

How common is multiple general practice attendance in Australia?

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Background and objectives

Australians can seek general practice care from multiple general practitioners (GPs) in multiple locations. This provides high levels of patient choice but may reduce continuity of care. The aim of this study was to estimate the prevalence of attendance at multiple general practices in Australia, and identify patient characteristics associated with multiple practice attendances.

Methods

A cross-sectional survey of 2477 Australian adults was conducted online in July 2013. Respondents reported whether they had attended more than one general practice in the past year, and whether they had a usual general practice and GP. Demographic information, health service use and practice characteristics were also obtained from the survey.

Results

Over one-quarter of the sample reported attending more than one practice in the previous year. Multiple practice attendance is less common with increasing age, and less likely for survey respondents from regional Australia, compared with respondents from metropolitan areas. Multiple practice attenders are just as likely as single practice attenders to have a usual GP.

Discussion

A significant proportion of general practice care is delivered away from usual practices. This may have implications for health policy, in terms of continuity and quality of primary care.

CONTINUITY OF CARE refers to care extending beyond a single episode of illness and is a core component of high-quality primary care.^{1,2} Dimensions of continuity of care include relational continuity, which refers to the therapeutic relationship between patients and health providers, and informational continuity, which considers the transfer of information supporting safe, high-quality care.³

In Australia, patients may consult multiple general practitioners (GPs) and general practices. While unrestricted access to general practice services is seen to encourage choice and competition, it has been criticised for facilitating fragmented or unnecessary care.^{4,5} In other countries, patients enrol with either a single general practitioner (as in the Netherlands) or with a single general practice (as in the United Kingdom), and alternative care is restricted, thus enforcing continuity of care.⁶ The Australian Health Care Home Program includes a trial of voluntary practice enrolment⁷ and aims to improve continuity of care for people with chronic and complex conditions⁴ – the patient group thought most likely to benefit from continuity of care.^{8–10}

This research examines the extent to which continuity of care around a general practice (site continuity of care) is obtained, as evidenced by patients' reported use of single or multiple general practices. Attendance at multiple general practices potentially reduces relational continuity between patients and their GPs, as well as reducing informational continuity (as Australian general practices do not routinely share consultation information).

Context

Nearly 83% of Australian residents have at least one consultation with a GP annually,¹¹

averaging 6.8 visits.¹² Most Australians report having a regular GP,^{11,13} and have strong preferences for seeing a GP who knows them.^{14,15} However, consultations with multiple GPs are common,⁵ and previous research suggests that patients who attend multiple general practices are more likely to be younger, female, have a higher education attainment, and are more frequent users of health services^{5,16} than single general practice attenders.

There is limited research examining multiple practice attendance in Australia and little is known about the characteristics of multiple practice attenders. An analysis by Britt et al (2014) of 7799 adults attending general practices reported that 7.8% of patients identified having a regular practice other than the one they were currently attending.¹⁷ However, Medicare statistics do not provide data about multiple practice attendance. In this research, a survey of Australian adults was used to estimate the prevalence of multiple practice attendance and characteristics of multiple practice attenders.

Methods

This study analyses data from an online survey of 2477 Australian adults that focused on healthcare attitudes and behaviour. It was administered in July 2013, as part of a primary care research program approved by the Human Research Ethics Committee at the University of Technology Sydney. The survey has been described previously,¹⁸ and publications have reported results relating to bulk-billing rates, preferences for care and the quality of general practice services.^{14,18,19}

The key variable of interest for this study was whether respondents reported attending more than one general practice in the previous 12 months. Explanatory variables relate to respondents'

perceptions of having a usual GP and a usual general practice, together with patient demographic, health service use and general practice characteristics reported in previous Australian primary care research.¹³ All included variables are summarised and described in Table 1, together with summary statistics and comparisons of survey demographics with the Australian population.

