

# Bulk Billing and the Use of GP Services

Who are the most frequent users of medical general practitioners, and is bulk billing related to the use of GP services?



RUTH WESTON

Since the introduction of Medicare in early 1984, there has been an increase in both the proportion of all general practitioner (GP) services that are bulk billed and the number GP visits made by patients. This has led to a contentious debate about whether or not bulk billing encourages people to visit their doctor for trivial reasons (Deeble 1991; Rosenman and McKinnon 1992; Richardson 1993).<sup>1</sup>

Rosenman and McKinnon (1992) argue that the large increase in the number of general practitioners in urban areas has led to an over-supply of doctors in Australia's cities. Their concern is that over-supply may lead to widespread bulk billing for competitive purposes which may, in turn, stimulate the use of medical services. This, combined with patients' ready proximity to doctors, may translate into an over-use of GP services.

On the other hand, Pitts (1991) argues that most episodes of illness symptoms in parents and children are not reported to medical practitioners – a phenomenon he describes as the 'illness iceberg' – although, according to Backett (1990), parents are more likely to seek medical help for their children's ailments than their own.

Because concerns about an over-supply of doctors relate to metropolitan and not rural areas, the following analysis focuses on parents in the nine urban areas of the Australian Living Standards Study (ALSS). (For a description of the ALSS sample, see pages 6–7 of this issue.)

This article examines the relationship between frequency of parents' visits to their GP and residential location, payment arrangements (bulk billing or not), and other factors which may affect both service use and payment arrangements. It goes on to identify parents who visited their doctor more frequently or less frequently than their health status would appear to predict, and the factors linked with such high or low use.

Previous studies have suggested that the decision as to whether or not to consult a doctor is based on complex cultural, social and psychological factors affecting the type and perceived seriousness of the problem, expectations about whether or not the doctor

can take useful action, as well as practical considerations linked with access to a doctor (McCallum et al. 1993; McClelland et al. 1992; Weston and Lazzarini 1995). The most disadvantaged tend to visit doctors more frequently than others, but make less use of preventive services such as immunisations and pap smears (McClelland et al. 1992; Powles and Salzberg 1990). However, a common finding is that the effects of such factors on consulting behaviour are minor compared with those of health needs (Bush and Ionnotti 1988; McCallum et al. 1993; Pitts 1991).

## Frequency of Visits

Parents estimated how frequently each family member had consulted a general practitioner in the previous 12 months, with '12 or more' visits being the highest response category provided. This strategy is important because, when comparing self-report data with Medicare records, McCallum et al. (1993) found those who made a large number of visits to doctors over a 15-month period tended to under-estimate the number of visits made. The present analysis focuses on visits made by parents for themselves rather than on behalf of their children.

## Gender and residential location

Consistent with data concerning gender differences in use of Medicare services for adults (Commonwealth Department of Human Services and Health 1995), mothers tended to visit their doctor more frequently than fathers. A higher proportion of mothers than fathers made at least seven visits (28 per cent of mothers and 15 per cent of fathers), and a lower proportion of mothers than fathers visited no more than twice (31 per cent and 48 per cent respectively). At least seven visits were more commonly reported by fathers and mothers who lived in the outer areas (18 per cent and 32 per cent respectively) than those who lived in other areas (11 per cent and 23 per cent respectively).

Table 1 provides information about the frequency of visits reported by parents, according to payment arrangements experienced and various indicators of socio-economic status.

## Paying the bill

For the sample as a whole, parents who were bulk billed were more frequent attenders than those who were charged a fee. Nevertheless, statistically significant differences in visits between the bulk billed and privately billed emerged for fathers only for the two middle areas of Ryde and Box Hill (15–21 per cent compared with 5–8 per cent), and for mothers for the middle and inner Sydney areas of South Sydney and Ryde (29–32 per cent compared with 10–19 per cent).

## Socio-economic factors

Socio-economically disadvantaged families were more likely than other families to be bulk billed (see Weston's article elsewhere in this issue), while Table 1 suggests that parents in these families tended to visit their GP more frequently than other parents. Relatively high GP use was apparent for sole mothers, those who were 'poor' (that is, whose equivalent household incomes were no more than 120 per cent of the poverty line), and fathers in families in which a language other than English was spoken at home. Parents in professional/managerial households tended to visit their doctor less frequently than other parents.

Given the overall positive relationship between bulk billing and GP visits, is it appropriate to argue that the more frequent visits of these disadvantaged groups derives from the fact that they are more likely to be bulk billed?

