

# Co-payments and parental decision-making: A cross-sectional survey of the impact on general practice and emergency department presentations

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## Background

Co-payments for medical services have been a controversial topic in Australia.

## Objective

The aim of this study was to assess parents' perspectives on the potential impact of co-payments for general practice and emergency department (ED) services for children.

## Methods

A cross-sectional survey was conducted between May and November 2014 in the EDs of four metropolitan hospitals in Melbourne. The participants were 1531 parents of children presenting with lower urgency conditions. The outcome measures were the potential impact of a \$7 general practice co-payment or a \$7 ED co-payment on the use of services for children.

## Results

Seventy-three per cent (n = 1089) of parents reported that a \$7 general practice co-payment would not increase their use of EDs for lower urgency problems for their children. Increased use was associated with younger parent or guardian age and lower household income. Ninety per cent (n = 1343) reported that a \$7 ED co-payment would not have an impact on ED attendance. Impact was associated with younger parent or guardian age and lower income.

## Discussion

For most parents presenting to an ED with their child, a \$7 general practice or ED co-payment is unlikely to affect health service use, although significant differences in response were found according to parent or guardian age and household income.

Co-payments for healthcare services are one mechanism by which policymakers may attempt to mitigate the increasing cost of health service provision.<sup>1</sup> These goals may be achieved through the direct revenue generated from co-payments themselves, or through savings from altered service use. The structure of co-payments may vary significantly according to the desired goals and the context in which they are implemented. Co-payments may be targeted to very specific services or therapies, or be very broad, aimed at an entire class of services (eg ambulatory care).

In Australia, universal health insurance coverage is provided through the federally administered Medicare Benefits Schedule (MBS). Currently, Medicare does not use co-payments, although co-payments are used in other ways within the healthcare system (eg in the Pharmaceutical Benefits Scheme [PBS]).<sup>2</sup> Additionally, patients are responsible for any charges from their providers beyond what Medicare pays for their services (commonly known as a 'gap' fee).

Currently, for general practitioners (GPs) who accept the Medicare rebate as full payment (bulk-bill), patients have no out-of-pocket expense. More than 80% of general practice visits are bulk-billed, with the proportion similar or slightly lower among paediatric patients.<sup>3,4</sup> However, the Federal Government's 2014 budget proposed a \$7 co-payment for all general practice services.<sup>5</sup> The stated rationales for the co-payment were to generate revenue to compensate GPs for a \$5 reduction in Medicare rebate payments, fund a national research initiative and reduce the perceived overuse of primary care.<sup>6</sup> Although this specific policy initiative is no longer active, the concept of co-payments for the Australian healthcare system will remain a focus of debate for years to come.

Several studies have investigated the capacity of co-payments to achieve cost saving and their impact on healthcare use.

The largest – the RAND Health Insurance Experiment (HIE) in the US – showed that the likelihood of any medical service use declined as co-payments for those services increased. Although the health of the average person was not adversely affected by an increased cost to access care, health outcomes were more likely to be affected for those with low income and poor health.<sup>7</sup> Other studies have found that the effects of co-payments may be most felt among younger patients,<sup>8</sup> and those with low income<sup>9</sup> or chronic conditions.<sup>10</sup> An unintended consequence of broadly applied co-payments may be that the use of cost-effective, preventive health services is affected, potentially undermining the overall financial aims of the co-payment systems.<sup>11,12</sup>

Another possible unintended consequence of co-payments is 'service substitution', in which patients reduce their use of services requiring co-payments, but increase the use of other services, potentially resulting in cost shifting rather than genuine savings.<sup>6</sup>

In Australia, co-payments for primary care would represent a significant departure from the current system. There is little local evidence, though much speculation, regarding what impact such changes may have on health service use. One concern is that patients will increase emergency department (ED) use in response to required general practice co-payments, prompting calls for a similar co-payment for ED services. The aim of this study was to assess parents' perspectives on the potential impact of co-payments for general practice and ED services in the care of children.

