Characteristics of patients who access zero, one or multiple General Practices and reasons for their choices: a study in regional Australia

Kristen Maree Glenister (kristen.glenister@unimelb.edu.au)
University of Melbourne https://orcid.org/0000-0003-0510-5314

John Guymer
University of Melbourne

Lisa Bourke
University of Melbourne

David Simmons
Western Sydney University

Research article

Keywords: General Practice, continuity of care, rural, preventative health, screening, lifestyle

DOI: https://doi.org/10.21203/rs.3.rs-38624/v1

License: ©  This work is licensed under a Creative Commons Attribution 4.0 International License. Read Full License
Abstract

Background:

Most Australians visit a General Practitioner annually and are free to choose their General Practitioner and/or practice on each occasion. A proportion of people visit multiple general practices, which can reduce continuity of care, a core value of general practice. Utilisation of multiple general practices is associated with metropolitan residence and younger age. However, it is unclear which factors are associated with utilisation of multiple general practices in rural areas, where there are often General Practitioner workforce shortages and higher proportions of patients who may benefit from continuity of care such as older people or those with chronic disease. The aim of this study was to compare the characteristics of people in a rural Australian area who accessed multiple general practices in the previous year.

Methods:

A cross-sectional survey assessed self-reported utilisation and perspective of general practice services, uses of multiple practices, associated reasons, lifestyle advice and screening services received in four regional Victorian towns. Households were randomly selected and residents aged 16 + were eligible to participate.

Results:

Compared with utilisation of a single general practice, multiple general practice attendance in the past year (14.3%) was associated with younger age (adjusted odds ratio (aOR 95% confidence interval) 0.98 per year (0.97–0.99), residence in the regional centre aOR 2.90(2.22–3.78), emergency department (ED) attendance in the last 12 months aOR 1.65(1.22–2.21) and no out of pocket costs aOR 1.36(1.04–1.79)). Reasons for multiple general practice attendance included availability of appointments, cost and access to specific services. Compared with multiple general practice attendance, those attending single practices reported more screening tests but similar frequency of lifestyle advice. People who accessed multiple practices were less likely to report very high satisfaction (51.7% vs 62.9% p < 0.001) or excellent degree of confidence in their doctor (42.0% vs 49.8% p = 0.006) than single practice attendees.

Conclusions:

Those attending single practices report higher satisfaction and confidence in their GP and were less likely to attend ED. Further studies are required to test whether increasing availability of appointments and reducing out-of-pocket expenses would increase single practice attendance and/or decrease healthcare costs overall.

Background:

The majority of Australians (87%) visit a primary care physician or General Practitioner (GP) at least once annually and on average, people visit a GP 6.1 times per year (1). People who do not see a doctor regularly may not need to, or may avoid seeking care due to a previous poor experience, low perceived need or other barriers including cost or time (2). In Australia, people are free to choose their GP and/or practice on each occasion (3). Although the majority of Australians have a preferred GP (4), between 11%(5) and 28%(6) of people visit multiple general practices. There are knowledge gaps regarding the reasons why people access multiple general practices, although it is known that people living in metropolitan areas and younger people are the most likely to access multiple general practices (6). Research focussed specifically on utilisation of multiple general practices in rural, regional or remote contexts are rare. Utilisation of multiple general practices reflects patients exercising choice of healthcare provider, however exercising this choice is complex. Certain groups of patients, for example younger patients, patients with higher educational attainment or income, or patients with less established relationships with healthcare providers, are often more willing, and/or able, to access different GPs at different times (7). Some people may be accessing multiple general practices for specific services, such as gynaecological services (8).

Accessing GP care via multiple practices reduces continuity of care. A high degree of continuity of GP care is associated with reduced ED presentations and improved health outcomes (9). Older people, women and people with chronic physical or psychological health conditions are more likely to value continuity of care (10). Further, older people and people with chronic health conditions receive the greatest benefit from continuity of GP care (10). Continuity of care is associated with reduced healthcare costs over time, higher levels of patient satisfaction and enhanced preventative medicine (11). However, continuity of care may be associated with diminished access in the form of reduced availability of appointments (11). In rural areas, continuity of care was found to be associated with positive communication, availability of resources (including skilled and experienced health care providers) and reduced geographical distance (12).

In rural Australia, continuity of GP care may be more difficult to achieve due to geographical pockets of GP shortages or high staff turnover (13). The GP workforce has become increasingly flexible to accommodate part time work and ongoing training requirements (14). In general, rural people are less likely to receive preventative care, including exercise or dietary advice (15), and experience higher prevalence of chronic health conditions than their
The aim of this study was to estimate the proportion of people in a regional Australian setting who access multiple general practices, their characteristics, their preventative health care, ED presentations and reasons for accessing multiple practices.

