The decline in bulk-billing and increase in out-of-pocket costs for general practice consultations in rural areas of Australia, 1995–2001

Anne F Young and Annette J Dobson

ABSTRACT

Objective: To describe the changes in bulk-billing and out-of-pocket costs for Australian general practice consultations over the period 1995–2001.

Design: Retrospective analysis of 1996–2001 survey data from the Australian Longitudinal Study on Women's Health (ALSWH), linked with Medicare and Department of Veterans' Affairs (DVA) data on general practice consultations from 1995 to 2001.

Participants: 22 633 women who gave consent to linkage of their ALSWH data with Medicare/DVA records. In 1996, women in the "young" cohort (n = 6219) were aged 18–23 years, those in the "mid-age" cohort (n = 8883) were aged 45–50 years, and those in the "older" cohort (n = 7531) were aged 70–75 years.

Outcome measures: Out-of-pocket costs paid by patients for general practice consultations, by calendar year, urban/rural area of residence, age, frequency of attendance, self-rated health, and education level.

Results: For each age group and year studied, the use of bulk-billing was lower in rural areas than in urban areas. For example, in 2000, the percentage of women in rural and urban areas, respectively, who had all their general practice consultations bulk-billed was 31% v 52% (young women), 24% v 45% (mid-age women) and 58% v 79% (older women). There has been a steady decline in bulk-billing for general practice consultations in rural areas since 1995. The average out-of-pocket cost per consultation for women in rural areas was higher than the cost for women living in urban areas. After adjusting for age, health and socioeconomic factors, women living in urban areas were more than twice as likely to have all their consultations bulk-billed as women living in rural areas: odds ratio (OR), 2.4 (95% CI, 2.1–2.7) (young women); OR, 2.5 (95% CI, 2.3–2.8) (mid-age women); OR, 2.6 (95% CI, 2.3–2.9) (older women).

Conclusions: In Australia, the geographic differential in the cost of general practice consultations is widening. Policy changes are required to enable women in rural and remote areas to have access to affordable healthcare services.

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IN AUSTRALIA, despite having a universal health insurance system (Medicare), there are variations in access to healthcare services.[1] One potential barrier to the use of these services is the personal out-of-pocket cost and the requirement for "up-front" payment of fees. After adjusting for a range of health and socioeconomic variables, higher out-of-pocket cost per consultation has been shown to be associated with lower use of general practice consultations by Australian women.[2] Nationally, there has been a lack of data to examine out-of-pocket costs for subgroups of the population, particularly those who are less able to manage on their incomes and who have a greater need for services. Some people cannot budget for even modest healthcare costs on a regular basis.[3]

Australia has no legislation restricting how much a general practitioner can charge for a consultation. The patient is required to pay the difference between the charge for the consultation and the Medicare rebate, which, for most services, is set at 85% of the schedule fee fixed by the federal government (the remaining 15% is referred to as the "gap"). Under bulk-billing arrangements, patients may assign their Medicare rebate directly to the treating GP. The GP accepts the rebate as full payment and cannot charge the patient an additional fee. There are policies in place that attempt to protect patients from substantial out-of-pocket costs. Under the Medicare Safety Net scheme, once the cumulative gap payments for non-inpatient services for an individual or family exceed a set amount in a calendar year, the patient may receive the full Medicare schedule fee as the rebate for all services for the remainder of the calendar year. However, any amounts charged above the schedule fee by the GP must still be paid by the patient.

The greater access to bulk-billing and lower out-of-pocket costs in urban areas have been well documented.[4] In the financial year 1998–99, non-specialist medical services delivered in capital cities had the lowest average out-of-pocket expenditures of $1.61 per service. In contrast, the figures for rural areas and remote centres were $3.72 and $5.73, respectively.[4] However, the Medicare database used in these analyses does not include measures of health or socioeconomic status for individuals, so it has not been possible, in previous studies, to establish whether out-of-pocket costs are related to patients' health status or socioeconomic factors.

In contrast, access to linked data in our study has allowed us to examine some of these associations. Our analysis was conducted as part of the Australian

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Longitudinal Study on Women's Health (ALSWH). Data on a range of health, social and demographic factors have been collected since 1996 on a random sample of more than 40 000 women, of whom more than half live in rural areas. In addition, almost 23 000 of the women have consented to their survey data being linked to their Medicare data. Record linkage can reduce the effect of recall bias and respondent burden, and also allows analysis of relationships between the use of healthcare services and health and socioeconomic characteristics.