## Payment arrangements for disadvantaged groups

The more frequent visits to the doctor by sole mothers compared with mothers with partners applied for those who were bulk billed, but not for those who paid fees. Of the bulk billed groups, 41 per cent of sole mothers and 29 per cent of mothers with partners visited their doctor at least seven times. Of those who were charged fees, 24 per cent of sole

**Table 1** Frequency of GP visits by various characteristics of urban-based fathers and mothers: percentage distribution

	Fathers' visits				Mothers' visits			
	0-2	3-6	7+	Total	0-2	3-6	7+	Total
<b>Payment arrangements</b>								
Bulk billed	44	38	19	100	28	40	32	100
Charged fees	53	36	12	100	35	42	24	100
<b>Equivalent household income</b>								
Up to 120% of poverty line ("poor")	41	35	24	100	27	32	41	100
121-199% of poverty line	48	38	14	100	30	44	26	100
More than 200% of poverty line	53	35	12	100	35	43	21	100
<b>Family type</b>								
Sole mother					28	35	37	100
Mothers with partners					32	42	27	100
<b>Language spoken at home</b>								
English	49	37	14	100	32	41	27	100
Other	43	34	23	100	28	38	33	100
<b>Occupational status<sup>a</sup></b>								
Professional/managerial household	54	35	11	100	37	42	21	100
Other	44	38	18	100	28	40	32	100

<sup>a</sup> Refers to whether or not the current or most recent job of fathers or sole mothers is professional/managerial.

Source: Australian Living Standards Study (ALSS) 1991-92, Australian Institute of Family Studies, Melbourne.

mothers and 23 per cent of mothers with partners attended their GP at least seven times.

For other comparisons, the lower socio-economic groups tended to make more frequent visits to their doctor, regardless of whether they were bulk billed or charged fees (Weston and Lazzarini 1995). Figure 1 shows these trends when equivalent household income is taken as the measure of socio-economic status. Thus, there was not as close a link between bulk billing and service use as first appeared.

#### Health status of disadvantaged groups

Furthermore, socio-economically disadvantaged groups tended to report poorer health – a trend consistent with their greater GP use and with previous research (Lawson and Black 1993; McClelland et al. 1992). For example, health was more commonly seen as fair or poor by sole mothers than couple

mothers (17 per cent versus 10 per cent), by parents in poor families than other parents (18 per cent versus 8 per cent) and by those who spoke a language other than English at home than English users (17 per cent versus 9 per cent).

In addition, health was considered to interfere with work activities at least some of the time by 28 per cent of sole mothers and 20 per cent of other mothers, by 29 per cent of parents who were poor and 18 per cent of other parents, and by 31 per cent of non-English users and 19 per cent of other parents.

Finally, disabilities or long-term or chronic illnesses of an 'intermediate' or 'serious' type (as classified by the United Kingdom Royal College of General Practitioners (McClelland et al. 1992)) seemed more prevalent amongst sole mothers than couple mothers (23 per cent versus 17 per cent), and parents who were poor compared with other parents (16 per cent versus 23 per cent). No such differences were apparent for those who spoke English or another language at home (around 18 per cent in these two groups reported such illnesses/disabilities). In the vast majority of cases, illnesses rather than disabilities were mentioned.

Thus, while bulk billed parents appeared to visit their doctor more frequently than those who paid fees, the link between payment arrangements and service use is complex. Most socio-economically disadvantaged parents were more likely to be bulk billed, made more visits to their GP regardless of payment arrangements, and had poorer health.

#### Health and Service Use

The next step in the analysis identifies parents who used their GP more often or less often than their health appeared to warrant. As McClelland (1991) noted, the extent of equity in access to health care is often inferred on the basis of variations between groups in the level of use of such services, with no account taken of differences in the health status of these groups.

The health measure that best explained GP use was the presence or otherwise of a

disability or long-term or chronic illness (as described above).<sup>2</sup> The actual number of visits made were compared with the number of visits predicted on the basis of apparent health status, using a statistical procedure called discriminant function analysis. This process enables identification of parents who visited their GP more frequently ('high users') and less frequently ('low users') than predicted on the basis of their health.

In total, the visits of only around half the parents were correctly predicted on the basis of their health measures (53 per cent of fathers and 47 per cent of mothers). This is not surprising, for no account has been taken of visits for minor accidents and health check-ups, as well as women's visits relating to pregnancy, childbirth, prescription for contraceptive pill and so on. While no more than two visits were reported by 48 per cent of fathers and 31 per cent of mothers, 61 per cent of fathers and only 20 per cent of mothers were predicted to have visited no more than twice. Three to six visits were reported by 37 per cent of fathers and 41 per cent of mothers, while this number of visits was predicted for 29 per cent of fathers and 62 per cent of mothers. Finally, at least seven visits were reported by 15 per cent of fathers and 28 per cent of mothers, while the predicted rate was 10 per cent and 18 per cent respectively.