Methods:

Crossroads-II (17) was conducted from 2016-2018, and studied health, disease and access to health services of people residing in 4 towns in the Goulburn Valley of regional Victoria, Australia. Surveys were conducted face-to-face at the participants’ residence by trained research assistants using RedCap electronic data capture tools (Vanderbilt University) (18). Participating adults were invited to attend a ‘clinic’ at which additional questionnaires were completed. Ethics was granted by the Goulburn Valley Human Ethics Research Committee in May 2016 (GVH20/16). Written consent was obtained from each participant. Participants were asked questions about utilisation and perspectives of GP services, receipt of lifestyle advice and screening tests, ED utilisation and demographic details, as per Appendix 1. Participants were asked ‘if you have visited more than one general practice in the past 12 months, please comment why’ and the responses were subsequently coded. A portion of adult participants attended a health screening clinic and were asked additional questions about receiving lifestyle advice and opinion of GP care using several questions from the United Kingdom GP Patient Survey (19) (Appendix 1).

Analysis:

Data were imported into SPSS (SPSS Inc., version 22). Continuous data are presented as mean ± standard deviation, and categorical data as frequencies and percentages. Bonferroni adjustment was used to consider significance for multiple analyses. Independent groups were compared using Student’s t-test. Dichotomous variables were compared using Chi-squared test. The frequency of each code was assessed within groups of respondents (aged <65 vs 65+ years, male vs females, smaller towns (populations 6000-9000) vs regional centre (population >50 000), very satisfied with GP services vs less than very satisfied). Binary logistic regression (direct method) was undertaken to assess the characteristics of people who reported accessing zero vs at least one, or one vs multiple general practices in the previous 12 months (dependent variable). The independent variables were selected if they were significantly different between groups as per table 1a/1b. Health status was included as a proxy for general chronic disease status. The independent variables of age, sex, born in Australia, private health insurance, confidence in GPs, attendance at an ED and health status were included in the analysis of attendance at zero vs at least one practice, while the additional independent variables bulk billing (no out of pocket cost to patient), residence in the regional centre or smaller towns, educational attainment (completion of year 12, or less than year 12), frequency of GP visits, GP satisfaction and distance to GP were included in the analysis of attendance of one or multiple practices.

Results:

Table 1a: Characteristics of respondents who reported attending zero or at least one general practices in past 12 months.

The response rate for the household survey was 61% (n=2680 participants) and 60% for the clinic (n=748).

Most participants indicated that they had accessed a GP in the past 12 months (93%) on an average of 6.5 ± 8.8 occasions (median 4.0, range 0-112). When compared with respondents who attended at least one general practice, respondents who reported attending zero general practices were more often male (57% vs 41%, p<0.001), younger (41±18 vs 55±19 years, p<0.001), of excellent health status (22% vs 12%, p<0.001) and fewer had attended an ED in the past 12 months (11% vs 21%, p=0.001).

Table 1a: Characteristics of respondents who reported attending one or multiple general practices in past 12 months.

Mean waiting time was 4.3 days (median of 2.0, range 0 to 90 days), with no significant difference observed between respondents who accessed single or multiple general practices. Fourteen percent of participants said that they had accessed GPs across multiple practices (average of 2.1 practices, mode=2, range 2-4) in the past 12 months. Bulk billing was more commonly reported by respondents from the regional centre than the smaller towns (67% vs 63%, p=0.031) and users of multiple general practices than single general practices (71% vs 63%, p=0.003). Respondents who utilised single general practices more commonly reported being very satisfied than users of multiple practices (63% vs 52%, p<0.001) and having excellent levels of confidence than users of multiple or no practices (50% vs 42% vs 36%, p≤0.006). Multiple general practice attendees were more likely to have also presented to ED than attenders of zero or one practice (29%, 20%, 11% respectively, p<0.005).

Table 2a: Screening tests reported by respondents attending no practices, one practice or multiple practices in past 12 months (household participants n=2680).

Table 2b: Receipt of lifestyle advice and opinion of GP care (clinic participants n=723): Patients who utilised one GP practice were more likely to have had their blood pressure, skin and cholesterol checked than patients who utilised multiple practices, as per Table 2a. Participants who had not accessed a GP practice in the past 12 months were significantly less likely to have had screening tests (Table 2a) or lifestyle advice (Table 2b) compared with participants who had accessed at least one GP practice. There were very few differences in patient opinion of various aspects of GP care between patients who had accessed zero, one or multiple practices, see Table 2b.