## Methods

### Data collection

This study was part of a larger project investigating factors associated with the use of EDs for paediatric patients. Parents of children presenting with lower urgency conditions (triage category 3, 4 or 5) to the EDs of three public general hospitals and one paediatric hospital in Melbourne were asked by a research assistant from the

University of Melbourne to complete an electronic survey using tablet computers. Participants were recruited across all hours and days of the week, and were offered a \$10 voucher. Parents who appeared visibly distressed or had limited English language skills were excluded. Written informed consent was obtained. Data were collected and managed using Research Electronic Data Capture (REDCap) electronic data capture tools hosted by the University of Melbourne.<sup>13</sup>

Demographic information collected included patient age (<1 year or ≥1 year, <5 years or ≥5 years), birth order (first born, second born or higher), history of ED use (0 or ≥1 visit(s) in the past 12 months), and age and annual household income of the patient's primary carer (<30 years or ≥30 years, and <\$100,000 or ≥\$100,000).

Participants were asked whether a \$7 general practice co-payment would make them more likely to attend an ED, and whether a \$7 ED co-payment would alter ED use for lower urgency conditions.

### Data analysis

Descriptive analyses included frequency counts, cross-tabulations and chi-square analyses. Logistic regression was used to assess relationships between independent variables (patient and primary carer demographics) and the potential effects of co-payments. The effect of a \$7 general practice co-payment was included as a binary variable, indicating definite or potential impact versus no impact on choice of ED over general practice for lower urgency problems. The effect of a \$7 ED co-payment was included as a binary variable indicating that the payment would have deterred presentation to the ED. Data were analysed using STATA 13.<sup>14</sup> The project was approved by the Human Research Ethics Committees at the participating hospitals and the University of Melbourne (Project 1341293).

## Results

We approached 1911 parents or guardians of children presenting to the ED with lower urgency conditions. There were

1531 participants who completed the survey and 380 (20%) who declined to participate, distributed approximately equally across the four hospitals. Not all questions have the same number of respondents because of infrequent non-response to particular questions.

### GP co-payment

Ten per cent (n = 157) of respondents indicated that a \$7 general practice co-payment would definitely make them more likely to attend the ED. Seventy-three per cent (n = 1089) reported that a \$7 general practice co-payment would have no effect on attendance at EDs for lower urgency problems for their children; 17% (n = 248) were 'uncertain'.

Chi-square analyses showed that the impact of a \$7 general practice co-payment was significantly associated with the age and annual household income of the primary carer (Table 1). Regression analyses showed similar patterns, with the odds of younger carers choosing to attend an ED rather than pay a \$7 general practice co-payment significantly higher than for older carers (odds ratio [OR]: 1.60; 95% confidence interval [CI]: 1.24–2.15). This pattern was also observed in participants on lower household incomes (<\$100,000; OR: 2.9; 95% CI: 2.12–3.99; Table 2).

No associations were found with the number of times the child had attended the ED in the previous 12 months, child's age or birth order, or the day (weekday or weekend) or time of day of presentation to the ED.

### ED co-payment

Most (90%; n = 1343) parents or guardians reported that a \$7 ED co-payment would not influence their decision to attend an ED. Seven per cent (n = 104) reported that they would be more likely to attend general practice, and 3% (n = 48) reported that they would take care of the problem at home.

Faced with a \$7 ED co-payment, parents or guardians of children <5 years of age were more likely than those with

older children to say they would have gone to a GP or cared for the child at home (12% versus 7%;  $P = 0.03$ ). The age and household income of the parents or guardians were also significantly associated with the effect of co-payments (Table 3).

Similar results were seen with the regression analysis, with the odds of parents or guardians choosing not to attend the ED increasing among those <30 years of age (OR: 1.98; 95% CI: 1.35–2.89), and increasing among those from households with an annual household income <\$100,000 (OR: 3.99; 95% CI: 2.24–7.10; Table 4).

