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Research Note

The affordability of prescription medicines in Australia: are copayments and safety net thresholds too high?

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Abstract

Objective. To create and report survey-based indicators of the affordability of prescription medicines for patients in Australia.

Method. A cross-sectional study of 1502 randomly selected participants in the Hunter Region of NSW, were interviewed by telephone.

Main outcome measure. The self-reported financial burden of obtaining prescription medicines.

Results. Data collection was completed with a response rate of 59.0%. Participants who had received and filled at least one prescription medicine in the previous 3 months, and eligible for analysis (n=952), were asked to self-report the level of financial burden from obtaining these medicines. Extreme and heavy financial burdens were reported by 2.1% and 6.8% of participants, respectively. A moderate level of burden was experienced by a further 19.5%. Low burden was recorded for participants who said that their prescription medicines presented either a slight burden (29.0%) or were no burden at all (42.6%).

Conclusion. A substantial minority of participants who had obtained prescription medicines in the 3 months prior to survey experienced a level of financial burden from the cost of these medicines that was reported as being moderate to extreme.

What is known about the topic? The Australian National Medicines Policy aims to, amongst other things, facilitate access to medicines at a cost that is affordable to individuals and the community. Copayments combined with the safety net and brand price premium are the main determinants of the amount that patients pay for PBS listed prescription medicines. Previous surveys have reported on selected aspects of medicine affordability in Australia and have shown some groups in the population experience difficulty with the cost of their medicines.

What does this paper add? This paper develops and reports on a set of indicators that can be used to periodically measure the level of self-reported financial burden experienced by Australians when obtaining prescription medicines. The analysis assesses affordability issues for both general patients and patients who are able to access prescription medicines using a concession card.

What are the implications? Our research suggests that, as they stand, the copayment and safety net thresholds are not protecting nearly one-third of Australian patients from financial burden. Ongoing monitoring and evaluation is required to ensure the copayment and safety net thresholds do not jeopardise the National Medicines Policy's principle of equitable and affordable access to medicines.

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Introduction

One of the core aims of Australia's National Medicines Policy is to encourage access to necessary medicines at a cost that is affordable to individuals and the community.[1] The delivery of affordable medicines is mainly through the Pharmaceutical Benefits Scheme (PBS), which is funded by the federal government and provides universal access to necessary pharmaceuticals. Most patients obtain their prescription medicines through the PBS, which covers ~80[2]–90%[3] of medicines prescribed in Australia.

The PBS operates without any upper limit on its annual expenditure, that is, it has an uncapped budget. This is not to say there are no constraints on PBS expenditures. There are several methods that are used to help contain PBS expenditures and these are: measures to ensure the Government buys medicines at prices that represent value for money; the use of cost sharing with patients; and the activities of the National Prescribing Service that are designed to moderate demand through education of prescribers and the public. Despite these policy tools PBS expenditures have recorded relatively strong rates of growth: the cost of operating the PBS has been rising by an average of 8.4% per annum from 1999–2000 to 2009–10[4] and has grown as many expensive new drugs have been listed and widely prescribed.

This study focussed on the impact of cost sharing. Containing PBS expenditures through cost sharing is mainly exercised through the use of copayments, which are the contributions patients make to the cost of their medicines. The rationale for cost sharing largely centres on a perceived need to send a 'price signal' to patients to discourage unnecessary or suboptimal use which might be expected if PBS insurance resulted in nil out-of-pocket patient costs (moral hazard).[5,6] Cost sharing has a direct impact on the affordability of medicines for patients and there is evidence that the impact of pharmaceutical cost sharing is a reduction in the use of both essential and nonessential drugs particularly amongst the poor and elderly.[7–10]

Affordability problems for patients have been identified in Australia previously and although based on varied methodologies, their findings are consistent: substantial numbers of Australians report difficulties meeting the cost of their prescriptions.[5,11–16] For example, in 2001 cost was given as a reason for not obtaining a prescription medicine by between 18 and 21% of Australians.[14] In 2003, 20% of Australians reported not obtaining a prescription medicine because of cost[5] and this figure was 22% in 2004 and in 2005.[15,16]