Bivariate analysis (using chi-square tests) was used to assess associations between multiple practice attendance and respondent and practice characteristics. Logistic regression models were analysed, with multiple practice attendance as the binary dependent variable, using Stata version 14. After excluding respondents with fewer than two GP visits, and those with missing data, 1274 responses were included in the logistic regression (Table 2). Statistical significance was set at $P < 0.05$.

Results

Sample characteristics

Most respondents were aged under 50 years of age (59%), with 6% being over 70 years of age. Most respondents were Australian born (79%), lived in major cities (77%), were employed (81%) and had private health insurance (55%). The majority of respondents rated their health as good or better (80%), although 60% reported having one or more chronic health conditions.

Over 93% of respondents reported attending a general practice in the previous 12 months; most respondents reported either 2–3 visits (40%) or 4–11 visits (31%) in the previous years. Most respondents attended a practice with four or more GPs (79%); 9% attended a practice that has more than 10 GPs. Most respondents reported having a usual GP (80%) and over 90% of respondents reported having a usual general practice.

The demographic profile of the sample was comparable to the Australian population in terms of gender, but was under-represented in the youngest (16–24 years) and oldest (75 years and over) age groups, compared with Australian Bureau of Statistics data.²⁰ Compared with the Australian population, the sample had a

smaller proportion of survey respondents reporting excellent health, and included a smaller proportion of non-general practice attenders and high-general practice attenders (12 or more visits in a year).⁵

As shown in Table 1, 28% of the total number (2477) of survey respondents reported attending more than one general practice in the previous 12 months. After excluding respondents with fewer than two GP visits (22% of sample), 610 of the remaining 1920 respondents (31.8%) reported attending multiple general practices in the last 12 months.

Does having a usual GP or practice affect multiple practice attendance?

Of single-practice users, 86.9% identified both a usual GP and usual practice, compared with 84.7% of multiple-practice users. A higher proportion of multiple-practice users reported not having a usual practice (21.0%), compared with single-practice users (1.93%), and this difference is statistically significant (Table 2).

86.1% of single practice users and 80.3% of multiple practice users reported having a usual GP. There was no statistically significant difference between single and multiple practice users in terms of having a usual GP (odds ratio [OR]: 1.14; 95% confidence intervals [CI]: 0.76, 1.75). This result appears consistent with patients' preferences for having a usual GP being unaffected by attendance at multiple practices.

The influences of patient demographic characteristics

There was a strong trend for older respondents to attend only one general practice. While 42% of those aged under 30 years reported attending multiple practices, only 12.9% of respondents aged over 70 years reported doing so ($P < 0.01$). This association is shown in Figure 1. When other patient sociodemographic, health and practice variables were controlled for, older age was associated with significantly reduced odds of attending multiple general practices. Compared with an individual aged under 30 years, respondents aged 60–69 years had an OR of 0.34 of being a multiple practice attender (95% CI: 0.20, 0.59).

Respondents living in metropolitan areas had greater odds of multiple practice attendance, compared with respondents from inner regional (OR: 0.60, 95% CI: 0.40, 0.89) and outer regional locations (OR: 0.48; 95% CI: 0.25, 0.92). This potentially reflects lower availability of alternative general practices in non-metropolitan areas. Compared with university graduates, the odds of multiple practice attendance was decreased in respondents with lower educational attainment, although this was only significant for those who had completed their high school education without further study (OR 0.64; 95% CI: 0.42, 0.97).

While bivariate analysis suggests greater rates of multiple practice attendance by women and significant differences relating to income, these differences were not significant after controlling for other variables in the logistic regression. No statistically significant differences relating to country of birth, employment status, private health insurance status, concession card status, country of birth, or health status (either self-reported or presence of chronic disease) were found in the logistic regression.