#### Factors Linked with High and Low GP Use

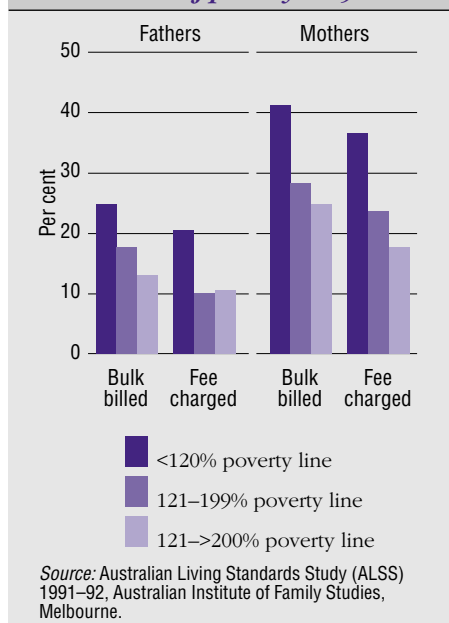
Is high GP use relative to health status linked with bulk billing when other factors are taken into account? A statistical approach called logit modelling was adopted for this analysis to assess the relative contribution of non-health variables to high or low use. In addition to payment arrangements, potential factors examined included residential location, socio-economic indicators, health risk behaviours, use of other services, characteristics of the medical service used, and psychosocial measures, including the experience of symptoms of depression.

Measures of depression could have been included among the health status (or 'need') measures from which high or low use was estimated. However, symptoms of depression may have competing effects on GP use. Depressed people may be encouraged to visit their GP for help in overcoming their feelings of unhappiness or somatic symptoms of depression, while other symptoms of depression such as lethargy, social withdrawal and feelings of worthlessness may discourage such visits. The depression measure was thus treated as a predictor of high or low use rather than as a measure of 'need'.

#### Patterns for fathers

When the other factors were controlled, bulk billing held a small relationship for fathers who lived in middle or inner areas only. The main significant trends for fathers were as follows: high users included those who did not consume alcohol regularly, were non-smokers, and visited the dentist at least three times in the previous 12 months. All such trends may reflect concern about maintaining a healthy lifestyle – although Cullen (1985) and others have argued that moderate

**Figure 1** Proportion of parents who reported visiting their GP seven or more times, by gender, payment arrangements, and equivalent household income (as per cent of poverty line)



consumption of alcohol at regular intervals may help protect health. Fathers who frequently consulted their doctor may be sensitive to early warnings of illness and concerned about having periodic health checks.

The opposite trends applied to fathers who appeared to visit their doctor less frequently than their health would appear to dictate. Briefly, such fathers were inclined to be regular alcohol consumers, cigarette smokers and were unlikely to have visited a dentist three times, if at all.

In addition, fathers in outer areas who indicated relatively high depression tended to visit their doctor less frequently than expected on the basis of their health. Such under-use, which may have been linked with the lethargy and social withdrawal associated with depression, may have life threatening consequences for the seriously depressed. (There was no evidence to suggest that those with high levels of depression attended mental health professionals instead of GPs.) Low socio-economic status was no longer associated with high GP use when health status was taken into account.

### *Patterns for mothers*

Concerns about health promotion or illness prevention also appeared to be important in discriminating between mothers who went to their doctor more frequently or less frequently than their health status would appear to warrant.

When the other factors were controlled, bulk billing was not related to high or low GP use for mothers. The strongest predictor of high or low GP use concerned whether or not mothers had an infant less than 12 months old – those with infants being high GP users. For mothers with infants, the period of GP use investigated would have overlapped with their pregnancy. The second strongest predictor for mothers concerned visits to the dentist. Like fathers, high GP users included mothers who had visited a dentist at least three times, while low GP users were unlikely to have visited a dentist this number of times, if at all. The third most significant factor concerned residential location. High GP users were likely to live in outer areas, while low GP users were unlikely to do so.

The above three factors – particularly presence of an infant – were considerably more important than the others in the model. Unlike the results for fathers, three factors concerning socio-economic status were important for mothers: high GP users were unlikely to include mothers in professional/managerial families, but included sole mothers and mothers with a non-English-speaking background, particularly those who were regular consumers of alcohol. Net of these other factors, mothers aged less than 25 years were more likely than other mothers to be high GP users. Finally, the ability to get to their doctor within ten minutes was linked

with higher GP use for those who lived in outer areas only.

Contrary to the view that people use their doctor as a morale booster when feeling 'down', the reported visits for mothers with relatively high depression seemed commensurate with their experience of poorer health. (The same applied to fathers showing some depression who lived in inner or middle areas, while those in outer areas seemed to be low GP users.)

### **Conclusion**

Were parents who visited their doctor more frequently than their health appeared to warrant 'over-using' their doctors (a frequent interpretation), or were they visiting for health promotion or illness prevention purposes? The present results suggest that health promotion or illness prevention formed an important reason underlying higher than predicted GP visits.

