5 Pharmaceutical products

Introduction

Data on the use of pharmaceutical products in Australia are derived from two main sources. The Health Insurance Commission through the Pharmaceutical Benefits Scheme (PBS) and the Repatriation Pharmaceutical Benefits Scheme (RPBS) provides data on pharmaceutical products that are subsidised by the Commonwealth Government. The Pharmacy Guild Survey is an ongoing survey of community pharmacies conducted by the Pharmacy Guild of Australia. The Pharmacy Guild Survey estimates the number of prescriptions issued from community pharmacies that are not covered by the PBS/RPBS. In 2001, it was estimated that slightly less than 80% of all community prescriptions (that is, non-public hospitals) were dispensed under the PBS/RPBS.

The information in this chapter only describes pharmaceutical products dispensed in community pharmacies and does not include medications issued from public hospitals.

Top 10 prescription medicines

In 2001, approximately 208.1 million prescriptions were dispensed through community pharmacies. This represented an increase of 5.0% over the previous year and 9.8% over the period 1999–2001.

By volume

The top 10 medicines by number of prescriptions issued from community pharmacies summed to 43.2 million or around 20% of all prescriptions in 2001 (Table 5.1). The top two ranked prescription medicines—atorvastatin and simvastatin—were drugs used to lower cholesterol, while three out of the top 10 medicines—paracetamol, codeine with paracetamol and temazepam—affect the central nervous system.

Table 5.1: Top 10 prescription medicines distributed through community pharmacies, Australia, 2001

Drug (action)	PBS/RPBS	Pharmacy Guild Survey	Total community use
		(Prescriptions '000)	
Atorvastatin (cholesterol lowering)	5,189	7	5,196
Simvastatin (cholesterol lowering)	4,984	4	4,987
Paracetamol (analgesic)	4,775	110	4,885
Salbutamol (asthma treatment)	3,585	1,134	4,719
Amoxycillin (antibiotic)	2,393	2,277	4,670
Codeine with paracetamol (strong analgesic)	2,985	1,188	4,174
Ranitidine hydrochloride (peptic ulcer treatment)	3,324	486	3,810
Celecoxib (osteoarthritis and rheumatoid arthritis)	3,770	26	3,796
Atenolol (blood pressure reduction)	2,744	801	3,545
Temazepam (for sleep)	2,787	599	3,385

Source: Commonwealth Department of Health and Ageing, unpublished data.

In 2001, around 85% of the top 10 prescription medicines dispensed at community pharmacies were prescriptions covered by the PBS/RPBS.

By cost to Commonwealth Government

In 2001, the top 10 prescription medicines by cost to the Commonwealth Government accounted for around $1.4 billion of Commonwealth expenditure (Table 5.2). Again, the top two ranked prescription medicines were drugs used to lower cholesterol. Commonwealth expenditure on atorvastatin and simvastatin totalled $539 million in 2001, which was 39% of Commonwealth expenditure among the top 10 drugs.

Table 5.2: Top 10 prescription drugs by cost to the Commonwealth Government (PBS and RPBS), Australia, 2001

Drug (action)	Defined daily dose	Number of prescriptions	Cost to Commonwealth
	DDD[(a)]	('000)	($m)
Simvastatin (cholesterol lowering)	35.4	4,984	272
Atorvastatin (cholesterol lowering)	49.9	5,189	267
Omeprazole (peptic ulcer treatment)	17.6	3,271	180
Celecoxib (osteoarthritis and rheumatoid arthritis)	23.4	3,770	143
Olanzapine (schizophrenia treatment)	2.4	581	122
Salmeterol and fluticasone (asthma treatment)	. .	1,482	92
Pravastatin (lipid reduction)	9.7	1,612	88
Bupropion (treatment for nicotine dependence)	3.0	357	84
Insulin (blood sugar regulation)	9.8	428	78
Sertraline (antidepressant)	14.7	2,303	67

(a) Defined daily dose per 1,000 population per day.

Source: Commonwealth Department of Health and Ageing, unpublished data.

By defined daily dose

The most accurate way to express the consumption of prescription drugs is through the defined daily dose per thousand population per day (DDD). The defined daily dose is the amount necessary to treat one adult for one day. The Nordic Council on Medicines and the World Health Organization Drug Utilisation Research Group establishes the defined daily dose. The use of DDD allows comparisons to be made irrespective of the price, preparation or the quantity of the prescription.

Among the top 10 prescription drugs by DDD, the cholesterol-lowering drugs atorvastatin (49.9) and simvastatin (35.4) were ranked first and second, and made up 35% of the top 10 prescriptions by DDD (Table 5.3).