Under current PBS arrangements there are two categories of patient: general and concession (income support recipients such as aged pensioner and unemployed). In January 2012, the maximum per prescription copayment for a PBS listed medicine was set at $35.40 for general patients and $5.80 for concession patients.[17] The annual medicine expense for patients is tempered by safety net arrangements. In any calendar year, the safety net provisions are triggered when a patient spends a given amount on PBS listed medicines. In 2012 the safety net was set at $1363.30 for general patients and $448.00 for concession patients. On reaching this threshold, general patients will pay a $5.80 copayment per prescription and concession patients receive prescriptions free of any copayment.[18] In addition to the copayment, concession and general patients may still pay a 'brand price premium' which is a price margin that is paid by the patient. It is incurred when a medicine supplier will only supply their drug at a price that is higher than the reimbursed 'benchmark price' – the lowest price of a reimbursed medicine within an identified therapeutic group. Brand price premiums are payable even when the safety net has been reached.

The present study aimed to develop and report indicators that represent the affordability of prescription medicines for patients. The intention is to build these indicators into a comprehensive tool to evaluate the affordability of prescription medicines for patients. Ongoing evaluation of the impact on patients from the copayment and safety net thresholds is needed to ensure the National Medicines Policy's principle of equitable and affordable access to medicines is upheld.

Methods

Community telephone survey

A 2007 cross sectional survey of wellbeing conducted in the Hunter Region of NSW with data collected between 20 August and 15 November by the Hunter Valley Research Foundation[19] contained questions on medicine expenditures. The Human Research Ethics Committee of the University of Newcastle approved the use of the medicine affordability questions and their inclusion in the wellbeing survey. The sample was selected using random digit dialling (RDD). RDD is a method to correct the underrepresentation of telephone numbers that are not listed in the telephone book. Participants were randomly selected adults aged 18 and over: 1502 participants were interviewed from the Hunter Region of NSW. Data were collected using computer-assisted telephone interviewing (CATI). Up to 11 call backs were made to make contact with the household, identify the randomly selected respondent and complete the interview.

Australian Bureau of Statistics (ABS) Census[20] information indicates that the age profiles of the Hunter Region and Australia are similar although the Hunter tends to have proportionally fewer people aged between 20 and 54 and proportionally more people aged 55 and over. Data were collected before the impact of the Global Financial Crisis and at a time when the Hunter Region's economy was recording solid employment growth and low unemployment rates.[21]

Questionnaire

The full questionnaire contained over 150 questions on socio-economic and health issues. Filtering ensured the medicine questions targeted participants with experience of medicine use over the 3 months before interview. Medicine users included participants who had used prescription and over-the-counter (OTC) medicines, but did not include those who had only used vitamin or dietary supplements. Only participants who had received and filled a prescription in the last 3 months were asked questions on financial burden and average weekly expenditure on medicines. Demographic information was collected, including whether the participant possessed a concession card, which carries an entitlement for lower prescription medicine copayments (and a lower safety net) than applies to general patients.

Outcomes: measures of affordability

Methodologies for reporting the affordability of medicines are varied. Health Action International (HAI) and the World Health Organisation (WHO) have used techniques based on the

Table 1. Sample characteristics of participants who had used medicines in the last 3 months

