

General practitioners and consultation drift: the effects of supply-side changes and reforms on service delivery patterns

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Abstract

Objectives. To determine what types of supply-side change underpinned the recent decline in longer (Level C and D) consultation provision and to evaluate the impact of the May 2010 reforms in realigning Medicare with long-term health policy objectives.

Methods. Retrospective analysis of Level C and D consultation provision by general practitioners (GPs) across Australia. Outcome measures were extent (number of consultations per providing GP) and participation (proportion of GPs providing these consultations).

Results. The proportion of GPs participating in Level C consultation provision is substantial (96%) and constant; however, extent of provision per GP decreased by 21% between 2006 and 2010. Level D participation decreased from 72% during 2006 to a nadir of 62% in 2009, and extent of provision decreased by 26% between 2006 and 2010.

Conclusion. Two distinct types of change underpinned the overall decline in Level C and D consultation provision. GPs appear to be providing Level C consultations less often, but the overwhelming majority still provide these consultations to some extent. The extent of provision of Level D consultations and the proportion of GPs providing them has decreased; an appreciable number of GPs simply stopped providing Level D consultations. Medicare reforms appear ineffective in realigning Medicare with long-term policy objectives.

What is known about the topic? Previous research has demonstrated that GP consultation delivery patterns under Medicare have changed profoundly in recent years, with provision of Level C and D GP consultations having declined substantially.

What does this paper add? This research shows that the overall decline in longer consultations is underpinned by distinct supply-side changes: (1) a decrease in average consultation provision per GP (for Levels C and D) and (2) the effective abandonment of Level D consultations by GPs. Medicare reforms do not appear to be entirely effective in addressing these supply changes.

What are the implications for practitioners? Despite their centrality to health policy objectives of improved preventive care, chronic disease management and mental healthcare, longer GP consultations are declining in very distinct ways. The ability of the current Medicare model to achieve these health policy objectives appears increasingly questionable.

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Introduction

Previous research has described the substantial decline in age-sex-standardised utilisation rates of Level C and D ('long') consultations in recent years.¹ The introduction of special items for chronic disease management and mental healthcare planning services did not completely offset the loss of these long consultations. As such, it appears that some degree of 'consultation drift' has occurred, which can be thought of as the Medicare equivalent of continental drift – changes in the positions of consultations in the system relative to each other.

Several explanations for the decline in longer consultations were offered, including the administrative burden placed on GPs¹ and 'audit anxiety' related to meeting Medicare Benefit Schedule (MBS) requirements and auditing.² This shift in the utilisation of long consultations has ramifications for long-term health policy objectives, which are premised on using long consultations to improve preventive care and chronic disease management.³ Consistent with these policy objectives to increase provision of long consultations, several reforms to the MBS were introduced in May 2010 to simplify the requirements for these (and other) GP services.⁴ These reforms were intended to steer service provision away from '6-minute medicine', with patients benefiting 'from longer consultations that will pay a higher fee of \$66.45 and [being] better supported to manage their chronic conditions or to stay healthy.'³

Beyond policy rhetoric, GP service delivery rates reflect basic supply and demand forces. While the observed decline in the rate of long consultation delivery potentially reflects decreasing demand for these services, it is counterintuitive given the increasing prevalence of chronic diseases⁵ and the trend towards presentation of more medical problems per GP encounter.⁶ Assuming that demand for long consultations is (at a minimum) constant, a supply side analysis may offer insight as to what underpinned the decline. As such, three supply changes are possible: (1) GPs were providing fewer Level C and D consultations; (2) fewer GPs were providing Level C and D consultations; or (3) a combination of (1) and (2). The first supply change relates to the extent of consultation provision, whereas the second reflects GP participation in providing consultations *at all*, a more fundamental change.

The primary objective of this study was to examine the influence of these supply-side factors on Level C and D consultation provision. The secondary objective was to evaluate the impact of the May 2010 reforms on consultation supply, to determine whether these reforms were (or might be) effective in realigning Medicare with long-term health policy objectives.

Method

Data sources

Medicare data were obtained from Medicare Australia for all Divisions of General Practice from the first quarter of 2006 (Q1–06) until the second quarter of 2011 (Q2–11).⁷ These data included: (i) the number of GPs providing Level B, C and D consultations and (ii) the number of Level C and D consultations provided. As the study used publicly available aggregate data, ethics approval was not necessary.

Consultation supply indicators

The consultation supply indicators used were defined as follows:

- Extent – the number of Level C or D consultations provided each quarter, divided by the number of GPs providing these consultations.
- Participation – the number of GPs providing Level C or D consultations in a quarter as a proportion of the total number of practicing GPs.

Given the ubiquity of Level B consultations within Medicare, with 84.1 million delivered in 2011 alone,⁷ the number of GPs providing Level B consultations was assumed to be equivalent to the total number of practicing GPs in any given quarter. Participation was expressed as a proportion of the total number of GPs, rather than as absolute numbers, to ensure clarity and to allow comparisons to be made between the two distinct consultation types.