Table 3a: Likelihood of accessing multiple general practices, compared with a single practice (direct binary logistic regression)
The logistic regression model suggested that the significant factors were (in order of effect size): age, residence in the regional centre compared with the smaller towns, attendance at an ED, distance to the GP, frequency of GP visits and being bulk billed, see table 3a.

Table 3b: Likelihood of accessing zero general practices in past 12 months, compared with at least one general practice (direct binary logistic regression).

This analysis was repeated to assess variables associated with use of no general practices in the past 12 months, compared with at least one general practice. Attendance at no general practice in the past 12 months was significantly associated with males (OR 2.42, 1.46-3.16), younger age (OR 0.96, 0.95-0.97), excellent health status (OR 2.07, 1.32-3.24) and less use of ED (OR 0.38, 0.20-0.71), see Table 3b.

Table 4: Most common reasons for attending multiple general practices according to age, location of residence, sex and satisfaction with GP services.

The most common reasons for attending multiple general practices (availability of appointments and accessing a subsequent GP for ‘simple’ issues but retaining a preferred GP (6)) were among the top 3 reasons mentioned by each group of respondents. Respondents aged <65 years more commonly mentioned reasons related to convenience and cost than respondents aged 65+ years. Location of GP services (either convenience or due to patient relocation/travel) were more commonly mentioned by respondents in smaller towns than in the regional centre. Specific services and cost were mentioned more commonly by females than males. Cost appeared to be a factor for respondents who were less satisfied with GP services compared with more satisfied respondents, as per Table 4.

Discussion:

We have shown in this rural area that most people had seen a GP in the past 12 months (93%), higher than the Australian national average of 87% (20). There was evidence that the respondents who had not accessed a general practice in the past 12 months were more often males, younger people, and/or people reporting excellent health status. The frequency of visits (6.5 in past 12 months) was similar to the Australian national average of 6.1 visits (1). The majority of respondents (85%) reported accessing only one general practice, which suggests continuity of informational care (information relevant to the patient's care is readily available to the patient and healthcare provider). Over half of respondents had seen multiple GPs in this time, reducing relational continuity. The proportion of people attending multiple practices (14%) is similar to the proportion reported by other, predominantly urban studies (11% (5), 19% (20), 28% (6)) and ours is the first study focussed specifically on a regional setting. Participants from the regional centre in this study were significantly more likely to access multiple practices than participants from the surrounding smaller towns. This may relate to a higher number of practices, practices offering a greater variety of services or increased accessibility in the regional centre. In addition, respondents from the regional centre were more likely to travel less distance to their GP than respondents from smaller towns, particularly for those who accessed multiple general practices.

Access of multiple general practices:

People who attended multiple practices tended to be younger, more likely to be bulk billed, have higher utilisation of ED and reported more frequent GP visits compared with people who attended a single practice. This may point to this group needing to balance a number of competing needs (balancing work or carer commitments, cost considerations), or seeking care from a number of sources. A similar, although predominantly metropolitan, study reported an association between utilisation of multiple general practices and younger people, metropolitan residence and higher education attainment, but no association with bulk billing, and concluded that use of multiple practices was driven by choice rather than cost (6). Our study suggests that the cost of GP appointments is a factor in a rural setting, perhaps due to the reduced availability of bulk billing and increased socioeconomic disadvantage. This is similar to national data which reports regional areas are more likely to incur out of pocket costs for GP services and were more likely to delay GP services due to cost (21).

The exercising of ‘choice’ may enable a better fit between the patient and the healthcare provider, but patient choice is complex and reflects a net balance of being willing, and/or able, to choose and actively making a choice of healthcare provider (7). Patients with higher educational attainment, higher incomes, females, younger age and less established relationships with healthcare providers are reported to be more likely to exercise choice (7). An Australian study of the characteristics of people utilising multiple general practices identified similar patterns (3). Utilisation of a subsequent GP practice is likely to be positive for some groups of patients, as their choices are likely to be meeting a specific healthcare need such as a women's health check with a trusted (often same gender) provider (8), or an appointment for a relatively simple issue that fits around family or work commitments. For other groups of patients such as older people or people with chronic health conditions, care from a single practice appears optimal.

