Australia's pharmaceutical cost sharing policy: reducing waste or affordability?

Evan Doran and Jane Robertson

Abstract

In this paper we argue that Australia's pharmaceutical cost sharing policy has been applied as if cost sharing is unproblematic for medicine affordability and good health outcomes. Australian and international experience with pharmaceutical cost sharing strongly suggests a negative impact on affordability and quality use of medicines, disproportionately affecting low income patients. We argue that Australia's use of cost sharing reflects the currency of a cognitively powerful and morally charged idea – moral hazard. Moral hazard refers to the change in behaviour induced by insurance coverage. Applied to pharmaceuticals, this means that low out-of-pocket cost will lead to waste. Moral hazard mixes the explanatory power of price with the intuitively cogent notion that if people do not experience consequences they will behave irresponsibly. Cost sharing policy has gone unscrutinised and uncontested not because cost sharing is unproblematic, but because in the light of the idea of moral hazard it has all the question-deadening weight of common sense.

Aust Health Rev 2009: 33(2): 231–240

PRESCRIPTION MEDICINES are a fact of life for many Australians. Not just for those chronically or acutely ill, but for the hundreds of thousands of otherwise well citizens concerned to control their hypertension, their cholesterol, or whatever is necessary to stay well for as long as possible. Prescription medicines are also a fact of life for Australian federal governments, committed as they have been since 1948 to publicly funding access to pharmaceuticals through the Pharmaceutical Benefits Scheme (PBS). The PBS has proved to be an expensive commitment. As in other industrialised nations, waves of innovation have steadily established pharmaceuticals as central to how we treat and prevent ill health; it has been estimated that in 2007–08 Australian general practitioners prescribed medications on more than 88 million occasions.[1] The costs of operating the PBS rose steadily until the 1980s, then surged on the tide of blockbuster drugs such as statins (and the impact of drugs such as Celebrex and Zyban) to average around 12% annual growth rate through the 1990s and early 2000s.[2] The benefits of this growth, likely to be considerable, are less easy to quantify. Typically, government reference to Australia's drug bill has been in terms of it being a problem needing solutions to remain sustainable.[3]

Government efforts to contain costs and ensure the sustainability of the PBS have taken two major routes: application of cost-effectiveness evaluation and patient cost sharing. Australia's pharmaceutical pricing policy, widely considered to have delivered the government and the Australian taxpayer good value for the dollars spent, has evolved through significant sets of contentious reform, for example, the introduction of pharmacoeconomic analyses in 1993, and more recently the "F1/F2" reforms of 2007 introducing tiered categorisation of medicines and mandatory prices cuts. By contrast, the only change to patient cost sharing policy since it was first implemented in 1960 has been to expand its use to include pensioners. Unlike in PBS listing and pricing policy where antagonism between government and industry has resulted in scrutiny, debate and change, cost sharing has not been seriously chal-

Evan Doran, PhD, Research Fellow
Jane Robertson, PhD, Senior Lecturer
Clinical Pharmacology, University of Newcastle, Newcastle, NSW.

Correspondence: Dr Evan Doran, Clinical Pharmacology, University of Newcastle, Level 5, NewMed2, Calvary Mater Hospital, Waratah, NSW 2298.
evan.doran@newcastle.edu.au

lenged. Australia's cost sharing policy remains as it was several decades ago — limited to periodical, across the board increases in out-of-pocket prescription cost.

In this paper we explore the neglect of Australia's cost sharing policy. Interpreting cost sharing from the view that ideas as well as interests shape public policy, we argue that the neglect reflects the currency of a cognitively powerful and morally charged idea — moral hazard. Moral hazard refers to the change in behaviour induced by insurance coverage. Applied to pharmaceuticals, this means that low out-of-pocket cost will lead to waste. Moral hazard mixes the explanatory power of price with the intuitively cogent notion that if people do not experience consequences they will behave irresponsibly.