Statistical analyses

Semi-parametric curve fitting was applied to ascertain if the time series exhibited significant trends. The estimated coefficients, which quantify the direction of the trends, were generated with specific linear or nonlinear functions based on visual inspection of the time plots. Where a coefficient was found to be non-significantly different from zero, the trend of the time series was taken to exhibit no upward or downward trend. The Chow test was used to ascertain if a change in trend (structural break) occurred at a specific time point.⁸ Where multiple candidate models were available, the most acceptable curve was chosen based on its superior explanatory power. The time series analysis was conducted with IBM SPSS Statistics 18.0 (IBM Corporation, New York, NY, USA) and the Chow test was conducted in Microsoft Excel (Microsoft Corporation, Redmond, WA, USA). All statistical tests were conducted at 5% level of significance.

Results

Extent of consultation provision

Figure 1 shows the extent of consultation provision per participating GP from Q1–06 to Q2–11 across Australia. With an estimated coefficient of -0.014 ($P < 0.001$), the fitted linear function confirmed a general downward trend in Level C consultation provision throughout the study period. However, the Chow test revealed a structural break at Q2–09 ($F_{2,18} = 6.710$; $P = 0.007$; Fig. 1, structural break 1), with the period from Q3–09 to Q2–11 exhibiting a slight (but non-significant) upward trend (coefficient = $+0.003$; $P = 0.400$), in contrast with the significant downward trend observed in the earlier period from Q1–06 to Q1–09 (coefficient = -0.021 ; $P < 0.001$).

Level D consultation provision per GP demonstrated a similar overall pattern from Q1–06 to Q2–11 (coefficient = -0.016 ; $P < 0.001$). Chow testing demonstrated a statistically significant structural break at Q2–09 ($F_{2,18} = 9.871$; $P = 0.001$; Fig. 1, structural break 2). The steeper downward trend from Q1–06 to Q2–09 was significant (coefficient = -0.022 ; $P < 0.001$), while that from the period Q3–09 to Q2–11 was not significant (coefficient = -0.005 ; $P = 0.090$).

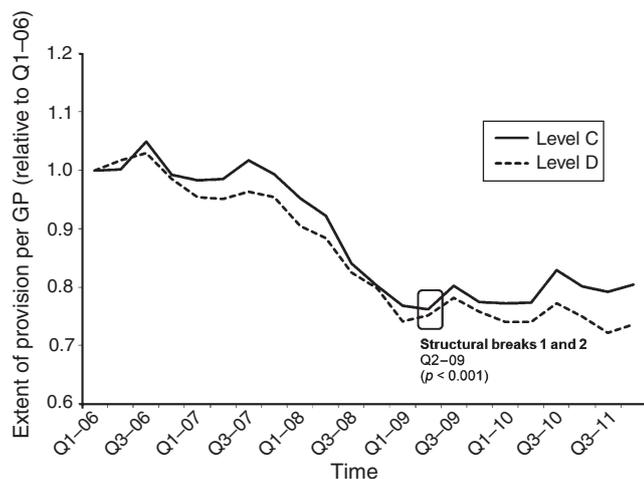


Fig. 1. Extent of provision of Level C and D consultations per providing GP across Australia, Q1-06 to Q2-11 (relative to Q1-06).

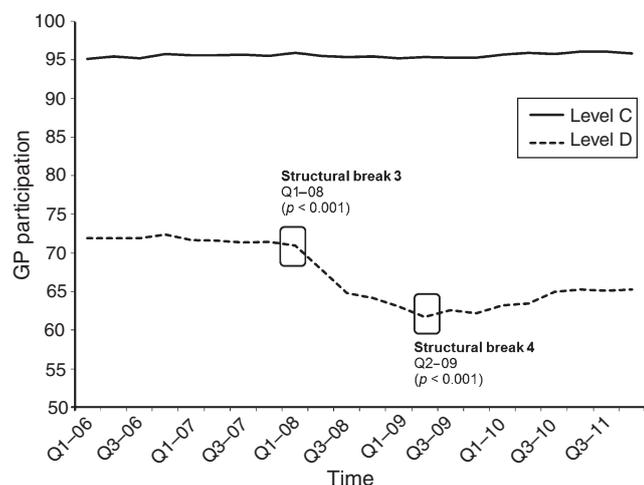


Fig. 2. GP participation in Level C and D consultation provision (% of all GPs across Australia), Q1-06 to Q2-11.