Reasons for accessing multiple general practices:

Reasons for visiting multiple practices primarily related to availability of appointments. In addition, many participants utilised a second practice for specific services such as women's health checks or for appointments that they considered to be 'simple' such as to obtain a medical certificate or prescriptions, in keeping with previous research (22). Rates of mammograms were lower and rates of pap smears were similar (among target groups) to a similar study from another Australian state (Queensland); 61% and 58% respectively in rural areas (23). Rate of prostate tests (overall 68%) was similar to a study by Liao et al (70%) which similarly reported that prostate specific antigen tests were uncommon among men who did not have a regular doctor (24).
Rates of advice regarding common health behaviours were lower than a similar national study (5) but not significantly different between participants who accessed GP services at a single or multiple practices. Advice regarding exercise or weight loss was significantly less common among non-attenders compared with attenders of at least one GP practice.

**ED utilisation:**

Optimal continuity of care is associated with decreased utilisation of EDs (9). Our results suggest an association between utilisation of multiple general practices and presentation to ED, in agreement with Wright and colleagues (6). Potentially, this may be due to acute, emergency presentations, injuries, after-hours presentations or need for comprehensive imaging or pathology services (25). Alternatively, utilisation of ED may be due in part to access barriers to GP services (for example; prohibitive cost of non-bulk billed GP services or extended waiting times, dissatisfaction), or that ED services met a particular need (for example, walk-in service or 24-hour care) (25). Respondents who visited no general practices in the previous 12 months were less likely to present to ED.

**Limitations:**

This study was conducted in one region in one Australian state, although differences between the regional centre and three smaller towns, each with unique features were assessed. Continuity of GP care is complex, and only limited aspects of practice continuity are explored in this paper. Information provided by participants is likely to be subject to recall bias in relation to utilisation of general practice and ED and receipt of preventative health care. However, face-to-face data collection is likely to have allowed participation by a wider cross section of respondents than self-administered surveys. The large sample size increases the generalisability of findings.

**Conclusions:**

The results from this study suggest that patients who receive care from a single general practice typically have higher satisfaction and confidence in their GP, are more likely to have screening tests and less likely to go to an ED. Although patients typically have a preferred GP, a proportion access a GP at another practice, often due to a lack of appointment availability. A solution that optimises both continuity and prompt access could be advantageous for patients.

**Declarations**

**Ethics:** Ethical approval was granted by the Goulburn Valley Human Ethics Research Committee (GVH20/16).

**Consent for publication:**

All authors consent to publication.

**Competing interests:** No relevant disclosures.

**Funding:**

This research was funded by the National Health and Medical Research Council, Australia (NHMRC) in partnership with rural health services and local government organisations. This funding supported data collection. Researchers remained independent from the funding organisations.

**Author contributions:**

DS, KG and LB designed the study, collected data and contributed to analysis. KG drafted the manuscript and all authors contributed to subsequent drafts.

**Acknowledgements:**

We thank all participants and research assistants for their contribution to the project. We gratefully acknowledge the support of the Australian Government Department of Health, Rural Health Multidisciplinary Training (RHMT) Programme.

**Data sharing:** data will not be available.

**References**

1. Australian Institute of Health and Welfare. Medicare Benefits Schedule GP and specialist attendances and expenditure in 2016-17. 2018 [cited 2019 21/10/2019]. Available from: https://www.aihw.gov.au/reports/primary-health-care/mhc-mbs-gp-and-specialist-attendances-2016-17/contents/summary.

2. Taber JM, Leyva B, Persoskie A. Why do people avoid medical care? A qualitative study using national data. Journal of General Internal Medicine. 2015;30(3):290-7.
3. Veale BM, McCallum J, Saltman DC, Lonergan J, Wadsworth YJ, Douglas RM. Consumer use of multiple general practitioners: an Australian epidemiological study. Family Practice. 1995;12(3):303-8.

4. The Royal Australian College of General Practitioners. General Practice: Health of the Nation 2018. East Melbourne, Victoria: RACGP; 2018.

5. McRae I, Yen L, Gillespie J, Douglas K. Patient affiliation with GPs in Australia—who is and who is not and does it matter? Health Policy. 2011;103(1):16-23.

6. Wright M, Hall J, van Gool K, Haas M. How common is multiple general practice attendance in Australia? Australian Journal of General Practice. 2018;47(5):289-96.

7. Victoor A, Delnoij DM, Friele RD, Rademakers JJ. Determinants of patient choice of healthcare providers: a scoping review. BMC Health Services Research. 2012;12(1):272.

8. Bean-Mayberry BA, Chang CC, McNeel MA, Scholle SH. Ensuring high-quality primary care for women: predictors of success. Womens Health Issues. 2006;16(1):22-9.