Australian pharmaceutical policy documents are vague when it comes to the rationale for cost sharing. Cost sharing appears to have two main functions: to partially offset the costs to the Commonwealth and to have patients "contribute" to the costs of their prescriptions. Of itself, offsetting the cost to Commonwealth by having patients contribute amounts to simple "cost-shifting" does little to enhance system efficiency. Patient contributions, however, are considered desirable because they send a "price signal" to medicines users, minimise inappropriate use and "wastage" and so can enhance efficiency. This belief in the impact of patient contributions reflects the notion of "moral hazard". Cost sharing policy has gone unscrutinised and uncontested not because cost sharing is unproblematic (to be discussed below), but because in the light of the idea of moral hazard it has all the question-deadening weight of common sense.

Ideas

Like all policy, pharmaceutical policy involves a political contest over who gets what.[4] The tension between the interests of the two main antagonists of pharmaceutical policy, the government and the manufacturing industry,[5] can obscure the importance of ideas in shaping policy. Policy develops as material interests interact with and through ideas, broadly defined as cognitive and normative precepts that both define policy problems and provide legitimate solutions.[6] The properties of ideas range from more abstract ontological and normative principles to more specific theoretical propositions.[7] Ideas can operate at a background level of taken-for-granted general assumptions or as explicit imperatives and justifications for policy action.[8,9] The influence of an idea will depend on its resonance with policy makers — an effect intimately connected to prevailing intellectual and public sentiments.[4,9,10] In the present case of pharmaceutical policy, the prevailing economic wisdom's mistrust of welfare and preference for market solutions has provided fertile ground for the idea of moral hazard and its main solution, cost sharing.

The Pharmaceutical Benefits Scheme

The provision of medicines in Australia is guided by the National Medicines Policy (NMP), the primary aim of which is to cost-effectively meet the medication needs of Australians.[11,12] As one element of the NMP, the PBS is a universal scheme of subsidisation applied to approved medicines prescribed in the community with the objective of providing equity of access to necessary medicines. Most prescription medicines used in Australia are made available to patients through the PBS. While the NMP aims that cost should not be a substantial barrier to access, affordable access is intended to complement *appropriate* (timely, safe and efficacious) prescription use by patients and maximise the health value per dollar of PBS expenditure.[12,13] Expenditure, and more specifically its growth, is easily the most commented on feature of the PBS.

The Australian government spent $6.4 billion on pharmaceuticals in 2006–07, a growth in real terms of 4.3% on the previous year.[14] Although this rate continues the recent trend of slowing growth, the PBS has long been the fastest growing source of health expenditure, with a history punctuated by frequent bouts of rapid increases.[2] Rising costs and dire, if contested, projections of future growth have created a climate of concern for the scheme's future sustainability.[2] A number

of factors are known to contribute to increases in drug expenditure — an ageing population, the trend towards managing and preventing illness using pharmaceuticals and the regular introduction of newer and more expensive drugs.[15,16]

The extent to which rising PBS expenditure has been or will be a problem is not clear. Historically, Australia's drug bill (as a proportion of total health expenditure) has not been particularly high by international standards, rising drug expenditure is not a problem *per se* and drug costs need to be accounted against cost offsets from reduced hospitalisations and use of other health services.[16,17] Additionally, the operation of the PBS, particularly its monopsony power and the use of cost-effectiveness evaluation, is regarded as having delivered value for money from Australia's drug expenditure.[18] PBS bargaining power has secured prices for new drugs (particularly "me-too" drugs) that have been lower than most other OECD (Organisation for Economic Co-operation and Development) countries.[19] A tight system of regulating access to PBS listing, with price depressing effects, does not itself cut costs but ensures that drugs that are not cost-effective are not listed.[20] Regardless of value for dollar, Australia's drug bill has been a highly visible source of health expenditure, and questioning the sustainability of PBS growth has become a familiar refrain.[13]

The appropriate level of spending on pharmaceuticals is dependent on their cost-effectiveness compared with other available treatments.[16] The PBS listing system, including economic analyses and price negotiations, can achieve only so much — cost-effectiveness ultimately lies in optimal use and, leaving aside the problem of under-use for the purposes of this discussion, in drugs not being "over-used". Unnecessary or over-use of prescription medicines is inefficient — any derived benefits are likely to be outweighed by the costs.[13] To the extent that it occurs, the potential sources of pharmaceutical over-use lie with sub-optimal prescribing practices of doctors and unnecessary use by patients.