	n	% of total
Sex		
Male	588	47.0%
Female	663	53.0%
	1251	100.0%
Age group		
18–29	208	16.6%
30–39	226	18.1%
40–49	228	18.2%
50–59	215	17.2%
60–64	91	7.3%
65+	283	22.6%
All ages	1251	100.0%
Health status		
Excellent	179	14.3%
Very good	351	28.1%
Good	403	32.2%
Fair	258	20.6%
Poor	58	4.6%
Refused	2	0.2%
	1251	100.0%
Long-term health condition		
Yes	565	45.2%
No & refused	686	54.8%
	1251	100.0%
Self-assessed financial status		
Very poor & poor	63	5.0%
Comfortable	857	68.5%
Very comfortable	276	22.1%
Prosperous	55	4.4%
Refused	0	0.0%
	1251	100.0%
Income		
$40k and under	466	37.3%
$40 001–$60 000	169	13.5%
$60 001–$100 000	273	21.8%
$100 001+	219	17.5%
Refused	124	9.9%
	1251	100.0%
Housing		
Own (with & without mortgage)	926	74.0%
Rent	217	17.3%
Other	102	8.2%
Refused	6	0.5%
	1251	100.0%
Number of children (473 participants were responsible for a child under 18)		
1	154	32.6%
2	196	41.4%
3	84	17.8%
4 or more	39	8.2%
	473	100.0%
Health card status		
Concession patients	509	40.7%
General patient	739	59.1%
Refused	3	0.2%
	1251	100.0%
Ability to raise $2000 in 1 week for an emergency		
Easily raise	763	61.0%
Easily raise but with sacrifice	282	22.5%
Do something drastic to raise	58	4.6%
Not sure could raise at all	69	5.5%
Could not raise	75	6.0%
Refused	4	0.3%
	1251	100.0%

comparison of local medicine prices against local wages, typically the wage of an unskilled worker.[12,22–25] Elsewhere, methodologies based on mail or telephone surveys have been used where householders have provided a self report on the burden caused by medicine prices.[5,14–16] The literature contains many examples of the use of self-reported financial burden measures, and self-reported cost-related behaviours, for medicines as well as other health-related issues.[26–29]

The main outcome variable for assessing affordability in this study was the self-reported financial burden of obtaining prescription medicines. Participants who had received and filled a script in the last 3 months were asked: How much of a financial burden were these prescriptions for you? The response categories (read out to the participants) were: not at all (abbreviated to 'Nil' in this paper), slight, moderate, heavy, extreme. Self-reported measures of affordability allow participants to judge cost with regard to their own circumstances such as income and competing expenditures.

Other measures of affordability from this survey included:

(1) The proportions of recent medicine users who reported certain behaviours related to the cost of prescription medicines. These potential behaviours related to the 3 months before interview and were read out to participants. The statements had yes/no/don't know/refused response options and were: In that time [last 3 months], because of cost, have you . . .. Bought over the counter medicines rather than get a prescription medicine from the doctor?; Asked your doctor or pharmacist for a cheaper generic version of a prescribed medicine?; Used medicines you have had at home rather than obtain a new prescription? Used a medicine belonging to someone else rather than obtain a new prescription?
(2) The average weekly patient expenditure on prescription medicines.

Analysis

All survey data were weighted to the 2006 Census[20] based on household size, age and sex. After weighting, the 1502 interviews equated to 1500 responses; proportions and means in this paper were reported for the weighted sample. All tests of significance were at the 95% level of confidence ($P \leq 0.05$) and based on Pearson's chi-square, one-way analysis of variance (ANOVA) and *t*-tests. In this article a significant difference means a statistically significant difference. Analysis was conducted using SPSS and Excel.

Due to small numbers in some of the response categories, the variable for the self-reported financial burden of filling scripts

was collapsed from five categories (nil, slight, moderate, heavy and extreme burdens) into two (nil and slight and moderate to extreme burdens). In addition, a new variable was created identifying participants who had nominated two or more cost-saving behaviours.

Results

Data collection was completed with a response rate of 59%. The age characteristics of the sample were broadly similar to that reported in the 2006 Census.[20] However, the unweighted sample was underrepresented by younger age groups and overrepresented by older age groups; weighting corrected these sampling issues.

Of the 1500 Hunter participants, 1251 (83.4%) had personally used or their dependent had used a medicine, including prescription and OTC formulations, in the previous 3 months. Of these, 959 (76.6%) had been provided a prescription by a doctor, specialist or nurse practitioner in the same period. All but seven of these participants filled at least one of their scripts. Table 1 summarises the demographic characteristics of the 1251 participants with recent medicine experience.