Neither payment arrangements (bulk billing or not) nor travelling time (within ten minutes or not) held any direct relationship with GP use, net of health status. Convenience in terms of short travelling held a restricted relationship with GP visits for mothers and no relationship for fathers, while bulk billing held a restricted relationship with GP visits for fathers but no relationship for mothers.

These results highlight the importance of

taking into account health status when attempting to interpret the meaning of frequency of visits for investigations into the cost-effectiveness of Medicare.

The pattern of results also indicates that high use of doctors relative to health status does not necessarily imply 'over-use'. The tendency for women to visit their doctor more frequently than men may partly reflect a greater concern on the part of women to remain healthy, including a greater tendency to act upon early warnings of illness. Use of doctors for health promotion or illness prevention purposes may well be cost-effective for the individual, the family and the community.

## Notes

<sup>1</sup>Bulk billing increased from 53 per cent to 70 per cent of GP services between 1984-85 and 1990-91, reaching 76 per cent in 1993-94 (Australian Institute of Health and Welfare (AIHW) 1992; Commonwealth Department of Human Services and Health 1995). The number of visits per patient increased from 4.1 to 4.9 between 1984-85 and 1989-90, reaching nearly 5.3 in 1992-93, although trends differ according to age and gender (Deeble 1991; AIHW 1994).

<sup>2</sup>The other health measures were: parents' ratings of their general health (from 1 'Excellent' to 5 'Poor'), a summary 'health impacts' score, derived on the basis of parents' ratings of four issues (the amount of time they had experienced pain, the amount of time their health interfered with their social life, their ability to concentrate, and their

work activities), and parents' reports about whether or not they had been sick for at least one day in the previous 12 months.

## References

- AIHW (1992), *Australia's Health 1992: The Third Biennial Report of the Australian Institute of Health and Welfare*, Australian Institute of Health and Welfare, AGPS, Canberra.
- AIHW (1994), *Australia's Health 1994: The Fourth Biennial Report of the Australian Institute of Health and Welfare*, Australian Institute of Health and Welfare, AGPS, Canberra.
- Backett, K.C. (1990), 'Studying health in families: a qualitative approach', in S. Cunningham-Burley and N.P. McKeganey (eds) *Readings in Medical Sociology*, Tavistock/Routledge, London.
- Bush, P.J., and Iannotti (1988), 'Pathways to health behavior', in D.S. Gochman (ed.) *Health Behavior: Emerging Research Perspectives*, Plenum Press, New York.
- Commonwealth Department of Human Services and Health (1995), *Statistical Overview 1993-94*, Department of Human Services and Health, Canberra.
- Cullen, K. (1989), 'Alcohol consumption and subsequent mortality', *Australian Family Physician*, vol. 18, pp. 47-50.
- Deeble, J. (1991), *Medical Services Through Medicare*, Background Paper no. 2, National Health Strategy (Australia), Melbourne.
- Lawson, J.S., and Black, D. (1993), 'The socio-economic status and health link', *New Doctor*, Summer, pp. 8-12.

- McCallum, J., Lonergan, J., and Raymond, C. (1993), *The NCEPH Record Linkage Pilot Study: A Preliminary Examination of Individual Health Commission Records with Linked Data Sets*, Record Linkage Pilot Study Working Paper no. 1, Australian National University, Canberra.
- McClelland, A. (1991), *In Fair Health? Equity and the Health System*, Background Paper, National Health Strategy, Melbourne.
- McClelland, A., Pirkis, J., and Willcox, S. (1992), *Enough to Make you Sick: How Income and Environment Affect Health*, Research Paper No.1, National Health Strategy, Melbourne.
- Pitts, M. (1991), 'The medical consultation', in M. Pitts and K. Phillips (eds) *The Psychology of Health: An Introduction*, Routledge, London.
- Powles, J., and Salzberg, M. (1990), 'Work, class or life-style? explaining inequalities in health', in G.M. Lutpon and J.M. Najman (eds) *Sociology of Health and Illness*, MacMillan, Melbourne.
- Richardson, J. (1993), 'Bulk-billing of general practitioner services: the evidence', *Australian Journal of Public Health*, vol.17, pp. 74-75.
- Rosenman, S.J. and McKinnon, J. (1992), 'General practitioner services under Medicare', *Australian Journal of Public Health*, vol. 16, pp. 419-426.
- Weston, R., and Lazzarini, V. (1995), *Access to Basic Medical Care in Nine Urban Areas*, Report to the Department of Human Services and Health, Australian Institute of Family Studies, Melbourne.

**Ruth Weston** is a Senior Research Fellow with the Australian Institute of Family Studies.