Some of the prescribing practices of Australian doctors are potentially sub-optimal.[15,21] Prescription "drift", the trend for doctors to prescribe newer and more expensive medicines for common conditions,[11,18] and prescription "leakage", prescribing a medicine for a broader range of indications and patient categories than was intended in the decision to subsidise the medicine,[16] have significantly contributed to the overall growth in drug expenditure. It is possible, but not proven, that much of this prescribing drift and leakage is not cost-effective use of drugs. There have been a number of policy initiatives around improving prescribing practice, most significantly the creation of the National Prescribing Service in 1998, an organisation devoted to providing independent information and educational resources for doctors and other health professionals.[22] Although it is the doctor who, optimally or otherwise, issues the prescription, patient demand stimulated by subsidised access under the PBS is believed to be a significant and problematic contributor to Australia's rising drug bill.[23-25]

Moral hazard and the PBS

The PBS is a pharmaceutical insurance scheme. From the view of conventional insurance theory — health insurance reduces price of care to zero.[26] Health insurance does not pay out the insured with a lump sum but covers some or all of the cost of the care consumed. Insurance suppresses the price signal creating the conditions for "moral hazard".[27-29] Moral hazard refers to the change in behaviour induced by insurance coverage — typically a reduction in the incentive for the insured to avoid risk behaviour or to not indulge in over-usage of common pool resources.[30] In the case of health insurance, it is theorised that the reduction in the price of care induces consumers to consume more than they would have at the market price; by definition such care is worth less than it costs and consuming care that is worth less than it costs is wasteful.[31] For Mark Pauly, perhaps the economist most responsible for establishing moral hazard as a central concern for health economics, the type of behaviour induced by insurance coverage

amounts to "That's OK doc, the insurance will pay for it".[32] There is an indifference to cost that can be induced by too-generous insurance dulling the out-of-pocket cost price signal: insurance disguises the cost, "it makes things look cheap".[32]

Consumer moral hazard has preoccupied health economists and policy makers for decades.[33] PBS-related waste, rarely explicitly labelled as moral hazard, is a recurring theme in government communication about the PBS. A government television campaign in 2003 (which reportedly cost $27 million) featured a celebrity doctor exhorting Australians to avoid "wasting" PBS medicines.[34] Another proposed government campaign encouraging the public to report "PBS cheats" was abandoned after strong public criticism.[35] In the 2005–06 Budget speech the then Federal Treasurer maintained the waste theme by alleging that Australians "hoard" medicines.[36] Australian patients appear to be viewed as ever willing to "take advantage" of the PBS and ever in need of greater self-discipline and responsibility. The solution to moral hazard offered by economists is simple — restore the price signal inhibited by insurance through cost sharing.[26]

Cost sharing and the PBS

When in the 1950s the PBS was expanded into a universal welfare program providing free or low cost medicines, pharmaceuticals were effectively "de-commodified" (price was not used to influence medicine-related behaviour) for Australian medicine users.[37] The concern that low out-of-pocket cost would result in moral hazard emerged very early. When cost sharing was introduced in 1960 it was with two main objectives: to partially offset the costs of the PBS to the Commonwealth and to discourage "unnecessary" use of the PBS.[38]

Under the PBS, cost sharing involves prescription copayments applied to two categories of patient — concession patients (income support recipients such as aged pensioner and unemployed) and general patients (all other consumers). In 2009, general patients pay a maximum copayment of $32.90 for a PBS-listed medicine, plus any brand premium. The maximum copayment for concession patients is $5.30, plus any brand premium.[39] Copayments are applied in tandem with a "safety net" designed to protect patients from excessive medicine bills. The safety net sets a threshold for out-of-pocket costs in a calendar year. General patients who spend more than $1264.90 will pay a $5.30 copayment per prescription thereafter. On reaching $318.00 in out-of-pocket costs, concession patients receive their prescriptions free of charge for the remainder of the year.[40] Copayments and the safety net thresholds are increased on 1 January each year in line with the Consumer Price Index (CPI).