No association was found with the number of times the child had attended the ED in the previous 12 months, child’s birth order, whether the child had a

chronic condition, or the day (weekday or weekend) or time of day of presentation to the ED.

**Co-payment at EDs and general practices**

Among those indicating that a \$7 ED co-payment would make them more likely to attend a GP ( $n = 104$ ), 23% ( $n = 23$ ) stated that faced with a similar \$7 general practice co-payment, they would not seek care at either service. Almost half of these respondents (49%;  $n = 50$ ) indicated that they would visit a GP rather than the ED.

**Discussion**

Among our most important findings is that for a majority of those presenting to EDs with a child having lower urgency conditions, a \$7 co-payment is unlikely to

affect their health service use. However, 10% of participants overall responded that a \$7 general practice co-payment would make them more likely to visit an ED. Ten per cent of respondents reported that a \$7 ED co-payment would influence their decision to attend an ED. There were differences among some demographic groups. Participants <30 years of age and those with household incomes <\$100,000 were significantly more likely to report an affect for both proposed co-payments.

From a policy perspective, co-payments for general practice or primary care services may be applied broadly, or with specific inclusion or exclusion criteria for services and populations.<sup>1</sup> International evidence suggests that co-payments can be effective in changing patterns of primary care service use.<sup>7,10</sup> Where there is perceived overuse of services, co-payments may lead to decreased use and potentially decreased healthcare costs.<sup>10</sup> We found that a small proportion of parents may alter use patterns when faced with a general practice co-payment. Determining the practical implications of this for health service use at the population level requires further research.

Broadly applied, co-payments in primary care may have unintended consequences. Even if individuals are willing to pay for care when ill, co-payments may deter patients’ use of services aimed at preventing, rather than treating, disease, such as vaccination<sup>15</sup> and screening programs.<sup>16,17</sup> The same may also be true for chronic disease management.<sup>18</sup> Given their relative cost-effectiveness,<sup>12</sup> it may be that higher co-payments may decrease adherence to chronic disease management programs and actually increase overall health system costs.

Broadly applied, co-payments in other domains of health services may unfairly burden some patients. The use of some services, such as some diagnostic, radiological and pathology testings, is usually determined by doctors rather than patients. Not all doctors order such tests at the same rate or for the same reasons,<sup>19</sup> and patients rarely have the

**Table 1. Responses to ‘Would having to pay \$7 at a general practice surgery make you more likely to come to the ED instead of the general practice for a non-urgent problem?’ by carer age and household income**

Possible effect	Age of primary carer*		Annual household income*	
	≤30 (n = 451)	>30 (n = 1023)	≤\$100,000 (n = 972)	>\$100,000 (n = 455)
	% (n)	% (n)	% (n)	% (n)
<b>Yes</b>	16 (71)	8 (83)	12 (121)	5 (25)
<b>Maybe</b>	21 (96)	14 (146)	21 (200)	8 (36)
<b>No</b>	63 (284)	78 (794)	67 (651)	87 (394)

\* $P < 0.001$

**Table 2. Results of regression analysis of responses to ‘Would having to pay \$7 at a general practice surgery make you more likely to come to the ED instead of the general practice for a non-urgent problem?’\***

	Odds of \$7 GP co-payment encouraging attendance at ED	
	OR	95% CI
<b>Primary carer &lt;30 years of age</b>	1.60 <sup>†</sup>	1.24–2.13
<b>Annual household income &lt;\$100,000</b>	2.90 <sup>†</sup>	2.12–3.99
<b>Child’s first presentation at ED within 12 months</b>	0.97	0.75–1.25
<b>First-born child</b>	0.91	0.71–1.17
<b>Presenting with child &lt;1 year</b>	1.20	0.91–1.67

\*The reference category for the regression analysis is ‘No’, with responses ‘Maybe’ and ‘Yes’ combined to form a binary response; <sup>†</sup> $P < 0.0001$

knowledge to dispute the need for such services.