9. Bentler SE, Morgan RO, Virmig BA, Wolinsky FD. The association of longitudinal and interpersonal continuity of care with emergency department use, hospitalization, and mortality among Medicare beneficiaries. PLoS One. 2014;9(12):e115088.

10. Aboulghate A, Abel G, Elliott MN, Parker RA, Campbell J, Lyratopoulos G, et al. Do English patients want continuity of care, and do they receive it? British Journal of General Practice. 2012;62(601):e567-75.

11. Cabana MD, Jee SH. Does continuity of care improve patient outcomes? Journal of Family Practice. 2004;53(12):974-80.

12. Street TD, Somoray K, Richards GC, Lacey SJ. Continuity of care for patients with chronic conditions from rural or remote Australia: A systematic review. Aust J Rural Health. 2019;27(3):196-202.

13. Duckett S., Breadon P. Access All Areas: New Solutions for GP Shortages in Rural Australia. Grattan Institute Report; 2013.

14. Hays R, Gupta T. Developing a general practice workforce for the future. Australian Journal for General Practitioners. 2018;47:502-5.

15. Harris MF, Islam FM, Jalaludin B, Chen J, Bauman AE, Comino EJ. Preventive care in general practice among healthy older New South Wales residents. BMC Family Practice. 2013;14:83.

16. Australian Institute of Health and Welfare. Australia's health 2014. Canberra: AIHW; 2014.

17. Glenister KM, Bourke L, Bolitho L, Wright S, Roberts S, Kemp W, et al. Longitudinal study of health, disease and access to care in rural Victoria: the Crossroads-II study: methods. BMC Public Health. 2018;18(1):670.

18. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)–a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform. 2009;42(2):377-81.

19. Campbell J, Smith P, Nissen S, Bower P, Elliot M, Roland M. The GP Patient Survey for use in primary care in the National Health Service in the UK – development and psychometric characteristics. BMC Family Practice. 2009;10(1):57.

20. Britt H, Miller GC., Henderson J., Bayram C., Harrisonn C., Valenti L., et al. General Practice activity in Australia 2015-2016. General Practice series 40. Sydney; 2016.

21. Australian Insitute of Health and Welfare. Patients’ out-of-pocket spending on Medicare services 2016-17.; 2018.

22. Tumer D, Tarrant C, Windridge K, Bryan S, Boulton M, Freeman G, et al. Do patients value continuity of care in general practice? An investigation using stated preference discrete choice experiments. Journal Of Health Services Research & Policy. 2007;12(3):132-7.

23. Sabesan S, Pillouras P. Disparity in cancer survival between urban and rural patients–how can clinicians help reduce it? Rural Remote Health. 2009;9(3):1146.

24. Liao JM, Ommernbor MJ, Clark CR. Association between features of patient-provider discussions and routine prostate-specific antigen testing. PLoS One. 2017;12(5):e0177687.

25. Villasenor S, Krouse HJ. Can the use of urgent care clinics improve access to care without undermining continuity in primary care? Journal of the American Association of Nurse Practitioners. 2016;28(6):335-41.

**Tables**

Table 1a: Characteristics of respondents who attended zero or at least one general practice in past 12 months:
| Did not attend a GP practice in past 12 months | Attended at least one general practice in past 12 months | p  |
|---------------------------------------------|--------------------------------------------------------|----|
| Participants (n, %)                         | 201 (7.5)                                              | 2479 (92.5) | - |
| Male (n, %)                                 | 112 (57.1)                                             | 1016 (41.1) | <0.001 |
| Respondents from regional centre (n, %)     | 95 (7.1)                                               | 1249 (92.9) | 0.395 |
| Respondents from small towns (n, %)         | 106 (7.9)                                              | 1230 (92.1) | 0.420 |
| Age (mean ± SD)                             | 41.0±18.3                                              | 54.7±19.0 | <0.001 |
| Completed year 12 or higher (n, %)          | 117 (63.2)                                             | 1313 (57.7) | 0.144 |
| Born in Australia (n, %)                    | 156 (79.6)                                             | 2087 (84.5) | 0.071 |
| Health status (excellent, n, %)              | 44 (22.2)                                              | 308 (12.4) | <0.001 |
| Bulk billed (n, %)                          | 12 (66.7)                                              | 1435 (64.7) | 0.864 |
| Private health insurance (n, %)              | 78 (36.1)                                              | 1148 (46.3) | 0.047 |
| Frequency GP visits mean±SD                 | 4.4±3.9                                                | 6.5±8.8 | 0.036 |
| Frequency GP visits median, range            | 4.0, 0-15                                              | 4.0, 0-112 | - |
| 1 (n, %)                                    | 3 (5.6)                                                | 258 (11.7) | - |
| 2-3 (n, %)                                  | 4 (22.2)                                               | 695 (31.4) | - |
| 4-11 (n, %)                                 | 8 (44.4)                                               | 883 (40.0) | - |
| 12+ (n, %)                                  | 2 (11.1)                                               | 373 (16.9) | - |
| Number different GPs (mean ±SD)             | 1.5±1.2                                                | 2.3±2.6 | 0.020 |
| Number different GP practices (mean±SD)     | 0±0                                                    | 1.2±0.4 | <0.001 |
| Very high satisfaction with GP (n, %)        | 11 (61.1)                                              | 1512 (61.2) | 1.000 |
| Excellent level of confidence in GP(n, %)    | 47 (36.4)                                              | 1073 (48.4) | 0.009 |
| Days waiting for appointment (mean±SD)       | 4.8±8.8                                                | 4.3±8.3 | 0.814 |
| Less than 0.5km from GP (n, %)              | 127 (79.4)                                             | 1952 (83.3) | 0.192 |
| <5km from GP: Regional centre (n, %)         | 49 (67.1)                                              | 911 (77.1) | 0.064 |
| <5km from GP: Smaller towns (n, %)           | 78 (89.7)                                              | 1941 (89.7) | 0.000 |
| Attended an ED in past 12 months (n, %)      | 20 (11.0)                                              | 493 (21.0) | 0.001 |