Since first introduced in 1960, the copayment amount and the safety net threshold have steadily been rising in both nominal and real terms (see Sweeny in this issue, *page 215*).[41,42] Between 1980 and 2008 the copayment for general patients rose substantially faster than the Consumer Price Index (CPI) and average weekly earnings (AWE). Over this 28-year period the CPI increased by 245%, AWE by 312% and the general patient copayment by 1038%. The safety net threshold for general patients has also been rising faster than CPI and AWE. Between 1991 and 2008 the safety net threshold increased by 281% while CPI and AWE increased by 53% and 79%, respectively.[42] The copayment increases for concession patients have been less than those recorded for the CPI and AWE. However, safety net increases for concession patients have been faster than those for CPI and AWE.[42]

Incremental increases in the copayment and safety net limits mean Australian patients are paying more than ever for their prescription medicines. It has also been argued that set against falling prices for many off-patent PBS medicines (a process accelerated by the "F1/F2" reform), cost sharing has gradually shifted an increasing proportion of the cost of the PBS from government to patients.[41]

While shifting the cost to the patients obviously reduces government expenditure, cost shifting, whether between levels of government or between government and consumers, is not a strategy for increasing system efficiency.[43] The term cost shifting is typically used pejoratively.

Characterising Australia's cost sharing policy as involving patients "contributing" towards making the PBS "sustainable" avoids the charge of cost shifting. Characterising copayments as "price signals"[44] indicates their capacity to improve efficiency by reducing inappropriate demand, that is, to minimise moral hazard.

Beyond the obvious benefit to the government's budget bottom line, the impact of Australia's cost sharing policy is not known. There has been no systematic attempt to establish the impact of cost sharing on the objective of discouraging unnecessary use. Regular increases in the copayment and safety net have been applied without any systematic scrutiny of their impact in reducing moral hazard, which, unlike "cost shifting", is considered an economically sound rationale for cost sharing. Is moral hazard so significant a problem and cost sharing so effective a means of reducing it that cost sharing need not be evaluated? The commonly acknowledged difficulties in applying consumer moral hazard to health care and the best evidence on the impacts of cost sharing suggest otherwise.

Problems with moral hazard

There are a number of problems applying a conventional economic concept like consumer moral hazard to the demand for health care.[45] Studies show that prescription medicine demand is "price sensitive", albeit with generally low price elasticity (% reduction in consumption is lower than % change in price).[46-49] However, it is not clear to all economists that what is being measured in most studies is actually price elasticity as typically defined in economics.[45,47] For price sensitivity to be interpreted as conventional "price elasticity", it has to be assumed consumers are able to consume as many prescriptions as they want at different prices. In the market for prescription drugs where the doctor issues a prescription, this fundamental assumption does not hold.[47]

Consumer or provider moral hazard?

Interpreting price sensitivity and the additional use of care by the insured is clouded by the doctor–patient "agency" relationship. Owing largely to the "asymmetry of knowledge" the patient is reliant on the doctor's expertise.[45] The agency relationship constrains the applicability of the classical economic model of purchasing behaviour, ie, that of the fully informed "sovereign" consumer seeking to maximise utility within budgetary constraints.[50] Because of the agency relationship it is difficult to isolate the preferences and choices of patients from that of their doctors in generating the demand for services. The interests of each are bound with the other, the utility functions of patient and doctors are interdependent — their preferences interact.[51] Establishing what is preferred and who is doing the choosing is far from straightforward. Additionally, doctors are not immune to incentive problems and "provider moral hazard" (or "supplier-induced demand") may be as important as consumer moral hazard in explaining the demand for care.[52] Empirically, separating patient from provider moral hazard has proved an elusive exercise.[53]