METHODS

Sample

In April 1996, women from three age groups (18–23, 45–50 and 70–75 years) were sampled from the Medicare database, with oversampling of women living in rural and remote areas of Australia to provide adequate statistical power for analyses.[5]

Survey 1 was conducted in 1996. Survey 2, the first follow-up study, was conducted for each group over three successive years: 1998 (mid-age cohort), 1999 (older cohort) and 2000 (young cohort). Response rates at the recruitment stage cannot be exactly specified, as some women selected in the sample may not have received the invitation (eg, if they had died, or had changed their address without notifying Medicare). An estimated 41%–42% of the young women, 53%–56% of the mid-age women and 37%–40% of the older women agreed to participate in the longitudinal study.[6] The respondents were broadly representative of the national population of women in the target age groups.[6]

The response rates for Survey 2 were 92% (mid-age cohort), 91% (older cohort) and 71% (young cohort). In the young cohort, most non-respondents to Survey 2 were lost to follow-up because of high mobility in this age group, but a representative sample was retained.

Consent to record linkage

In 1997, and again in 1999, consent was sought from the participants for the Health Insurance Commission (HIC) to release Medicare and Department of Veterans' Affairs (DVA) medical claim details to the research team. Details of the methods used have been previously reported.[7] Initially, 19 700 women consented to record linkage of their Medicare/DVA and survey data relating to 1995–1996. Consenters tended to have a higher education level and, among the older cohort only, were in better health than non-consenters.[7] Following the second request for consent, in 1999, there were 22 633 consenters: 6219 young women, 8883 mid-age women and 7531 older women.

Health Insurance Commission data

The HIC, which processes claims for medical services subsidised by Medicare and the DVA, is the primary source of information on out-of-pocket costs for non-hospital medical services in Australia.

All claims for services (including general practice consultations) that were processed by the HIC for consenting women for the period 1995–2001 were extracted by the HIC and forwarded to us for analysis. The unit records included the woman's study identification number, postcode, date of service, type of billing, charge and Medicare rebate for each service provided. General practice consultations were defined as services with item numbers 1-98, 601, 602, 697 or 698 in the Medicare Benefits Schedule.

Out-of-pocket costs

For bulk-billed consultations, the out-of-pocket cost was defined as zero. For all other consultations, the cost was calculated as the difference between the amount charged by the provider and the Medicare rebate for the service (which includes the "safety net" payment, where applicable). The average out-of-pocket cost for each woman for each calendar year was calculated, provided that she had had at least one consultation in that year. The average out-of-pocket cost was categorised as \$0, $\leq$ \$5, > \$5 to $\leq$ \$10, or > \$10 per consultation.

Area of residence

The Rural, Remote and Metropolitan Areas Classification[8] was used to define the area of residence of the woman at the time of each consultation as urban (capital city, other metropolitan area) or rural (large rural centre, small rural centre, other rural areas, remote centre and other remote areas). If a woman lived in both urban and rural areas during a calendar year, the area where she had most of her general practice consultations was defined as her area of residence for that year.

Frequency of consultations

The number of general practice consultations for each woman for each year was counted. For each age cohort, women who were at or above the 95th percentile of the distribution for the year Survey 2 was completed were classified as "frequent attenders". This equated to mid-age women with 14 or more consultations in 1998, older women with 23 or more consultations in 1999, and young women with 13 or more consultations in 2000.

Measures of health and socioeconomic status

Self-rated health was measured in Survey 2 by responses to the question "In general, would you say your health is 'excellent', 'very good', 'good', 'fair', or 'poor'?".

Education level was determined by asking participants about the highest qualification they had completed. Responses were grouped into two categories: school education only, or post-school qualifications (including a trade qualification, certificate/diploma or university degree). Level of education has been shown to be a good measure of socioeconomic status.[9]

Statistical analysis

For each year in the period 1995–2001, the average out-of-pocket cost per consultation for each woman was summarised by age cohort and area of residence. To allow for the effects of inflation, costs for all years were adjusted to 2001 dollar values using the Consumer Price Index published by the

Australian Bureau of Statistics for the June quarter of each year.

Medicare/DVA data and Survey 2 responses were linked according to the calendar year in which Survey 2 was conducted, as this varied for each age cohort. Logistic regression analysis was performed using the SAS "Logistic" procedure[10] to determine the extent to which health and socioeconomic variables were associated with bulk-billing. The outcome variable was defined for each woman as whether she had all her general practice consultations for that year bulk-billed or not. The explanatory variables for the analysis were area of residence, frequency of attendance, education and self-rated health.