Affordability outcomes

Self-reported financial burden of filling scripts

The self-reported financial burden from the cost of prescription medicines was collected from participants who had filled a prescription in the last three months (n = 952). Extreme and heavy financial burdens were reported by 2.1 and 6.8% of participants. A moderate level of burden was experienced by a further 19.5% of participants. Low burden was recorded for participants who said that their prescription medicines presented either a slight burden (29.0%) or were no burden at all (42.6%). Due to the small number of responses in some categories, the original five response groups were collapsed into two categories of nil to slight burden and moderate to extreme burden (see Fig. 1). Statistically similar proportions of concession and general patients reported moderate to extreme burden: 25.0 and 30.7%.

There were no significant differences in the likelihood of participants reporting *moderate to extreme* burden based on gender or health card status. However, there were significant differences based on other variables. Those reporting moderate to extreme burden were significantly more likely to: be in middle age groups (40–49 and 50–59), be in fair or poor health; have a diagnosed long-term health condition; be on a low income; be a renter; have four or more children, have failed to obtain at least one of their prescribed medicines in the last 3 months; self assess as being poor or very poor; find it difficult to raise $2000 for an emergency; have reported behaviours that were related to the cost of prescription medicines (see Table 2).

Mean weekly expenditure on prescription medicines

Participants who filled at least one prescription in the previous 3 months ($n = 952$) were asked to estimate their average weekly expenditure on medicines. Five participants identified expenditures of $100 or more per week and were excluded from the analysis as outliers. It is not known whether these participants had misunderstood the question or were accurately reporting unusually high expenditures that might reflect the purchase of prescriptions that were not on the PBS. After accounting for nonresponse a total of 872 participants were able to estimate an amount spent on prescriptions medicines: the mean weekly expenditure was $10.30 (95% CI $9.50–$11.10). For concession card holders, the average weekly expenditure on prescription medicines was $7.96 (95% CI $7.03–$8.88) while general patients spent on average $12.00 per week (95% CI $10.82–$13.19).

Those who said the mean cost of their prescription medicines caused nil financial burden spent significantly less than those who said the burden was slight. The three groups of extreme, heavy and moderate formed a statistically similar group, in terms of the

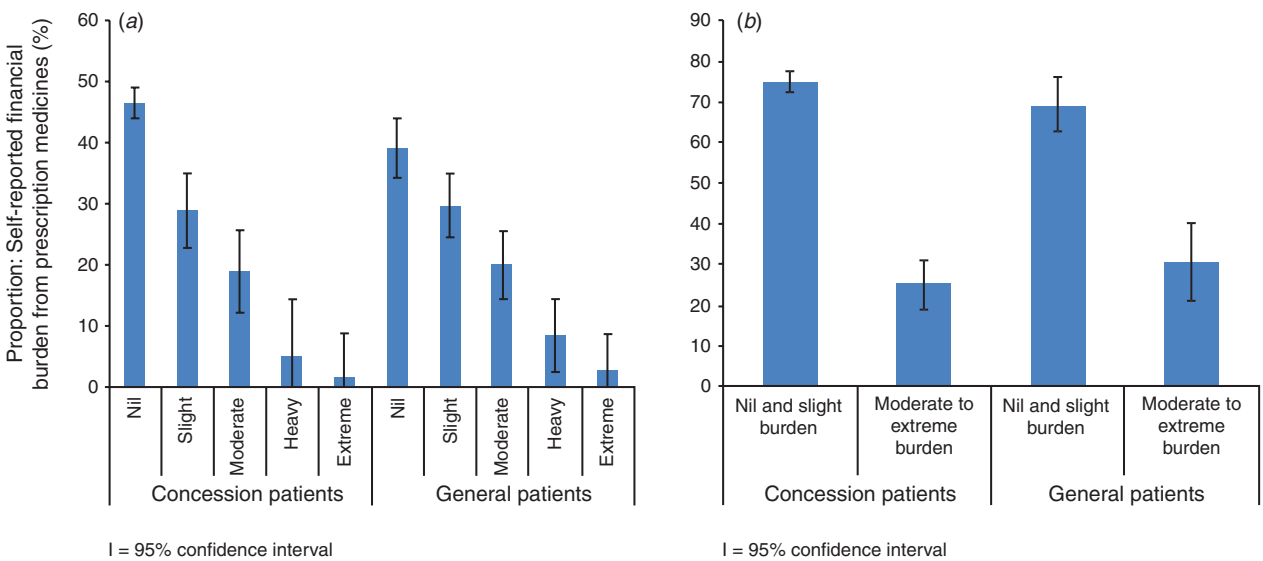

Fig. 1. Self-reported financial burden from the cost of prescription medicines; (*a*) original and (*b*) collapsed categories.