If the doctor has complete control over what care is consumed, consumer incentives are redundant and with this consumer moral hazard. For moral hazard to hold, it is necessary that consumer incentives matter in health care consumption. Conventional health economic theory (and the theory of agency in health) achieves this by making the delegation of authority from patient to doctor the fulcrum of the relationship and having delegation a matter of choice rather than a matter of fact.[53] Where there is a choice — incentives matter. Insurance reduces the money price, insulates the patient from financial consequences and thereby acts as an incentive for the patient to delegate a greater degree of authority to the doctor. Here we can see Pauly's '. . . that's OK, Doc, the insurance will pay for it . . .' thesis mentioned earlier. Because of insurance, the patient's behaviour becomes opportunistic or complacent about the care being offered. The patient has no incentive to inquire further about the treatment, overcome at least partially some of the asymmetry of information, and review the necessity of the treatment. Patient disengagement

will lead to the consumption of care that is not valued as highly as its market price — thus moral hazard occurs. The solution, as described above, is to restore the price signal through cost sharing.

Pauly's thesis and its cost sharing remedy are persuasive if we accept the salience of the rational and intentional *consumer* and neglect the structural relationships that exist for the consumer as *patient*. A treatment decision occurs within the larger clinical encounter. The doctor–patient relation exists because individuals come together in those terms. By definition and regardless of the qualities of the specific individuals involved, the structure of the relationship subordinates the patient to the doctor. The doctor–patient relationship, the structure of which is not altered by insurance status, is a cultural transaction infused with power and trust and emotion.[54] We are not suggesting that people play no role in their treatment decisions or that incentives do not matter, only that the incentives and constraints on choice are not confined to price (or relative price). With recognition that treatment decisions involve a complex interplay of factors, it becomes less obvious that cost is the salient incentive in "that's OK Doc…" or that there is any choosing going on. As a tool to modify patient behaviour, the price signal has a lot of noise to cut through.

Moral hazard — welfare decreasing or increasing?

For health economist John Nyman, cost sharing is aimed at a problem (moral hazard) that he claims doesn't exist.[26] For Nyman, the additional care consumed by insured patients is valued higher than conventional moral hazard theory allows and therefore often results in a welfare gain rather than a loss.[26,55] The payoff mechanism in health insurance is not a direct transfer of income but coverage for the health care a patient consumes. According to Nyman this makes it almost impossible to identify the value of the additional care an insured patient is likely to use. This in turn makes the welfare implications of the additional care always "ambiguous"; this is particularly true for care that is unlikely to be frivolously used — coronary bypass surgery for example.[26] For many insured patients the additional care they consume is exactly what they would have used if the transfer in income had been in cash and they could have spent it on other things. According to Nyman, "welfare ambiguity" means that the additional care consumed by insured patients, categorised by conventional theory as wasteful and welfare diminishing, could be re-categorised as welfare enhancing. If the additional care purchased because of insurance is of greater benefit than alternative uses of the resources, the negative consequences of moral hazard (ie, waste) does not occur. Moral hazard can be efficient. The implication of the Nyman's theory is that if much of the additional care induced by insurance is welfare increasing then cost sharing is often not appropriate.

Cost sharing — the blunt instrument

The decreases in use associated with cost sharing are desirable if cost sharing *selectively* reduces unnecessary use without affecting necessary medicine use (ie, reduces moral hazard) and decreases do not affect some groups more than others based on their ability to pay. The evidence consistently shows that cost sharing does not always act selectively, reducing the use of essential medicines as well as less important therapies, particularly among lower income populations.[47-49,56,57] The evidence also suggests that decreases in use are associated with the uptake of more intensive and expensive health services.[58] There is consensus in interpreting the empirical evidence — cost sharing is a blunt instrument that reduces both unnecessary and necessary use.