Health service use and practice characteristics

Respondents who reported attending an emergency department in the previous 12 months had significantly increased odds of being a multiple practice user (OR: 1.56; 95% CI: 1.12, 2.17), as were those people who reported home visits (OR: 1.77; 95% CI: 1.11, 2.82). There was no significant association between reporting a higher number of GP visits and multiple practice attendance. This finding differs from previous research suggesting that there was a relationship between seeing multiple GPs and higher numbers of GP visits,⁵ and suggests there may be different drivers for multiple GP and multiple practice attendance.

Compared with respondents attending practices with one or two doctors, there was a statistically significant decrease in the odds of multiple practice attendance for respondents whose practices had 6–10

Table 1. Variables used with analysis, summary statistics and comparison with Australian Bureau of Statistics (ABS) population statistics^{20 22, 23}

Variable name	Variable definition	n	Sample proportion (SD)	ABS comparison ¹
Practice use				
Multiple practices	1 = attended more than one practice in previous 12 months; 0 = otherwise	2,477	0.28 (0.45)	NA
Usual practice	1 = usually attend the same general practice; 0 = No	2,477	0.90 (0.3)	NA
Usual GP	1 = usually see same GP at practice; 0 = No	2,477	0.80 (0.4)	NA
Age (years)				
		2,471		
<30*	1 = 16–29 years of age; 0 = otherwise		0.15 (0.36)	0.25
30–39	1 = 30–39 years of age; 0 = otherwise		0.23 (0.42)	0.16
40–49	1 = 40–49 years of age; 0 = otherwise		0.21 (0.41)	0.18
50–59	1 = 50–59 years of age; 0 = otherwise		0.19 (0.39)	0.15
60–69	1 = 60–69 years of age; 0 = otherwise		0.16 (0.37)	0.13
≥70	1 = ≥70 years; 0 = otherwise		0.06 (0.24)	0.11
Gender	1 = female; 0 = male	2,463	0.52 (0.5)	0.51
Country of birth	1 = Australian born; 0 = born in another country	2,471	0.73 (0.44)	0.72
Married/de facto	1 = married or living with de facto; 0 = other marital status (single, widowed, divorced, separated)	2,424	0.52 (0.50)	
Place of residence²				
		2,357		
Major city*	1 = living in major metropolitan city		0.77 (0.42)	0.63
Inner regional	1 = living in inner regional location		0.15 (0.36)	0.2
Outer regional	1 = living in outer regional location		0.07 (0.25)	0.17
Remote	1 = living in remote location		0.01 (0.07)	
Highest educational attainment				
		2,444		
Less than HSC	1 = did not complete HSC		0.15 (0.35)	0.25
HSC	1 = HSC completion, without further qualification		0.17 (0.38)	0.18
Certificate/diploma	1 = has post-high school qualification (eg TAFE)		0.32 (0.47)	0.31
University graduate*	1 = has university degree or higher		0.36 (0.48)	0.23
Income status				
		2,115		
Low	1 = total household income less than \$40,000		0.29 (0.45)	0.26
Medium	1 = total household income between \$40,000 and \$79,900		0.29 (0.46)	0.27
High	1 = total household income between \$80,000 and \$149,900		0.32 (0.47)	0.29
Very high*	1 = total household income greater than \$149,900		0.1 (0.29)	0.18

*Base case in logistic regression analysis for categorical variables

¹2011 census provides age band of 15–29 years; ²Place of residence based on five ARIA groupings (Australian Statistical Geography Standard Remoteness Structure, 2011). ARIA 4 and 5 (remote and very remote) grouped together due to low sample size; ³List of chronic diseases asthma, cancer, chronic obstructive pulmonary disease, chronic pain, depression or another mood disorder, diabetes, heart disease, high blood pressure or other chronic disease; ⁴For practice characteristics, 'don't know' was a response option. Don't know respondents were coded as missing (and omitted) in logistic regression, and included within sensitivity analysis within most common category
GP, general practitioner; HSC, Higher School Certificate; NA, no available data; SD, standard deviation

