8.2 medication supply is higher in the latter part of each year. This peak is due to the safety net provisions in the PBS. "These provisions were introduced to ensure patients with multiple medical conditions, who genuinely need a number of medications, are not prevented financially from obtaining them. Once the out-of pocket threshold safety net level is reached, prescriptions on the scheme are either free, or available at greatly reduced copayment amount. The safety net period is the calendar year, and the highs and lows are due to stockpiling of medication once the safety net level is reached." 48. Australian Government Department of Health & Ageing. *Australian Statistics on Medicines*. Canberra: Commonwealth of Australia; 2009. (p.12).

quarter (RR = 0.989; $P = 0.010$) in the two years before the introduction of *Better Access* but increased by 0.9% per quarter in the three years after the introduction of *Better Access* (RR = 1.009; $P = <0.001$). The ratio of the post-*Better Access* trend to the pre-*Better Access* trend was statistically significant (RR = 1.020; $P = <0.001$), indicating a significant change in trend. That is, the small but significant decline in antidepressant supply occurring during the two year prior to *Better Access*, was reversed in the period following the introduction of *Better Access*.

Table 8.2 shows that prior to the introduction of *Better Access*, the rate of scripts supplied was stable. Following the introduction of *Better Access*, there was a significant increase in scripts supplied for antidepressants. The change in trend was statistically significant.

Table 8.1 Estimated change in trends for uptake of PBS-subsidised antidepressant medications, before and after the introduction of *Better Access*

	Trend pre- <i>Better Access</i>		Trend post- <i>Better Access</i>		Ratio of trends ^a	
	RR (95% CI)	<i>P</i>	RR (95% CI)	<i>P</i>	RR (95% CI)	<i>P</i>
Antidepressant medication use						
Persons using medication	0.989 (0.981-0.997)	0.010	1.009 (1.004-1.014)	<0.001	1.020 (1.010-1.030)	<0.001
Scripts supplied	0.989 (0.970-1.008)	0.251	1.015 (1.004-1.025)	0.006	1.026 (1.004-1.049)	0.020

2004 through 2008 figures have regard to all claims processed up to and including August 2009; 2009 figures have regard to all claims processed up to and including June 2010.

RR, rate ratio; CI, confidence interval. Data exclude the December 2006 quarter.

^a The ratio of the post-*Better Access* trend to the pre-*Better Access* trend.

Patterns of anxiolytic medication supply were examined using the same procedures as for antidepressant medications. The rate of persons supplied anxiolytic medications ranged from 17.9 per quarter per 1,000 total population in the December 2004 quarter to 16.1 per quarter per 1,000 total population in the December 2009 quarter (see Figure 8.3). Scripts for anxiolytic medications ranged from 44.2/1,000 per quarter to 39.5/1,000 per quarter over the same period (see Figure 8.4). Figures 8.3 and 8.4 also show the rate of persons using *Better Access* services after the initiative was introduced in November 2006.