Cost sharing needs care

Regardless of the success or otherwise of Nyman's challenge to the orthodox view of moral hazard,[59] there is consensus that cost sharing is often not appropriate. Like Nyman, conventional theorists recognise that some of the additional care induced by insurance will be welfare enhancing, therefore the optimal level of moral hazard is positive not zero.[53] Cost sharing is not meant to

eradicate all moral hazard. The kind of outcome cost sharing is meant to deter is unnecessary or frivolous use of health care. Most theorists agree that moral hazard is unlikely with "serious" illness — again using the example of coronary bypass surgery, few are likely to frivolously undergo such a procedure because the price is low.[26] We also believe that the notion of "frivolous" use of pharmaceuticals, which might apply to "lifestyle" drugs such as a Viagra, makes less sense with the use of an antihypertensive drug. Certainly the notion of unnecessary use of such drugs is not intuitive to the people using them.[60]

Cost sharing can hurt health and it needs to be applied carefully if the health benefits lost are to be small compared with the cost saved.[32] A more sophisticated and careful approach to cost sharing might involve a "benefits based" or "value based" cost sharing where high value treatments are not subject to cost sharing but low value treatments are.[31,56] The application of such differential approaches is, of course, likely to involve its own difficulties and challenges. However, lack of care in applying cost sharing creates the risk that people who can benefit will go without valuable medical care, and any cost savings will eventually be outweighed by increased costs elsewhere in the system.

Conclusion

Australia's use of cost sharing for pharmaceuticals reflects none of the care recommended by Pauly and others. There is considerable evidence that ever-increasing copayments applied to all treatments is hurting Australians. Surveys of Australian medicine users consistently find substantial numbers of Australians reporting difficulties with meeting the cost of their prescriptions.[61-64] Difficulty with cost is reported as the reason for not obtaining a prescription medicine by around 20% of respondents.[61,63,65] A recent analysis of national dispensing data has confirmed the negative impact of increasing copayments on pharmaceutical affordability.[64] Decreases in utilisation following increase in copayment and safety net level were observed for essential as well as discretionary medicines and the greatest impact was among social security beneficiaries.[66] Given what is known about cost sharing there is no reason to believe that the medicine use avoided by these Australians was unnecessary rather than necessary.

Cost sharing for pharmaceuticals in Australia has been applied as if it were unproblematic. Our interpretation is that the intuitive plausibility of moral hazard and cost sharing has dulled the critical vision of policy makers. The idea of moral hazard has a simple power: if cost is low, waste will follow. It is a totally plausible pejorative containing within it not only the cognitive bedrock of economics — price — but its normative base — inefficiency. Behaviour is rational and all of us are susceptible to complacency and opportunism. Moral hazard is not a politically and ideologically innocent idea, of course. Moral hazard has gained particular resonance with ascendancy of neo-liberal thinking in economics and public policy, a policy logic embraced in Australia as enthusiastically as it has been among other industrialised nations.[67] In a policy milieu that promotes private over public, exhorts individual responsibility and deplores "nanny state" welfare, moral hazard and cost sharing make common sense.

Despite its plausibility, the problems applying consumer moral hazard to explain pharmaceutical demand are well understood and the difficulties with cost sharing as a means of improving PBS efficiency are well established.[16,20,45] The mix of critical thinking, canny bargaining and compromise demonstrable in changes over the years in the PBS listing process has not been applied to Australia's copayment policy. Reform of cost sharing has had no champion and investigation of its impact on Australian patients has been severely limited. Australians are being let down by an uncritical acceptance of moral hazard and the lack of scrutiny of the impact of cost sharing. Evaluation of this policy is important and long overdue.

Acknowledgements

The authors are currently investigating the issues discussed in the paper with support from the Australian Research Council's *Discovery Projects* funding scheme (ARC DP0773617).

Competing interests

The authors declare that they have no competing interests.

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(Received 29/10/08, revised 15/01/09, accepted 9/02/09) □