Table 1. Variables used with analysis, summary statistics and comparison with Australian Bureau of Statistics (ABS) population statistics^{20,22,23} (Cont)

Variable name	Variable definition	n	Sample proportion (SD)	ABS comparison ¹
Employed	1 = employed (part time or full time); 0 = other (student, retired, not working)	2386	0.81 (0.39)	
Concession card holder	1 = has a Health Care Card, Pensioner Concession Card, Seniors Card or Department of Veterans' Affairs card; 0 = no concession card	2,473	0.46 (0.5)	
Private health insurance	1 = has private hospital health insurance	2295	0.55(0.5)	0.47
Self-assessed health		2,477		
Excellent*	1 = excellent health; 0 = otherwise		0.08 (0.28)	0.19
Very good	1 = very good health; 0 = otherwise		0.34 (0.47)	0.36
Good	1 = good health; 0 = otherwise		0.38 (0.48)	0.3
Fair	1 = fair health; 0 = otherwise		0.15 (0.36)	0.11
Poor	1 = poor health; 0 = otherwise		0.05 (0.21)	0.04
Chronic disease sufferer	1 = if yes for any of list of chronic diseases; ³ 0 = no for all chronic diseases	2,477	0.6 (0.49)	0.5
Smoker	1 = current smoker; 0 = non-smoker or ex-smoker	2,257	0.23 (0.42)	0.15
GP visits in the previous year		2,477		
0	1 = no GP visits in previous 12 months		0.07 (0.26)	0.15
1	1 = 1 GP visits in previous 12 months		0.15 (0.36)	0.14
2-3*	1 = 2 or 3 GP visits in previous 12 months		0.41 (0.49)	0.32
4-11	1 = 4-11 GP visits in previous 12 months		0.3 (0.46)	0.29
≥12	1 = 12 or more GP visits in previous 12 months		0.06 (0.24)	0.12
Emergency department user in the previous 12 months	1 = attended emergency department (ED) in last 12 months; 0 = no ED attendances	2,477	0.19 (0.39)	0.14
Home visits	1 = had home visit from GP in last 12 months; 0 = otherwise	2,477		
Number of GPs in practice⁴		2,197		
1 or 2*	1 = 1 or 2 GPs in practice		0.22 (0.41)	NA
3-5	1 = 3-5 GPs in practice		0.4 (0.49)	
6-10	1 = 6-10 GPs in practice		0.3 (0.46)	
>10	1 = more than 10 GPs in practice		0.09 (0.28)	
Practice has bulk billing	1 = practice offers bulk billing always or sometimes; 0 = no bulk billing offered at practice	2,351	0.88 (0.33)	

*Base case in logistic regression analysis for categorical variables

¹2011 census provides age band of 15-29 years; ²Place of residence based on five ARIA groupings (Australian Statistical Geography Standard Remoteness Structure, 2011). ARIA 4 and 5 (remote and very remote) grouped together due to low sample size; ³List of chronic diseases asthma, cancer, chronic obstructive pulmonary disease, chronic pain, depression or another mood disorder, diabetes, heart disease, high blood pressure or other chronic disease; ⁴For practice characteristics, 'don't know' was a response option. Don't know respondents were coded as missing (and omitted) in logistic regression, and included within sensitivity analysis within most common category
GP, general practitioner; HSC, Higher School Certificate; NA, no available data; SD, standard deviation

doctors (OR: 0.65; 95% CI: 0.44, 0.96) or 10 or more doctors (OR: 0.55; 95% CI: 0.32, 0.96). This may be evidence that larger practices are better able to manage the needs of their patient population. Single and multiple practice users were just as likely to report having a usual practice that offered bulk billing.

Discussion

Survey respondents reported high levels of site continuity in the absence of practice enrolment, but a significant proportion also reported multiple practice use; more than one-quarter of respondents reported attending more than one practice in the previous year. These are higher rates of multiple practice attendance than have been reported previously,^{13,17} and suggest that a substantial portion of general practice care is provided away from a patient's usual practice.