* On occasion total equal >100% due to rounding

Table 1b: Characteristics of respondents who attended one or multiple general practices in past 12 months:
|                                | Attended one GP practice in past 12 months | Attended multiple GP practices in past 12 months | p (1 practice vs >1 practice) |
|--------------------------------|-------------------------------------------|-------------------------------------------------|-----------------------------|
| Participants (n, %)            | 2096 (78.2)                               | 383 (14.3)                                      | -                           |
| Male (n, %)                    | 882 (42.2)                                | 134 (35.0)                                      | 0.009                       |
| Respondents from regional centre (n, %) | 994 (74.0)                               | 255 (19.0)                                      | 0.001 (regional centre vs small town) |
| Respondents from small towns (n, %) | 1102 (82.5)                              | 128 (9.6)                                       | -                           |
| Age (mean ± SD)                | 56.2±18.7                                 | 46.7±18.2                                       | <0.001                      |
| Completed year 12 or higher (n, %) | 1077 (56.1)                              | 236 (66.9)                                      | <0.001                      |
| Born in Australia (n, %)       | 1766 (84.6)                               | 321 (83.8)                                      | 0.701                       |
| Health status (excellent, n, %) | 912 (49.8)                                | 161 (42.0)                                      | 0.006                       |
| Bulk billed (n, %)             | 1163 (63.3)                               | 272 (71.4)                                      | 0.003                       |
| Private health insurance (n, %) | 994 (42.3)                                | 154 (40.2)                                      | 0.468                       |
| Frequency GP visits mean±SD     | 6.3±8.6                                   | 7.7±9.5                                         | 0.007                       |
| Frequency GP visits median, range | 4.0, 1-112                       | 5.0, 0-99                                       | -                           |
| 1 (n, %)                       | 246 (13.4)                                | 12 (3.1)                                        | <0.001                      |
| 2-3 (n, %)                     | 576 (31.5)                                | 119 (31.2)                                      | 0.952                       |
| 4-11 (n, %)                    | 715 (39.1)                                | 168 (44.1)                                      | 0.075                       |
| 12+ (n, %)                     | 292 (16.0)                                | 81 (21.3)                                       | 0.016                       |
| Number different GPs (mean ±SD) | 2.2±2.8                                   | 2.3±1.1                                         | 0.243                       |
| Number different GP practices (mean±SD) | 1.0±0.0                              | 2.1±0.3                                         | <0.001                      |
| Very high satisfaction with GP (n, %) | 1315 (62.9)                           | 197 (51.7)                                      | <0.001                      |
| Excellent level of confidence in GP (n, %) | 912 (49.8)                           | 161 (42.0)                                      | 0.006                       |
| Days waiting for appointment (mean±SD) | 4.3±8.4                             | 4.5±8.2                                         | 0.698                       |
| Less than 5km from GP (n, %)   | 1696 (86.0)                               | 256 (69.2)                                      | <0.001                      |
| <5km from GP: Regional centre (n, %) | 746 (79.7)                           | 165 (67.1)                                      | <0.001                      |
| <5km from GP: Smaller towns (n, %) | 950 (91.7)                           | 91 (73.4)                                       | <0.001                      |
| Attended an ED in past 12 months (n, %) | 387 (19.6)                           | 106 (28.6)                                      | <0.001                      |