Co-payments may have additional implications for those on lower incomes. If service use does not decrease, increased costs may result in disproportionate financial burdens (as a proportion of income) for poorer communities.<sup>10</sup> Similarly, broad co-payments may place a disproportionate economic burden on those with chronic illnesses who require frequent, ongoing care.<sup>20</sup>

A more effective and equitable use of co-payments may be a system tailored to achieve specific goals with due

consideration to services and populations for inclusion and exclusion. Studies have shown a price-elasticity in the use of discretionary medical services.<sup>9</sup> If services subject to overuse and/or considered 'low value' (ie unnecessary or ineffective) can be identified, it may be possible to determine an appropriate price signal to decrease their use without negative consequences to health.<sup>21,22</sup>

There are likely to be important lessons from the co-payments in the PBS that may help to guide future debate regarding co-payments for health services. PBS data regarding the impact of changing prices for medication may suggest

potential responses to health service co-payments, particularly among vulnerable communities.<sup>23</sup>

Additionally, the introduction of co-payments would add complexity to the healthcare system and its administrative burden. The burden on providers may result in significant administrative costs.<sup>10</sup> These costs and the manner in which they would be absorbed into the system must be considered.

This study has limitations. Participants were recruited from EDs and may, therefore, differ from those who had chosen to attend general practice clinics for similar conditions. Only English-speaking parents or guardians were recruited, with participation limited to metropolitan Melbourne. As such, our findings may not be generalisable. Future research may target those presenting to general practice clinics for similar conditions, culturally and linguistically diverse populations, and those in regional or rural areas. Furthermore, we studied only \$7 co-payments; higher co-payments may have a greater impact. Finally, results regarding the impact of household income should be interpreted realising that many on lower incomes may qualify for concessions.

### Implications for general practice

As the cost of healthcare continues to increase, it is likely that the issue of co-payments and other means of reducing service use and costs will remain relevant in Australia. Previously, the debate surrounding co-payments in the Australian healthcare system has suffered from a lack of data regarding patients' perspectives. Our results indicate a readiness among most respondents to pay a \$7 co-payment to access general practice and ED services for their children with lower urgency conditions. Future policy discussions in Australia may be more productive by appreciating the more nuanced elements and choices among systems incorporating co-payments. Finally, any discussion regarding the

**Table 3. Responses to 'Would having to pay \$7 for an ED visit have made you less likely to bring your child to the ED today?' by carer age and household income**

Possible effect	Age of primary carer*		Annual household income*	
	≤30 (n = 452)	>30 (n = 1023)	≤\$100k (n = 973)	>\$100k (n = 455)
	% (n)	% (n)	% (n)	% (n)
<b>Yes – would have gone to a GP instead</b>	10 (47)	5 (53)	9 (86)	3 (12)
<b>Yes – I would have tried to take care of this problem at home</b>	6 (27)	2 (20)	4 (44)	1 (4)
<b>No</b>	84 (378)	93 (950)	87 (843)	96 (439)

\*P < 0.001

**Table 4. Results of regression analysis of responses to 'Would having to pay \$7 for an ED visit have made you less likely to bring your child to the ED today?'**\*\*

	Odds of \$7 ED co-payment discouraging ED attendance	
	OR	95% CI
<b>Primary carer &lt;30 years</b>	1.98†	1.35–2.89
<b>Annual household income &lt;\$100k</b>	3.99†	2.24–7.1
<b>Child's first presentation at ED within 12 months</b>	1.14	0.79–1.64
<b>First-born child</b>	0.92	0.64–1.32
<b>Presenting with child &lt;1 year</b>	1.19	0.79–1.81

\*The reference category for the regression analysis is 'No', with responses 'Yes – I would have gone to the GP' and 'Yes – I would have tried to take care of this problem at home' combined to form a binary response  
†P < 0.0001

implementation of a co-payment system should include mention of a robust mechanism to assess the impact, both intended and unintended, on all sectors of the population. Such assessment is necessary to ensure both providers and patients that any future policies regarding co-payments are informed and guided by evidence, not anecdote or assumption.

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