The finding that single and multiple practice users were equally likely to identify a usual GP could indicate that

attendance at multiple practices does not reduce patients' perception that they have a usual GP. Patients are known to be more likely to attend a non-usual practice if they perceive that their reason for attendance is simple, or non-urgent, if they are away from their usual practice, or if they cannot access an appointment when needed.²¹ The finding that there is no significant association between multiple practice use and bulk billing is consistent with patients attending multiple practices to improve their access to care, rather than to reduce costs. The clinical content of consultations is not reported in this survey and further research is needed to fully understand the reasons for multiple practice attendance.

These results also show that the characteristics of multiple GP attenders reported in previous research^{13,16} and those of multiple practice users are similar, including being younger and more highly educated than single practice/GP users. However, an association between increased numbers of GP visits and multiple GP attendance reported in previous research⁵

did not extend to multiple practice use. Attending another practice – when care from the usual practice is unavailable – potentially acts as a substitute for usual GP care rather than increasing health service use. However, the association between increased rates of emergency department attendance and home visits and multiple practice use suggest that single and multiple practice users may have different patterns of health service use.

In Australia, the usual GP does not receive information about any 'non-usual' practice attendance, if not volunteered by the patient subsequently. Without such information sharing between practices, informational continuity will be reduced and potentially lead to worse health outcomes if important information is not passed on. The finding that multiple practice use is most common in the youngest age groups (anticipated to have lower burden of disease) potentially means this information loss and suggested sequelae is inconsequential, but this assumption needs testing.