Ethics approval

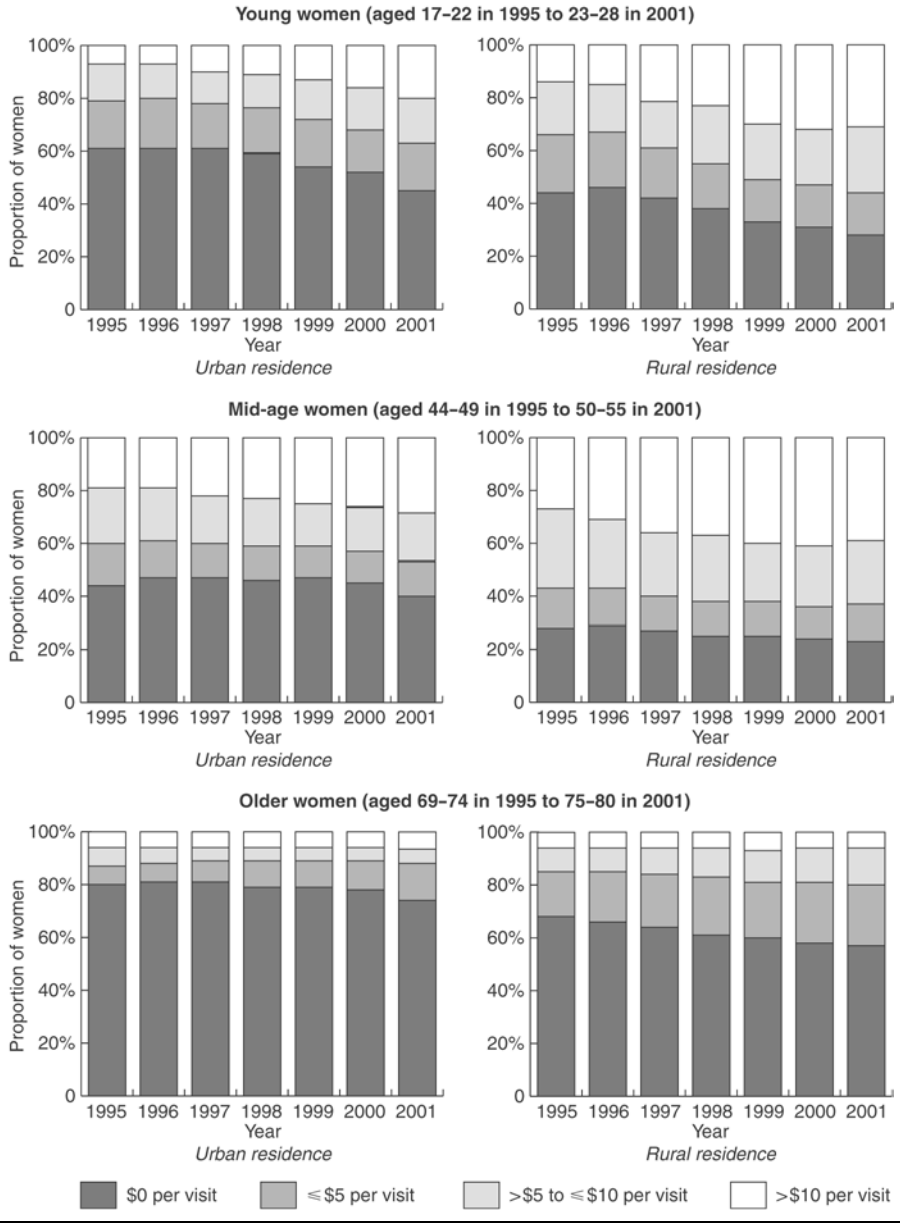
The study was approved by the University of Newcastle Human Research Ethics Committee.

RESULTS

There were almost one million general practice consultations over the seven-year period for the women who gave consent for their records to be linked. The percentage of women who had all their general practice consultations bulk-billed (and hence had no out-of-pocket costs) was about 20% higher in urban areas than rural areas, for all age groups (Box 1). Furthermore, mean out-of-pocket costs increased over time in rural areas as the use of bulk-billing decreased.