Table 2a: Screening tests reported by respondents attending no practices, one practice or multiple practices in past 12 months (household participants n=2680).
Table 2b: Receipt of lifestyle advice and opinion of GP care (clinic participants n=723):

| Screening tests in the past 2 years (%) | Did not attend a GP practice in past 12 months | Attended a single GP practice | Attended multiple GP practices | P (1 practice vs >1 practice) | P (0 practice vs ≥1 practice) |
|----------------------------------------|-----------------------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
| Blood pressure check                   | 51.8                                          | 92.9                          | 90.0                          | 0.046                       | <0.001                      |
| Cholesterol test                       | 26.6                                          | 73.7                          | 64.0                          | <0.001                      | <0.001                      |
| Diabetes check                         | 27.1                                          | 66.9                          | 63.8                          | 0.220                       | <0.001                      |
| Pap test (target group females aged 18-69) | 32.9                                          | 50.8                          | 58.7                          | 0.247                       | 0.001                       |
| Bowel check                            | 16.6                                          | 41.2                          | 34.9                          | 0.016                       | <0.001                      |
| Bowel check (target group people aged 50-74) | 15.6                                          | 42.0                          | 36.2                          | 0.189                       | <0.001                      |
| Prostate check (target group males aged 50+) | 40.0                                          | 68.2                          | 84.7                          | 0.007                       | 0.001                       |
| Mammogram (target group females aged 45+) | 47.5                                          | 59.7                          | 63.8                          | 0.689                       | 0.139                       |
| Skin check                             | 20.6                                          | 43.6                          | 34.1                          | <0.001                      | <0.001                      |

Advice (ever) from GP regarding (%):

| Advice                      | Did not attend a GP practice in past 12 months | Attended a single GP practice | Attended multiple GP practices | P (1 practice vs >1 practice) | P (0 practice vs ≥1 practice) |
|----------------------------|-----------------------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
| Exercise                   | 31.7                                          | 49.6                          | 45.0                          | 0.410                       | 0.036                       |
| Alcohol                    | 7.5                                           | 11.0                          | 12.6                          | 0.624                       | 0.609                       |
| Diet                       | 34.1                                          | 42.1                          | 44.1                          | 0.755                       | 0.330                       |
| Weight loss                | 22.0                                          | 39.7                          | 44.5                          | 0.345                       | 0.021                       |
| Smoking                    | 7.9                                           | 17.3                          | 21.2                          | 0.334                       | 0.126                       |

Opinion of GP care (% of participants rating of 'very good'):

| Opinion                        | Did not attend a GP practice in past 12 months | Attended a single GP practice | Attended multiple GP practices | P (1 practice vs >1 practice) | P (0 practice vs ≥1 practice) |
|--------------------------------|-----------------------------------------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|
| GP spends enough time          | 44.4                                          | 63.9                          | 60.4                          | 0.501                       | 0.606                       |
| GP asks about symptoms         | 50.0                                          | 60.3                          | 50.5                          | 0.078                       | 0.374                       |
| GP listens                    | 55.6                                          | 65.2                          | 53.5                          | 0.032                       | 0.379                       |
| GP explains tests             | 57.6                                          | 62.7                          | 56.8                          | 0.302                       | 0.715                       |
| GP involves patient in decisions | 50.0                                          | 64.3                          | 57.7                          | 0.250                       | 0.148                       |
| GP shows care and concern     | 58.3                                          | 67.0                          | 59.6                          | 0.166                       | 0.373                       |
| GP takes problems seriously   | 50.0                                          | 66.3                          | 61.4                          | 0.362                       | 0.073                       |
Table 3a: Likelihood of accessing multiple general practices, compared with a single practice (direct binary logistic regression).