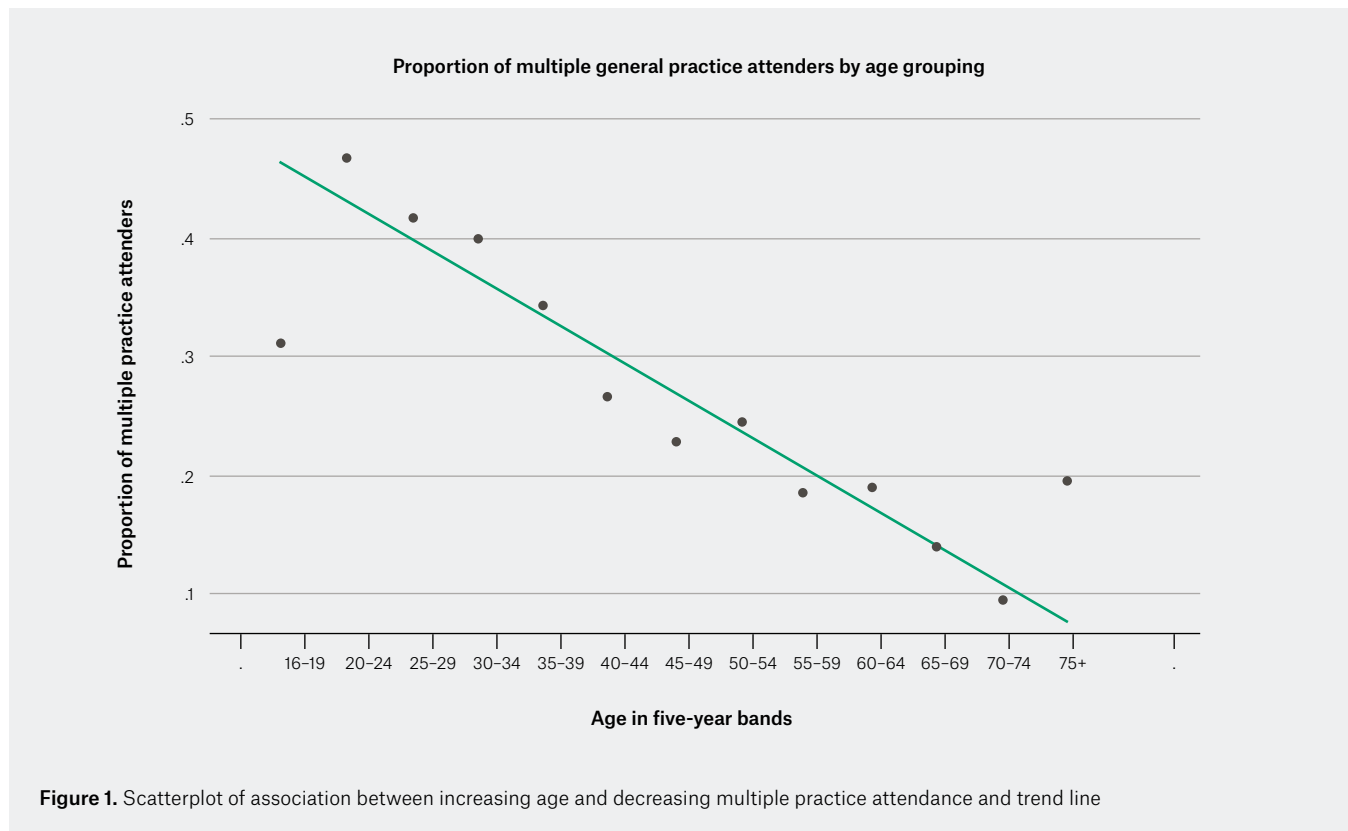


Figure 1. Scatterplot of association between increasing age and decreasing multiple practice attendance and trend line

Limitations of this research include possible selection bias as a result of using an online sample and the under-representation of older Australians among the survey respondents; the potential for recall bias in using self-reports of health status and health service use; and the absence of clinical content that might explain reasons for multiple practice attendance.

Conclusion

Results from this survey suggest that Australian patients frequently seek care from multiple general practices. Multiple practice attendance is more common in younger patients and those with higher education. These findings suggest that most Australians have a usual practice and a usual GP and that multiple practice attenders are as likely as single practice users to report having a usual GP. While policy interventions to reduce multiple practice attendance may improve continuity of care, they may potentially reduce patient choice.

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Table 2. Association between multiple general practice attendance and explanatory variables

Variable	Bivariate analysis		Logistic regression	
	Proportion of multiple practice attenders in category	Chi ² (P)	Odds ratio of multiple practice attendance (standard error)	95% confidence intervals
Practice usage				
Usual practice	0.243	118.400 (P <0.001)*	0.0585 (0.0200)*	0.030, 0.114
Usual general practitioner	0.274	0.351 (P = 0.554)	1.141 (0.245)	0.750, 1.737
Age (years)		117 (<0.001)*		
<30 [§]	0.422		1	0.520, 1.308
30–39	0.372		0.825 (0.194)	0.381, 0.992
40–49	0.247		0.614 (0.150)*	0.239, 0.673
50–59	0.216		0.401 (0.106)*	0.206, 0.647
60–69	0.166		0.365 (0.107)*	0.171, 0.751
≥70	0.129		0.359 (0.135) [†]	0.520, 1.308
Female	0.306	11.780 (P = 0.001) [†]	1.237 (0.18)	0.930, 1.645
Australian born	0.272	0.610 (P = 0.435)	0.950 (0.154)	0.691, 1.305
Married/de facto	0.263	2.300 (P = 0.128)	0.900 (0.136)	
Place of residence		34.000 (P <0.001)*		
Major city [§]	0.300		1.000	
Inner regional	0.161		0.618 (0.127)*	0.413, 0.925
Outer regional	0.200		0.479 (0.16)*	0.248, 0.924
Remote	0.310		1.231 (0.96)	0.267, 5.679
Highest educational attainment		26.810 (P <0.001)*		
Less than Higher School Certificate	0.219		1.019 (0.235)	0.648, 1.601
Higher School Certificate	0.230		0.638 (0.137)*	0.419, 0.972
Certificate/diploma	0.257		0.861 (0.152)	0.609, 1.216
University graduate [§]	0.335		1.000	
Income status		18.200 (P <0.001)*		
Low	0.230		0.703 (0.214)	0.386, 1.278
Medium	0.267		0.759 (0.200)	0.453, 1.272
High	0.328		0.921 (0.222)	0.574, 1.478
Very high [§]	0.330		1	