Table 2. Participants reporting moderate to extreme burden with the cost of their prescription medicines

	% reporting moderate to extreme burden	*P*		% reporting moderate to extreme burden	*P*
Gender		0.217	Number of children (of participants with children under 18)		<0.001
Male	26.4%		1	26.3%	
Female	30.0%		2	25.5%	
Age group		0.010	3	26.7%	
18–29	28.7%		4 or more	63.6%	
30–39	26.9%		Health card status		0.056
40–49	35.5%		Concession patients	25.0%	
50–59	34.4%		General patient	30.7%	
60–64	28.2%		Prescribed medicine in last 3 months and		<0.000
65+	19.9%		. . .obtained them all	26.2%	
Health status		<0.000	. . .obtained none or some	46.5%	
Excellent	16.4%		Due to cost have you. . .		
Very good	19.6%		. . .bought OTC rather than a doctor's script		<0.000
Good	28.9%		Yes	42.0%	
Fair	42.2%		No	24.9%	
Poor	40.4%		. . .asked for cheaper generic medicine		<0.000
Long-term health condition		0.004	Yes	35.2%	
Yes	32.7%		No	20.9%	
No	24.2%		. . .used medicine at home instead of new script		<0.000
Income		0.030	Yes	51.4%	
$40k and under	30.8%		No	23.2%	
$40 001 to $60 000	31.8%		. . .used a medicine belonging to someone else		<0.000
$60 001 to $100 000	29.6%		Yes	49.2%	
$100 001+	19.0%		No	26.9%	
Housing		0.005	Number of cost-saving behaviours		<0.000
Own (with & without mortgage)	26.1%		2 or more	44.3%	
Rent	39.0%		Less than 2	22.2%	
Other	28.9%		Ability to raise $2000 in 1 week for an emergency		<0.000
Self-assessed financial status		<0.000	Easily raise	20.1%	
Very poor & poor	58.5%		Easily raise but with sacrifice	38.1%	
Comfortable	30.7%		Do something drastic to raise	47.5%	
Very comfortable	16.2%		Not sure that could raise at all	46.6%	
Prosperous	11.1%		Could not raise	38.7%	
TOTAL	28.3%				

dollar value spent on medicines. This combined group had significantly higher expenditures than those who reported nil or slight burden.

Table 3 shows the estimated weekly and annual values of spending on prescription medicines for each self-reported level of burden for the combined sample and separately for concession and general patients. This table also shows the average weekly expenditure that would trigger the safety nets for both patient types.

For concession patients, the safety net was triggered before participants reported slight financial burden. For general patients, moderate and heavy financial burden with the cost of prescription medicines was experienced before the safety net was triggered. For both patient groups, many participants were still left paying amounts in annual prescription costs that were greater than the respective safety net thresholds.

Not obtaining prescription medicines because of their cost

Participants who were prescribed a medicine in the last 3 months ($n = 959$) were asked whether they had the script(s) filled. Of these, 106 participants said they left at least one script unfilled and 41 (4.3% of the 959 who were prescribed a medicine) said that cost was the reason for not filling the script(s).