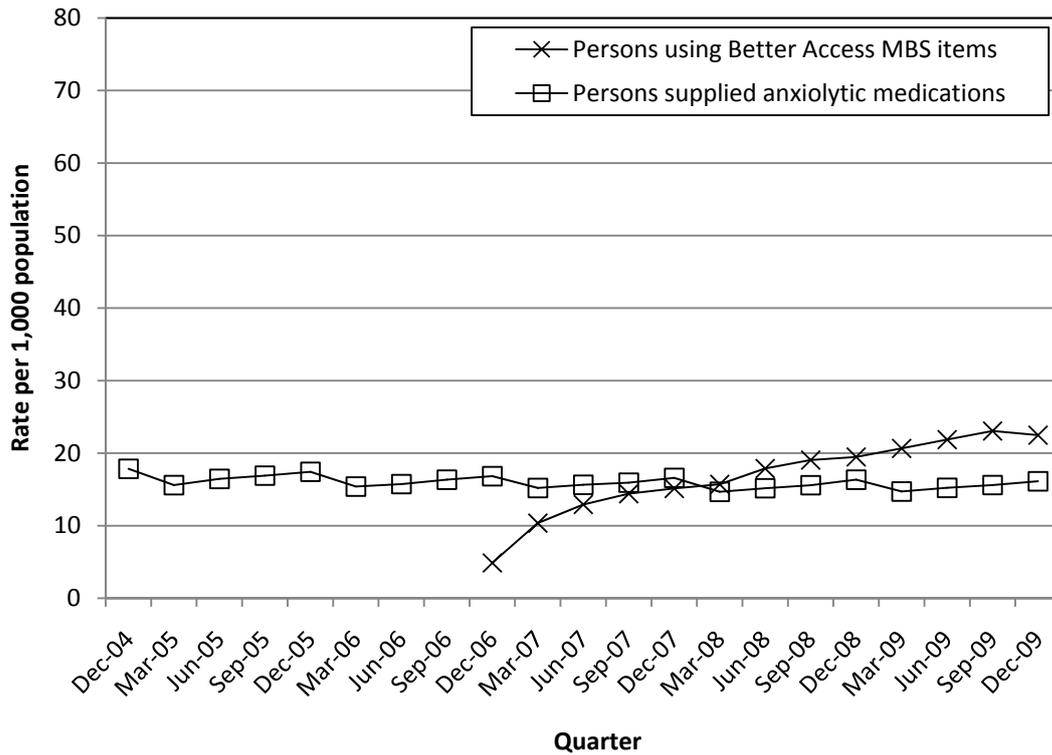


Fig 8.3 Persons using *Better Access* items and PBS-subsidised anxiolytic medications, December 2004 quarter to December 2009 quarter (rate per 1,000 population)

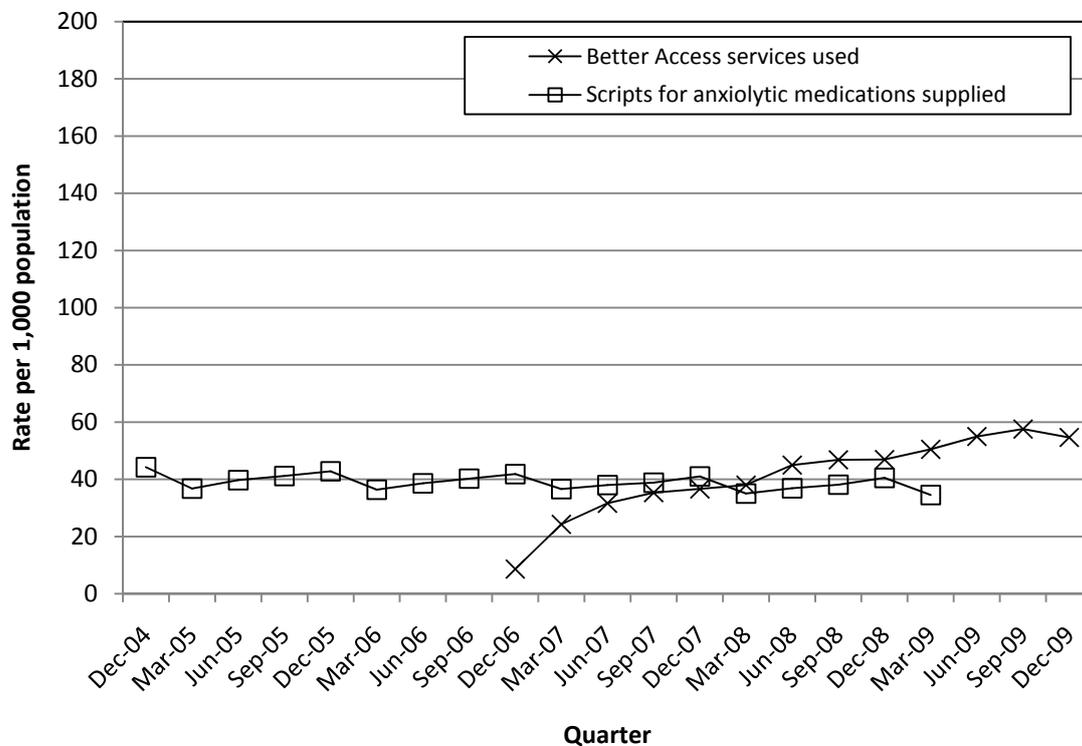


Fig 8.4 Persons using *Better Access* services and scripts supplied for anxiolytic medications, December 2004 quarter to December 2009 quarter (rate per 1,000 population).

Table 8.2 shows the results of the comparison of the trends in PBS-subsidised anxiolytic medication supply for the pre- and post-*Better Access* periods. In contrast to the findings for

antidepressants, there was no significant change in trend for supply of anxiolytic medications, with time trends stable across the pre- and post- *Better Access* periods.