Logistic regression (n = 1274) results are reported in odds ratios (ORs) with an OR >1 indicating increased odds of multiple practice attendance.

Logistic regression statistics: Pseudo R²: 0.1526; LR chi²: 239.76; Prob >chi²: 1403.3; AIC: 1588.7

*P <0.001; [†]P <0.01; [§]P <0.05;

[§]Indicates base case in logistic regression analysis for categorical variables;

[†]Respondents reporting 0 and 1 visits in previous year were omitted from analysis as illogical to being multiple general practice attenders with <2 visits
AIC, Aikake information criterion; LR, likelihood ratio

Table 2. Association between multiple general practice attendance and explanatory variables (Cont)

Variable	Bivariate analysis		Logistic regression	
	Proportion of multiple practice attenders in category	Chi ² (P)	Odds ratio of multiple practice attendance (standard error)	95% confidence intervals
Employed	0.267	4.61 (P = 0.032)*	1.255 (0.243)	0.859, 1.835
Concession card holder	0.253	5.91 (P = 0.015)*	0.814 (0.149)	0.568, 1.166
Private health insurance	0.288	3.75 (P = 0.053)	1.046 (0.162)	0.772, 1.416
Self-assessed health		4.68 (P = 0.322)		
Excellent [§]	0.325		1	
Very good	0.281		1.243 (0.395)	[0.666,2.318]
Good	0.27		1.227(0.393)	[0.654,2.300]
Fair	0.247		0.986 (0.351)	0.491, 1.983
Poor	0.298		1.338 (0.582)	0.570, 3.139
Chronic disease	0.6 (0.49)	0.04 (P = 0.847)	1.117 (0.187)	0.804, 1.551
Smoker	0.23 (0.42)	5.90 (P = 0.015)*	1.160 (0.196)	0.833, 1.615
GP visits in previous year		84.7 (P <0.001)*		
0	0.04		-	
1	0.175		-	
2-3 [§]	0.317		1	
4-11	0.317		1.126 (0.171)	0.836, 1.518
≥12	0.327		1.211 (0.333)	0.706, 2.077
Emergency department user last 12 months	0.394	39.4 (P <0.001)*	1.564 (0.264) [†]	1.124, 2.177
Home visits	0.5	56.9 (P <0.001)*	1.742 (0.419) [†]	1.087, 2.790
Number of GPs in practice	0.228	2.19 (P = 0.53)		
1 or 2 GPs [§]	0.408		1	
3-5 GPs	0.282		0.969 (0.180)	0.674, 1.394
6-10 GPs	0.08		0.660 (0.133) [†]	0.445, 0.978
More than 10 GPs	0.228		0.558 (0.156) [†]	0.323, 0.967
Practice has bulk billing	0.28	0.210 (P = 0.643)	0.753 (0.175)	0.477, 1.189

Logistic regression (n = 1274) results are reported in odds ratios (ORs) with an OR >1 indicating increased odds of multiple practice attendance.

Logistic regression statistics: Pseudo R²: 0.1526; LR chi²: 239.76; Prob >chi²: 1403.3; AIC: 1588.7

*P <0.001; [†]P <0.01; [‡]P <0.05;

[§]Indicates base case in logistic regression analysis for categorical variables;

^{||}Respondents reporting 0 and 1 visits in previous year were omitted from analysis as illogical to being multiple general practice attenders with <2 visits

AIC, Akaike information criterion; LR, likelihood ratio