Behaviours related to the cost of prescription medicines

Participants were asked whether prescription *cost* was the reason for engaging in a range of medicine-related behaviours. Of the 1251 participants with prescription or OTC medicine experience over the last 3 months: 265 (21.2%) reported buying an OTC medicine instead of obtaining a prescription, 609 (48.7%)

Table 3. Average weekly expenditure on prescription medicines by level of self-reported financial burden and concession card status, and PBS safety net thresholds

Factor	Number of participants	Average weekly spend	Average annual spend	Standard error (weekly)	Average weekly spend 95% CI Lower	Average weekly spend 95% CI Upper
ALL PATIENTS	872	$10.30	$535.60	0.407	$9.50	$11.10
Original categories of burden						
Nil	367	$5.95	$309.40	0.389	$5.19	$6.72
Slight	254	$10.23	$531.96	0.711	$8.83	$11.63
Moderate	172	$15.07	$783.64	1.093	$12.91	$17.22
Heavy	61	$19.18	$997.36	1.888	$15.41	$22.96
Extreme	18	$24.30	$1263.60	4.259	$15.33	$33.26
Collapsed categories						
Nil and slight	621	$7.70	$400.40	0.380	$6.96	$8.45
Moderate to extreme	251	$16.64	$865.28	0.943	$14.88	$18.60
GENERAL PATIENTS	504	$12.00	$624.00	0.604	$10.82	$13.19
Original categories of burden						
Nil	199	$6.73	$349.96	0.588	$5.57	$7.89
Slight	149	$11.74	$610.48	1.073	$9.62	$13.86
Moderate	101	$16.94	$880.88	1.550	$13.86	$20.01
Heavy	43	$21.24	$1104.48	2.470	$16.26	$26.22
Extreme	12	$27.59	$1434.68	5.133	$16.33	$38.85
Collapsed categories						
Nil and slight	348	$8.87	$461.24	0.584	$7.72	$10.02
Moderate to extreme	157	$18.97	$986.44	1.292	$16.42	$21.52
CONCESSION PATIENTS	367	$7.96	$413.92	0.469	$7.03	$8.88
Original categories of burden						
Nil	168	$5.04	$262.08	0.480	$4.09	$5.98
Slight	105	$8.11	$421.72	0.759	$6.60	$9.61
Moderate	71	$12.41	$645.32	1.430	$9.56	$15.26
Heavy	17	$13.91	$723.32	1.805	$10.09	$17.74
Extreme	6	$17.72	$921.44	7.495	$0.00	$36.79
Collapsed categories						
Nil and slight	274	$6.22	$323.44	0.424	$5.35	$7.05
Moderate to extreme	94	$13.03	$677.56	1.218	$10.61	$15.45
Safety net thresholds – 2007[A]						
Safety net – concession patient		$5.28	$274.40			
Safety net – general patients		$20.37	$1059.00			

[A]The safety net thresholds are based on cumulative spending in the calendar year. The value of the weekly spend to reach the safety net in this table is not part of the policy – it is provided as a guide to enable comparison with the unit of measure used in the survey data. Source: Department of Health and Ageing.

asked their doctor or pharmacist for a cheaper generic medicine, 232 (18.5%) used a medicine that was already at home rather than obtain a new prescription and 78 (6.2%) used a medicine belonging to someone else rather than obtain a new prescription. All of these behaviours were significantly more likely to be identified by those who also reported moderate to extreme financial burden with the cost of their prescriptions.

A summary of the responses to the affordability questions is in Table 4. This table contains all the medicine-related questions including the proportion of participants who attended an emergency department (ED) for acute care, to obtain cheaper medicines (8.1% of the 98 people who attended an ED for acute care).

Discussion

This study developed benchmark indicators using survey data on the affordability of prescription medicines for patients. These indicators can be tracked over time to monitor changes in affordability with regard to the economic climate and pharmaceutical policies that affect the amounts patients pay for their prescription medicines. With an apparent increase in the use of medicines, particularly amongst older Australians,[30,31] there is a need to regularly monitor the affordability of prescription drugs, not only from a national health budget perspective but also from a patient perspective.