Women in the older age group were most likely to have all their general practice consultations bulk-billed, particularly those living in urban areas (Box 2). For all ages and areas, women with lower levels of education were more likely to have all their visits bulk-billed. However, there were only slightly higher rates of bulk-billing for older women in rural areas with a lower education level (61%) compared with women the same age with a higher education level (55%). These rates were considerably lower than for older women in urban areas (where 82% of women with lower education and 71% with higher education were bulk-billed).

1: Mean out-of-pocket cost per general practice consultation per woman, 1995–2001, by age group and area of residence, adjusted to 2001 dollar values



For all age groups, women who lived in urban areas were more than twice as likely to have all their general practice consultations bulk-billed than women living in rural areas (Box 3). Women with lower levels of education were significantly more likely to receive bulk-billing for all their consultations. Being a frequent attender was also associated with bulk-billing for mid-age and older women (but not young women). After adjusting for other variables, poorer self-rated health was associated with having all visits bulk-billed for young and mid-aged women, but not for older women.

DISCUSSION

Our study presents new findings about access to bulk-billing and changes over time in costs for general practice consultations for women in Australia. Our results demonstrate geographical inequities in access to bulk-billing, although

2: Percentage of women who had all their general practice consultations bulk-billed, by age group, area of residence, and measures of health and socioeconomic status

	Women aged 22–27*		Women aged 47–52†		Women aged 73–78‡	
	Urban	Rural	Urban	Rural	Urban	Rural
Self-rated health						
Excellent, very good or good	50%	30%	44%	24%	79%	60%
Fair or poor	56%	34%	55%	32%	81%	59%
Education						
Post-school qualifications	49%	29%	40%	23%	71%	55%
School only	55%	33%	49%	26%	82%	61%
Frequency of consultations						
Below 95th percentile	50%	30%	44%	24%	79%	60%
95th percentile and above	49%	36%	59%	44%	83%	68%

*Data for year 2000. †Data for year 1998. ‡Data for year 1999.

there is some consideration given to women in poorer health and with lower socioeconomic status. The major finding of our analysis of linked data is that not only are the rates of bulk-billing lower, and declining, in rural areas, but the out-of-pocket costs are increasing. These costs are increasing as women age, as this is a longitudinal study of the same women over time. It might be expected that, among the older cohort, out-of-pocket costs would decrease as women age and their health deteriorates, but this was not the case, especially in rural areas.

Women living in urban areas who were in good health and had better education were more likely to be bulk-billed than their rural counterparts in poor health or of lower socioeconomic status. A strength of the longitudinal design of the study is that these trends can be monitored over the next few years to evaluate whether the situation is improving or not. In addition, the women in our study also provide self-reported ratings of their access to bulk-billing and medical services, which can be linked to their actual health service utilisation data from the HIC. There are no other comparable published studies in Australia that examine out-of-pocket costs from the perspective of individuals and their medical and social circumstances.

A strength of our study is that the results are based on a national random sample of women rather than a sample of practice attenders, and so can be more readily generalised to the population. A limitation is that our results are based on women who consented to record linkage, thus creating a socioeconomic bias in the sample. Women who consented to linkage had a higher level of education and, among the older cohort, were in better health. However, as there was no bias among consenters in terms of urban or rural area of residence, the geographical inequities demonstrated in our study are real. The proportion of women who have all their consultations bulk-billed, as reported here, may be an underestimate of the proportion in the population, as the consenters in this study tended to have higher socioeconomic status and so may be less likely to be bulk-billed. However, the trends over time showing the decreasing use of bulk-billing and increasing out-of-pocket costs in rural areas would be unaffected by any socioeconomic bias in the sample of consenters.

The increased out-of-pocket expenditure in rural areas may in part reflect increased costs of healthcare service delivery in rural areas. Policy changes are required to enable women in rural and remote areas to have access to affordable healthcare services.

COMPETING INTERESTS

None identified.

ACKNOWLEDGEMENTS

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3: Factors associated with having all general practice consultations bulk-billed, analysed by multiple logistic regression, by age cohort

	Women aged 22–27* OR (95% CI)	Women aged 47–52† OR (95% CI)	Women aged 73–78‡ OR (95% CI)
Area of residence			
Rural	1.00	1.00	1.00
Urban	2.40 (2.12–2.72)	2.52 (2.28–2.78)	2.62 (2.34–2.94)
Frequency of consultations			
Below 95th percentile	1.00	1.00	1.00
95th percentile and above	0.91 (0.71–1.18)	1.89 (1.55–2.30)	1.42 (1.09–1.86)
Education			
Post-school qualifications	1.00	1.00	1.00
School only	1.24 (1.10–1.42)	1.30 (1.17–1.44)	1.49 (1.30–1.71)
Self-rated health			
Excellent, very good or good	1.00	1.00	1.00
Fair/poor	1.27 (1.05–1.53)	1.30 (1.12–1.51)	0.98 (0.87–1.11)

*Data for year 2000. †Data for year 1998. ‡Data for year 1999. OR = odds ratio.