Table 8.2 Estimated change in trends for uptake of PBS-subsidised anxiolytic medications, before and after the introduction of *Better Access*

	Trend pre- <i>Better Access</i>		Trend post- <i>Better Access</i>		Ratio of trends ^a	
	RR (95% CI)	P	RR (95% CI)	P	RR (95% CI)	P
Anxiolytic medication use						
Persons using medication	0.991 (0.978-1.005)	0.206	1.000 (0.994-1.006)	0.943	1.009 (0.995-1.023)	0.202
Scripts supplied	0.992 (0.974-1.011)	0.402	1.000 (0.992-1.008)	0.983	1.008 (0.989-1.027)	0.420

2004 through 2008 figures have regard to all claims processed up to and including August 2009; 2009 figures have regard to all claims processed up to and including June 2010.

RR, rate ratio; CI, confidence interval. Data exclude the December 2006 quarter.

^a The ratio of the post-*Better Access* trend to the pre-*Better Access* trend.

It is important to acknowledge a major limitation of the previous analyses, which is that data from the PBS alone may be misleading because it only records subsidised medicines. It is estimated that approximately 75% of antidepressant medication prescriptions and 73% of anxiolytic medication prescriptions dispensed by pharmacies are recorded on the PBS.⁴⁹ Over-the-counter medications, and non-subsidised medications (e.g., where the entire cost of the medication is covered by the consumers' co-payment) are not captured. Further, when particular medications recorded on the PBS fall below the payment threshold, they are no longer recorded by the PBS. This is particularly important for the antidepressant group of medications because several commonly prescribed medicines came off patent in the period shortly preceding *Better Access* commencement (e.g., fluoxetine in 2004 and sertraline in 2006).⁵⁰ As a result new generic products were released, the cost of which fell below the PBS payment threshold. This is likely to explain the apparent decreasing trend in the rate of persons using antidepressant medications in the two years prior to the introduction of *Better Access*.

8.3 HAS THERE BEEN A CHANGE IN DEMAND FOR ANTIDEPRESSANT AND ANXIOLYTIC MEDICATIONS SINCE THE INTRODUCTION OF *BETTER ACCESS* AMONG PEOPLE ELIGIBLE TO RECEIVE MEDICATIONS AT A CONCESSION PRICE?

The following analyses focus on the population of concession card holders. Here, the intent is to examine whether the increased rates of medication use after the introduction of *Better Access* might be greater among people for whom cost may have previously been a barrier to accessing some mental health services. Table 8.3 shows the results of the comparison of the trends in PBS-subsidised antidepressant medication supply for the pre- and post-*Better Access* periods for concession card holders. Prior to the introduction of *Better Access*, the number of persons using antidepressants and rate of scripts supplied was stable. Following the introduction of *Better Access*, there was a significant increase in the number of persons using antidepressants and scripts supplied for antidepressants. The change in trend was statistically significant for persons using medications.

In interpreting these results it is assumed that the stable trend in concession card holders using antidepressant medications in the period prior to *Better Access* (compared to the small downward trend in the total population shown in section 8.2) occurs because the effect of medications falling below the co-payment threshold is not an issue for this group. The growth in persons using and scripts supplied for PBS-subsidised antidepressants post-*Better Access* however, was the same for concession card holders (1.0% and 1.5% per quarter, respectively) as for the total population (0.9% and 1.5% per quarter; see section 8.2).

Table 8.3 Estimated change in trend for uptake of PBS-subsidised antidepressant medications, before and after the introduction of *Better Access*, among people eligible to receive these medications at a concession price.

	Trend pre- <i>Better Access</i>		Trend post- <i>Better Access</i>		Ratio of trends ^a	
	RR (95% CI)	P	RR (95% CI)	P	RR (95% CI)	P
Antidepressant medication use						
Persons using medication	1.002 (1.005-1.019)	0.636	1.010 (1.006-1.014)	<0.001	1.008 (1.001-1.016)	0.037
Scripts supplied	1.000 (0.981-1.020)	0.971	1.015 (1.006-1.024)	<0.001	1.015 (0.994-1.036)	0.160

2004 through 2008 figures have regard to all claims processed up to and including August 2009; 2009 figures have regard to all claims processed up to and including June 2010.

RR, rate ratio; CI, confidence interval. Data exclude the December 2006 quarter.

^a The ratio of the post-*Better Access* trend to the pre-*Better Access* trend.

In contrast to the findings for antidepressants, there was no significant change in trend for persons using or supply of PBS-subsidised anxiolytic medications for concession card holders, with time trends stable across the pre- and post- *Better Access* periods. The stable trends in persons using and scripts supplied for anxiolytic medications post-*Better Access* was consistent with the results for the total population (see section 8.2).