The National Medicines Policy aims for Australian patients to have timely access to the medicines they need at a cost that both individuals and the community can afford. The policy is explicit: 'cost should not constitute a substantial barrier to people's access to medicines'. In line with this objective, PBS subsidies apply to the majority of important prescription medicines used in Australia with patients contributing a per prescription copayment (to discourage 'waste'). The impact of this cost on patients is intended to be limited via safety net provisions. However, there is evidence that the level of the copayment is having a deleterious effect on the use of medicines in Australia[32] and that having

Table 4. Survey responses to questions on medicine use and affordability

Question	Participants eligible for the question	% (*n*)	95% confidence interval around proportion	
			Lower	Upper
Over the last 3 months have you or any person dependent on you used any medicines including prescription and over-the-counter-medicines? (% yes)	1500	83.4% (1251)	82.0%	84.8%
In that time (last 3 months), because of cost, have you. . .				
. . . bought over-the-counter-medicines rather than get a prescription medicine from your doctor? (% yes)	1251	21.2% (265)	19.5%	22.9%
. . . asked your doctor or pharmacist for a cheaper generic version of a prescribed medicine (% yes)	1251	48.6% (609)	46.7%	50.6%
. . . used medicines you have had at home rather than obtain a new prescription (% yes)	1251	18.6% (232)	16.9%	20.1%
. . . used a medicine belonging to someone else rather than obtain a new prescription (% yes)	1251	6.2% (78)	5.2%	7.2%
Do you hold a health concession card? (% yes)	1251	40.8% (509)	38.4%	42.4%
Over the last 3 months, has a doctor, specialist or nurse practitioner prescribed medication for you or any person dependent on you? (% yes)	1251	76.6% (959)	75.0%	78.4%
Did you. . .				
. . . obtain all prescribed medicines (% yes)	959	88.9% (849)	87.0%	90.0%
. . . obtain some prescribed medicines but not all of them (% yes)	959	10.3% (99)	8.9%	11.7%
. . . obtain none of the prescribed medicines (% yes)	959	0.7% (7)	0.3%	1.1%
. . . obtain none or some prescription medicines (% yes) (combined answer from previous two responses)	959	11.1% (106)	9.6%	12.6%
Why didn't you obtain all of the prescriptions, was it because. . .				
. . . you could not afford the cost (% yes)	106	38.7% (41)	31.8%	45.6%
. . . you thought the medicine was unnecessary (% yes)	106	45.3% (48)	38.3%	52.3%
. . . you thought the condition would improve on its own (% yes)	106	48.1% (51)	41.1%	55.1%
. . . you were worried about side effects (% yes)	106	23.6% (25)	17.6%	29.6%
. . . you had that medicine already (% yes)	106	39.6% (42)	32.7%	46.5%
. . . you/the condition improved and you felt you no longer needed the prescribed medication (% yes)	106	47.2% (50)	40.2%	54.2%
Have you attended a hospital emergency room in last 3 months? (% yes)	1414	28.7% (406)	27.0%	30.4%
Was it for acute care? (% yes)	406	24.1% (98)	21.0%	27.2%
Was it to access free medicines? (% yes)	98	8.1% (8)	4.1%	12.1%
How much of a financial burden were these prescribed medicines for you?				
No burden	952	42.6% (403)	40.0%	44.6%
Slight burden	952	29.0% (275)	26.8%	31.0%
Moderate burden	952	19.5% (184)	17.5%	21.2%
Heavy burden	952	6.8% (64)	5.5%	7.9%
Extreme burden	952	2.1% (20)	1.4%	2.8%

concession status is not sufficient to protect patients from reporting financial burden with the cost of their medicines.

It has previously been found that increases in PBS copayments for general and concessional patients are associated with declining dispensings and the fall is significantly greater for concession than for general patients.[33] It has also been identified that the burden of out-of-pocket expenses falls mainly on those who can least afford it, exacerbating the relationship between poverty and poor health.[34] Our study found that those with a long-term health condition were significantly more likely to report *moderate to extreme* self-reported financial burden – a finding supported elsewhere. In an examination of patients with chronic obstructive pulmonary disease (COPD), patients reported difficulty managing healthcare costs associated with their disease and necessary living expenses.[35] Pharmacists in Australia have also reported that many patients with chronic disease struggle with the cost of medicines and this affects medicine regimes.[36] The risk of adverse events and emergency department visits has also been found to rise when copayments increase.[9] Our study found that ~8% of acute care emergency department visits were for patients to access cheaper medicines.