Table 5.3: Top 10 prescription medicines issued through community pharmacies by defined daily dose[a], Australia, 2001

Drug (action)	PBS/RPBS	Pharmacy Guild Survey	Total community use
		(DDD[a])	
Atorvastatin (cholesterol lowering)	49.9	0.1	49.9
Simvastatin (cholesterol lowering)	35.4	0.0	35.4
Salbutamol (asthma treatment)	22.2	7.9	30.2
Celecoxib (osteoarthritis and rheumatoid arthritis)	23.4	0.2	23.5
Frusemide (fluid retention)	19.9	1.6	21.5
Omeprazole (peptic ulcer treatment)	17.6	0.1	17.7
Ranitidine hydrochloride (peptic ulcer treatment)	14.6	2.1	16.8
Ramipril (blood pressure)	16.4	0.3	16.6
Amlodipine (blood pressure)	14.9	1.3	16.2
Ipratropium bromide (asthma treatment)	15.1	0.1	15.3

(a) Defined daily dose per 1,000 population per day.

Source: Commonwealth Department of Health and Ageing, unpublished data.

Community prescriptions for major drug groups

Medicines are classified into Anatomical Therapeutic Chemical groups generally according to the target organ of individual drugs. In 2001, the most widely prescribed class of drug was for the cardiovascular system (52.7 million prescriptions), followed by drugs that affect the central nervous system (40.5 million prescriptions) (Table 5.4). As a proportion of all prescriptions, those for the cardiovascular system increased from 23.8% in 1999 to 25.3% in 2001, while prescriptions for the central nervous system decreased from 19.8% in 1999 to 19.5% in 2001.

Table 5.4: Number of community prescriptions issued for selected Anatomical Therapeutic Chemical (ATC) groups, Australia, 1999–2001

	PBS/RPBS			Pharmacy Guild Survey			Total community		
ATC group	1999	2000	2001	1999	2000	2001	1999	2000	2001
		(m)			(m)			(m)	
Alimentary[a]	18.2	19.0	19.4	2.3	2.5	3.2	20.5	21.4	22.6
Cardio[b]	41.9	45.9	49.3	3.2	3.1	3.4	45.1	49.0	52.7
Anti-infectives[c]	13.3	13.2	13.2	11.0	11.0	11.0	24.3	24.2	24.2
Central nervous[d]	29.9	31.2	33.2	7.6	7.6	7.3	37.5	38.8	40.5
Respiratory[e]	12.4	12.4	11.4	2.7	2.3	2.9	15.1	14.7	14.3
Other[f]	30.5	33.7	38.0	16.5	16.4	15.8	47.0	50.1	53.8
Total source	**146.3**	**155.3**	**164.5**	**43.2**	**42.8**	**43.6**	**189.5**	**198.2**	**208.1**

(a) Alimentary includes drugs for peptic ulcers/reflux.

(b) Cardio includes drugs that lower blood pressure and that lower lipids.

(c) Anti-infectives includes antibiotics.

(d) Central nervous includes analgesics, tranquillisers and antidepressants.

(e) Respiratory includes anti-asthmatic drugs.

(f) Other includes all other drugs listed for use in Australia.

Source: Commonwealth Department of Health and Ageing, unpublished data.

Drugs affecting the central nervous system

Over the period 1999 to 2001, the most widely used drugs affecting the central nervous system according to DDD were antidepressants, followed by psycholeptics and analgesics (Table 5.5). Over the same period, around 30 million prescriptions were issued by community pharmacies for antidepressants, 26 million prescriptions for anxiolytics, hypnotics and sedatives, 20 million prescriptions for opioid analgesics and 19 million prescriptions for non-opioid analgesics.

In 2001, the most widely used drugs affecting the central nervous system according to DDD were antidepressants (51.5 DDD) followed by psycholeptics (31.5 DDD) and analgesics (23.2 DDD). Antidepressants accounted for 47% of total central nervous system drugs by DDD, psycholeptics, 29%, and analgesics, 21%.

Table 5.5: Community prescriptions for nervous system drugs, Australia, 1999 to 2001

	Number of prescriptions			Defined daily dose		
Type of nervous system drug	**1999**	**2000**	**2001**	**1999**	**2000**	**2001**
		(m)			**(DDD[a])**	
Analgesics						
Opioid	6.5	6.7	7.5	9.6	9.8	11.2
Non-opioid	6.5	6.4	6.3	12.4	12.3	12.0
Total analgesics	*12.9*	*13.0*	*13.8*	*21.9*	*22.0*	*23.2*
Psycholeptics						
Major tranquillisers[b]	2.5	2.6	2.7	6.2	6.7	7.4
Anxiolytics, hypnotics and sedatives[c]	8.8	8.7	8.7	25.3	24.3	24.1
Total psycholeptics	*11.4*	*11.4*	*11.3*	*31.5*	*31.0*	*31.5*
Antidepressants	9.1	10.0	10.9	41.0	46.6	51.5
Other nervous system drugs[d]	0.8	0.9	0.7	2.4	1.6	4.1
Total nervous system drugs	**21.2**	**22.3**	**23.0**	**96.8**	**101.2**	**110.3**

(a) Defined daily dose per 1,000 population per day.

(b) Major tranquillisers mainly includes anti-psychotic drugs.

(c) Anxiolytics, hypnotics and sedatives includes benzodiazepines and barbiturates.

(d) Other nervous system drugs includes anti-epileptics and anaesthetics.

Source: Commonwealth Department of Health and Ageing, unpublished data.