Table 8.4 Estimated change in trend for uptake of PBS-subsidised anxiolytic medications, before and after the introduction of *Better Access*, among people eligible to receive these medications at a concession price.

	Trend pre- <i>Better Access</i>		Trend post- <i>Better Access</i>		Ratio of trends ^a	
	RR (95% CI)	P	RR (95% CI)	P	RR (95% CI)	P
Anxiolytic medication use						
Persons using medication	0.993 (0.985-1.002)	0.136	0.999 (0.995-1.003)	0.539	1.005 (0.996-1.014)	0.240
Scripts supplied	0.992 (0.979-1.007)	0.297	0.998 (0.992-1.004)	0.558	1.006 (0.991-1.020)	0.435

2004 through 2008 figures have regard to all claims processed up to and including August 2009; 2009 figures have regard to all claims processed up to and including June 2010.

RR, rate ratio; CI, confidence interval. Data exclude the December 2006 quarter.

^a The ratio of the post-*Better Access* trend to the pre-*Better Access* trend.

8.4 WHAT IS THE RELATIONSHIP BETWEEN *BETTER ACCESS* UPTAKE AND DEMAND FOR ANTIDEPRESSANT AND ANXIOLYTIC MEDICATIONS AT A DIVISION LEVEL?

To examine the relationship between *Better Access* uptake and medications supplied, analyses were focused on the 2009 calendar year as these data are assumed to better represent established patterns of *Better Access* utilization than earlier years. Negative binomial regression analyses (see section 2.3.4 of this report for further information) were conducted separately for antidepressant and anxiolytic medications, to quantify the effect of *Better Access* uptake on medication supply within Divisions. The models used PBS-subsidised antidepressant or anxiolytic medication supply (persons using or scripts supplied, as appropriate), as the dependent variable, and adjusted for the size of the population in each Division by incorporating the logarithm of the population size as an offset term. The predictor was the rate of persons using *Better Access* services (per 1,000) in the Division.

Table 8.5 shows the summary statistics for PBS-subsidised antidepressant and anxiolytic medication supply and *Better Access* uptake for the 113 Divisions of General Practice in Australia in 2009.

Table 8.5 Summary statistics for PBS-subsidised antidepressant and anxiolytic medication supply and *Better Access* uptake in 113 Divisions of General Practice in Australia, 2009

Division level measures	Summary statistics		
	Range	Mean	SD
Persons using antidepressant medications (per 1,000)	21.0-121.2	85.0	20.2
Antidepressant medication scripts supplied (per 1,000)	133.4-1,333.7	624.7	180.8
Persons using anxiolytic medications (per 1,000)	4.3-53.8	28.7	9.0
Anxiolytic medication scripts supplied (per 1,000)	17.1-285.5	147.8	52.8
<i>Better Access</i> users (per 1,000)	14.2-82.4	49.5	13.4

2009 PBS figures have regard to all claims processed up to and including June 2010. 2009 MBS figures have regard to all claims processed up to and including 30 April 2010.

SD, standard deviation.

Table 8.6 presents the results of the regression analyses for antidepressant medications. These show that the rate of persons supplied with antidepressant medications increased significantly as the percentage of the population in the Division using *Better Access* services increased. A similar effect was found for scripts supplied.

Table 8.6 Negative binomial regression estimates of rate ratios with 95% CIs for PBS-subsidised antidepressant medication supply, 2009

	RR	95% CI	P
Persons using antidepressant medications			
<i>Better Access</i> users (per 1,000) in Division	1.005	1.002-1.009	0.004
Antidepressant medication scripts			
<i>Better Access</i> users (per 1,000) in Division	1.005	1.001-1.010	0.029

2009 figures have regard to all claims processed up to and including June 2010.

RR, rate ratio; CI, confidence interval.

Table 8.7 presents the results of the regression analyses for anxiolytic medications. These show that the rate of persons supplied with anxiolytic medications increased significantly as the percentage of the population in the Division using *Better Access* services increased. A similar

effect was found for scripts supplied. Interestingly, the effect was stronger for anxiolytic medications than for antidepressant medications.

Table 8.7 Negative binomial regression estimates of rate ratios with 95% CIs for PBS-subsidised anxiolytic medication supply, 2009

	RR	95% CI	P
Persons using anxiolytic medications			
<i>Better Access</i> users (per 1,000) in Division	1.011	1.006-1.016	<0.001
Anxiolytic medication scripts			
<i>Better Access</i> users (per 1,000) in Division	1.013	1.008-1.018	<0.001

2009 figures have regard to all claims processed up to and including June 2010. 2009 MBS figures have regard to all claims processed up to and including 30 April 2010.