Australian copayments for medicines are high by international standards. Australia is ranked 4th highest out of 14 OECD countries in terms of out-of-pocket expenses for medicines.[37] Other surveys, including those based on cross country comparisons, indicate that while the PBS negotiates low prices for some medicines by international standards[38] Australian patients often report difficulty in paying for those medicines.[5,14,16,38]

Our affordability survey used self-reported financial burden as its main indicator of affordability. Similar proportions of

concession and general patients reported *moderate to extreme* financial burden with their medicines. Notably, the findings indicate that for general patients, *moderate* and *heavy* levels of self-reported financial burden are experienced before the threshold for the general safety net is reached. This suggests a considerable gap between policy makers' and patients' perceptions of the affordability of prescription medicines.

The National Medicines Policy seeks to promote the quality use of medicines – that is, timely, safe and appropriate use. Those reporting financial burden were significantly more likely to also report cost-saving behaviours such as not filling their scripts, buying an OTC medicine rather than obtaining a prescription and using a medicine already at home or belonging to someone else rather than obtaining a new script. The low numbers reporting such behaviours, even among those experiencing financial burden, may reflect the importance patients place on their medicines and the advice of their medical practitioner. However, some of the behaviours reported, such as asking for a cheaper generic medicine brand, are positive and consistent with PBS cost-containment objectives.

The relationship between copayments and medicine utilisation is well established: increasing copayments reduces medicine use.[5,7–10,39] If this reduction was confined to the use of nonessential medicines, it would lend some support to the argument that copayments are effective in addressing moral hazard. However, it is well established that increases in copayments reduce utilisation of both essential and nonessential medicines, with the impact typically greater among the lower income patients.[5,8–10,40] While it is unclear to what extent copayments reduce the unnecessary use of medicines, it is clear that the current level of copayments in Australia is creating financial burden, as measured in this study, amongst both concession and general patients. Copayments are an imprecise policy measure designed to reduce the unnecessary use of prescription medicines. However, the evidence from our study and others is that the value of copayments in Australia is reducing the utilisation of medicines and creating financial burden for a substantial group of patients.

Limitations

To minimise recall bias in the community survey, the medicine questions were only presented to participants who had used medicines, or had a dependant who had used medicines, in the 3 months before interview. It is possible that this screening excluded participants who experienced severe affordability issues preventing them from visiting a GP consultation that may have resulted in a recommendation for a script. This would lead to an underestimate in the affordability indicators.

There were two sample limitations: size and seasonal influences. The sample size only allowed top-level analysis of the indicators by patient type. With an objective to determine the pattern of affordability issues amongst concession and general patients, a larger sample would have enabled detailed analysis. Seasonal influences may have affected the responses provided by participants in the survey. Data collection occurred in the second half of the year when some participants would have reached the safety net threshold. Reaching the safety net would typically reduce weekly expenditures on prescription medicines possibly causing an underestimate of the weekly spend on medicines, particularly amongst high medicine users.

The level of self-reported financial burden experienced from the cost of prescription medicines was measured by asking participants to make their own assessment of this issue, given their particular circumstances. It is believed this measure was appropriate because participants had the opportunity to consider their own financial position when answering. Nonetheless, there may have been variation between respondents in the range of circumstances that were taken into consideration.

Conclusion

Although a minority, a substantial group of people surveyed in this study reported their prescription medicines caused moderate to extreme financial burden. The cost of healthcare, as an essential service, should be monitored to ensure it remains affordable for all Australians. Our study contains self-reported affordability benchmarks for prescription medicines. Price thresholds for access to PBS medicines should be made with evidence of the affordability issues these financial barriers can create for access to necessary medicines.

Competing interests

This work was conducted without any financial or other support or assistance from any tobacco company or individual or entity acting on or behalf of the tobacco industry or any pharmaceutical company or entity acting on behalf of the pharmaceutical industry.

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