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book reviews

More than potions for skin disease

Treatment of skin disease. Comprehensive therapeutic strategies. Mark Lebwohl, Warren R. Heyman, John Berth-Jones, Ian Coulson (editors). London: Mosby, 2002 (xxiv +693 pp, $351.40) ISBN 0 7234 3198 1.

THE TREATMENT OF SKIN DISEASE has often been viewed as simply deciding whether a rash is "dry" or "wet" and then choosing between a range of creams, ointments and lotions. This book should help to change this misperception by demonstrating that progress has been made; current therapeutic options have been analysed in relation to levels of evidence, thus elevating the status of dermatological therapy. The editors have invited over 200 dermatologists from around the world to summarise and assign current skin therapy for 213 separate conditions. Levels of evidence have had to be modified, as, at present, there are insufficient double-blind controlled trials for most treatments to follow the Cochrane Collaboration's levels of evidence. By using this modification, the review of available treatments can be stratified.

The format adopted for each topic is outstanding. It consists of a representative colour photograph of the condition, a brief clinical description, management strategy, specific investigations and three separate levels of treatments — first, second and third choices. Pertinent references are included within the text and there is a succinct one- to two-line summary. The inclusion of some references to what may appear to be anecdotal reports of successful treatments may serve to stimulate larger controlled studies. Most of the authors have been chosen for their recognised expert knowledge in their fields and each section is a distillation of their individual experience and assessment of current treatments.

This book is a useful reference for both general practitioners and specialists, as it deals with most common skin conditions, such as dermatitis, skin infections, skin cancers, as well as rarer conditions such as Fox–Fordyce disease. The book is ideal for the busy practitioner, as each section is short, structured and packed with useful information. Almost all the treatments included are currently available in Australia. The book is a handy guide for all who treat skin diseases.

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Valuable overview of hep C

Hepatitis C. An Australian perspective. Nick Crofts, Greg Dore and Stephen Locarnini (editors). Melbourne: IP Communications, 2001 (xviii + 380 pp, $85.00). ISBN 0 9578617 2 9.

THIS BOOK IS AN EXCELLENT resource for healthcare professionals who work with hepatitis C, and for people suffering from this condition who wish to have access to detailed, up-to-date, technical information. The book is multi-authored and its main strength is its well-chosen authors — they are all Australian experts. Scott Bowden (Senior Scientist at the Victorian Infectious Diseases Reference Laboratory) has written a comprehensive chapter on laboratory diagnosis. He explains clearly the difficulties in comparing the two assays used for quantifying viral load, and the differences between the various serological assays. William Sievert, of Monash Medical Centre, has contributed an excellent chapter on antiviral treatment, with up-to-date information on newer treatments, and predictors of response.

Margaret MacDonald, Nick Crofts, Alex Wodak and John Kaldor have written the chapter on hepatitis C transmission. Nick Crofts has expanded on transmission in a subsequent chapter entitled "Descriptive epidemiology of the hepatitis C virus". This chapter provides an interesting and detailed review of global trends in hepatitis C.

As well as technical sections on virology, pathogenesis, treatment and epidemiology, there are excellent sections on quality of life, discrimination, policy and prevention.

There are always areas where an individual reviewer will see omissions. Liver transplantation is not described in any detail — many readers would like to know whether transplantation has a role, and what its success, limitations and implications are. Similarly, there is not much information on "the next ten years" in antiviral treatment.

The chapters on policy and prevention are excellent, but do not address some of the gaps in current policy and practice. For example, the apparent ineffectiveness of harm reduction programs in significantly reducing the prevalence of hepatitis C is not considered, nor are the lack of culturally appropriate education or treatment facilities for ethnic groups and the lack of resources in rural areas.

I hope that the positive foreword written by the former Federal Minister for Health, Dr Michael Wooldridge, indicates an ongoing commitment by government to address some of these issues. It will be interesting to see whether these gaps have been closed by the time a second edition is published in a few years' time (as I hope it will be).

A manageable size at 350 pages, the book is well referenced, well indexed and, at $85, well worth the price.

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