RR, rate ratio; CI, confidence interval.

These analyses were then repeated in order to examine persons using, and scripts supplied for, antidepressant and anxiolytic medications among concession card holders. Table 8.8 shows the summary statistics for PBS-subsidised antidepressant and anxiolytic medication supply and *Better Access* uptake for the 113 Divisions of General Practice in Australia in 2009.

Table 8.8 Summary statistics for PBS-subsidised antidepressant and anxiolytic medication supply among concession card holders and *Better Access* uptake in 113 Divisions of General Practice in Australia, 2009

Division level measures	Summary statistics		
	Range	Mean	SD
Persons using antidepressant medications (per 1,000)	9.2-107.4	67.8	20.1
Antidepressant medication scripts supplied (per 1,000)	54.5-1,221.5	510.2	177.7
Persons using anxiolytic medications (per 1,000)	4.0-53.3	28.0	8.9
Anxiolytic medication scripts supplied (per 1,000)	15.6-282.4	145.5	52.6
<i>Better Access</i> users (per 1,000)	14.2-82.4	49.5	13.4

2009 figures have regard to all claims processed up to and including June 2010. 2009 MBS figures have regard to all claims processed up to and including 30 April 2010.

SD, standard deviation.

Table 8.9 shows that the rate of persons supplied with antidepressant medications increased significantly as the percentage of the population in the Division using *Better Access* services increased. Results for concession card holders were the same as those for the total population.

Table 8.9 Negative binomial regression estimates of rate ratios with 95% CIs for PBS-subsidised antidepressant medication supply among concession card holders, 2009

	RR	95% CI	P
Persons using antidepressant medications			
<i>Better Access</i> users (per 1,000) in Division	1.006	1.001-1.011	0.020
Antidepressant medication scripts			
<i>Better Access</i> users (per 1,000) in Division	1.005	1.000-1.011	0.060

2009 figures have regard to all claims processed up to and including June 2010. 2009 MBS figures have regard to all claims processed up to and including 30 April 2010.

RR, rate ratio; CI, confidence interval.

Table 8.10 presents the results of the regression analyses for anxiolytic medications. These show that the rate of concession card holders supplied with anxiolytic medications increased significantly as the percentage of the population in the Division using *Better Access* services increased. A similar effect was found for scripts supplied. Again, the effect was stronger for anxiolytic medications than for antidepressant medications. Results for concession card holders were the same as those for the total population.

Table 8.10 Negative binomial regression estimates of rate ratios with 95% CIs for PBS-subsidised anxiolytic medication supply among concession card holders, 2009

	RR	95% CI	P
Persons using anxiolytic medications			
<i>Better Access</i> users (per 1,000) in Division	1.011	1.006-1.016	<0.001
Anxiolytic medication scripts			
<i>Better Access</i> users (per 1,000) in Division	1.013	1.007-1.019	<0.001

2009 figures have regard to all claims processed up to and including June 2010. 2009 MBS figures have regard to all claims processed up to and including 30 April 2010.

RR, rate ratio; CI, confidence interval.

8.5 SUMMARY OF FINDINGS

Has there been a change in demand for antidepressant and anxiolytic medications since the introduction of *Better Access*?

- Using Division level data, a significant change in trends for PBS-subsidised antidepressant supply was observed in the two years pre- and the three years post- the introduction of *Better Access*. The rate of persons using antidepressant medications appeared to decrease slightly in the two years before the introduction of *Better Access*, however it is acknowledged that this is likely to reflect some high uptake medications coming off patent during this period. The rate of persons using antidepressant medications increased significantly (1.0% per quarter, on average) in the three years after the introduction of *Better Access*. The rate of scripts supplied also increased significantly (1.5% per quarter, on average) post-*Better Access*.
- In contrast, there was no significant change in trend for rates of PBS-subsidised anxiolytic supply pre- and post-*Better Access*, with rates stable in both periods.

To what extent has *Better Access* uptake impacted on demand for antidepressant and anxiolytic medications?

- A positive association was found between *Better Access* uptake and medication use at a Division level in 2009. The rate of persons within a Division using PBS-subsidised antidepressant medications, and the rate of scripts supplied, increased as the percentage of persons using *Better Access* increased. Similarly, the rate of persons within a Division using PBS-subsidised anxiolytic medications, and the rate of scripts supplied, increased as the rate of persons using *Better Access* increased.