Multiple general practices=1, single general practice=0.
|                                | OR    | 95% CI       | p     |
|--------------------------------|-------|--------------|-------|
| Age (per year)                 | 0.981 | 0.973-0.988  | <0.001|
| Residence                      |       |              |       |
| Regional centre                | 2.895 | 2.218-3.778  | <0.001|
| Smaller town                   | 1     |              |       |
| Attended ED in past 12 months  |       |              |       |
| Yes                            | 1.645 | 1.224-2.211  | 0.001 |
| No                             | 1     |              |       |
| Distance to visit GP           |       |              |       |
| ≥5km                           | 1     |              |       |
| <5km                           | 0.656 | 0.488-0.882  | 0.005 |
| Frequency of GP visits in past 12 months (per visit) | 1.017 | 1.003-1.032 | 0.018 |
| Bulk billed                    |       |              |       |
| Yes                            | 1.361 | 1.035-1.790  | 0.027 |
| No                             | 1     |              |       |
| Sex                            |       |              |       |
| Male                           | 1     |              |       |
| Female                         | 1.293 | 0.996-1.678  | 0.054 |
| Satisfaction with GP           |       |              |       |
| Less than very satisfied       | 1     |              |       |
| Very satisfied                 | 0.755 | 0.558-1.022  | 0.069 |
| Education                      |       |              |       |
| Completed year 12 or higher    | 1.252 | 0.949-1.652  | 0.112 |
| Did not complete year 12       | 1     |              |       |
| Confidence in GP               |       |              |       |
| Poor, fair, good or very good  | 1     |              |       |
| Excellent                      | 0.787 | 0.583-1.062  | 0.117 |
| Health status                  |       |              |       |
| Poor, fair, good or very good  | 1     |              |       |
| Excellent                      | 1.084 | 0.743-1.581  | 0.676 |

Table 3b: Likelihood of accessing zero general practices in past 12 months, compared with at least one GP practice (direct binary logistic regression).

Zero practice=1, at least one practice=0.
|                      | OR   | 95% CI    | p     |
|----------------------|------|-----------|-------|
| **Sex**              |      |           |       |
| · Female             | 1    |           |       |
| · Male               | 2.416| 1.459-3.157| <0.001|
| **Age (per year)**   | 0.961| 0.950-0.971| <0.001|
| **Attended ED in past 12 months** |      |           |       |
| No                   | 1    |           |       |
| Yes                  | 0.379| 0.204-0.706| 0.002 |
| **Health status**    |      |           |       |
| Very good, good, fair or poor | 1    |           |       |
| Excellent            | 2.065| 1.316-3.241| 0.002 |
| **Confidence in GP** |      |           |       |
| Very good, good, fair, poor | 1    |           |       |
| Excellent            | 0.668| 0.450-0.992| 0.046 |
| **Health insurance** |      |           |       |
| No                   | 1    |           |       |
| Yes                  | 0.912| 0.605-1.375| 0.661 |
| **Born in Australia**|      |           |       |
| · No                 | 1    |           |       |
| · Yes                | 0.925| 0.564-1.516| 0.756 |

Table 4: Most common reasons for attending multiple General Practices according to age, location of residence, sex and satisfaction with GP services. Cells for which less than 10 responses were recorded have been omitted from this table.
|   | Participants <65 | Participants 65+ | Smaller towns | Regional centre | Males | Females | Very satisfied | Less satisfied |
|---|------------------|------------------|---------------|-----------------|-------|---------|---------------|---------------|
| 1 | Availability of appointments (100) | Specific services (15) | Availability of appointments (43) | Availability of appointments (68) | Availability of appointments (70) | Availability of appointments (45) | Availability of appointments (66) |
| 2 | Preferred GP plus subsequent clinic (48) | Preferred GP plus subsequent clinic (13) | Patient moved/was travelling (21) | Preferred GP plus subsequent clinic (41) | Preferred GP plus subsequent clinic (18) | Preferred GP plus subsequent clinic (43) | Preferred GP plus subsequent clinic (29) | Preferred GP plus subsequent clinic (32) |
| 3 | Convenience (32) | Availability of appointments (10) | Preferred GP plus subsequent clinic (20) | Dr works across multiple sites (28) | Convenience (16) | Specific services (27) | Dr works across multiple sites (24) | Specific services (18) |
| 4 | Cost (26) | Dr works across multiple sites (11) | Convenience (19) | Specific services (25) | Specific services (14) | Convenience (23) | Specific services (23) | Convenience (18) |
| 5 | Specific services (25) | Specific services (16) | Cost (20) | Patient moved/was travelling (13) | Dr works across multiple sites (20) | Convenience (21) | Cost (18) |
| 6 | Dr works across multiple sites (20) | Cost (10) | Convenience (20) | Dr works across multiple sites (12) | Cost (19) | Opening hours (15) | Patient moved/was travelling (15) |
| 7 | Opening hours (19) | Opening hours (19) | Cost (11) | Patient moved/was travelling (16) | Patient moved/was travelling (14) |
| 8 | Patient moved/was travelling (70) | ) | Opening hours (16) | Cost (12) |

**Supplementary Files**

This is a list of supplementary files associated with this preprint. Click to download.

- [Appendix1.docx](#)