GP participation

GP participation in Level C and D consultations from Q1-05 to Q2-11 is shown in Fig. 2. While GP participation in Level C consultations was steady over time (coefficient < -0.001 ; $P=0.281$), an overall downward trend was observed for Level D participation (coefficient $= -0.005$; $P < 0.001$). Chow testing demonstrated two statistically significant structural breaks in Level D participation: at Q1-08 ($F_{2,10} = 83.977$; $P < 0.001$; Fig. 2, structural break 3) and Q2-09 ($F_{2,9} = 29.540$; $P < 0.001$; Fig. 2, structural break 4). Prior to structural break 3 (period Q1-06 to Q1-08), a shallow downward trend in Level D participation was apparent (coefficient -0.002 ; $P=0.007$). A steeper downward trend was then observed between structural breaks 3 and 4 (Q2-08 to Q2-09, coefficient -0.014 ; $P=0.009$), followed by a slight positive trend from Q3-09 onwards (coefficient $+0.004$; $P=0.005$).

Discussion

This analysis shows that two distinctly different supply-side changes underpinned the decline in Level C and D consultation provision over the past few years. For Level C consultations, the extent of provision declined significantly between 2006 and early 2009; a slight (albeit non-significant) upward trend in provision being observed thereafter. While Level C consultation provision has changed dramatically – a 21% decline between 2010 compared with 2006 – GP participation was remarkably consistent. This finding indicates that the first of the possible supply-side changes described above, reduction in the extent of provision, applies to Level C consultations.

Level D consultations demonstrated the third type of supply-side change mentioned: a reduction in both extent and participation. In terms of extent of provision, the change in Level D was similar, with continued decline up until mid-2009 (Fig. 1). The change in Level D participation was, in comparison to Level C, substantially different, with the first quarter of 2008 (the first structural break) being the tipping point between shallow and steep decline. In short, fewer GPs are providing Level D consultations than in previous years; those who still do provide fewer of them. At their nadir in 2009, almost one in seven GPs who provided Level D consultations before 2008 had effectively abandoned them. These results demonstrate that a fundamental change in GP practice occurred during the last few years, despite widespread change to professional practice being difficult to achieve and generally resulting in only small to moderate effect sizes.⁹ By comparison, the change in practice observed here is substantial and occurred over a relatively short space of time.

The timing of the decline suggests some connection to increased auditing of general practitioners; for example, the May 2008 announcement of Medicare-imposed sanctions on GPs whose billing practices were deemed inappropriate but not sufficiently so to warrant referral to the Professional Services Review (PSR).¹⁰ There is an ongoing debate about the role of auditing and of the PSR itself,^{11,12} and from the Senate's report on the PSR it appears that fear of 'being an outlier' (in statistical terms) is a substantial influence on GP billing.¹³

The influence that auditing may have on consultation supply is readily explained by economic models of GP consultation provision, where twin decision-making processes are in operation: the patient's decision to visit a GP, followed by the GP's decision about the intensity or level of treatment that will be provided at that visit.^{14,15} These findings may reflect a substantial shift in the latter decision by GPs: despite strong likelihood that demand by patients for more complex consultations is at least constant, GPs decide not to meet this demand with Level C or D consultations. Concern about whether a consultation will meet MBS requirements – so-called 'audit anxiety' – may be intervening at this point, where GPs take the decision not to provide a Level C or D consultation that may be regarded by Medicare as being outside the standard requirements.

The fine balance inherent in Level D consultation supply, and possible influence of auditing, is also illustrated by structural break 4 (Fig. 2). At that point (Q2-09) a participation nadir was reached, followed by a slight rebound. While more evidence is required to make a conclusive judgment, it is reasonable to speculate that at this lowest point GP supply discretion (i.e. audit-

adverse decision making) was outweighed by patient demand; that is, a minimum number of GPs were faced with patients where a Level D consultation was necessary, 'audit or no audit'. It should also be noted that in some instances GPs may have provided long consultations through special MBS items; however, previous research has shown these items do not completely offset the loss of Level C and D consultations.¹

If auditing is such a major influence, then a cost-benefit analysis is necessary: does the benefit (i.e. regulatory compliance) that auditing brings justify the cost (to the consultation pattern) observed here? 'Costs' in this respect refer to more than the direct cost of policing the MBS and should consider the indirect costs of restructuring the consultation supply. For example, GPs may be meeting patient demand with multiple short consultations, rather than a long consultation, in an effort to avoid audit-related attention. Provision of multiple short consultations may be an inefficient use of GP time, and almost certainly an inconvenience for patients. Aside from the regulatory issues, another influence on decision making may be the apparent financial disincentive inherent in long consultations (i.e. lower relative payment for time involved in a Level C or D consultation compared with Level B). Practical day-to-day demands on any given GP's appointment schedule will also impact on provision of long consultations. Team-based care may also be a factor, where delegation of care tasks to other health professionals (e.g. to psychologists, practice nurses) may also have contributed to changes to the consultation pattern through 'outsourcing', particularly with respect to Level D consultations.

Several limitations apply to this study, particularly around use of administrative data from Medicare. The analysis of GP participation used the number of practitioners billing Medicare for at least one Level C or D service anytime in a given quarter. This is a relatively low threshold for inclusion that does not discriminate between high- and low-utilising GPs. However, the fact that such a change-insensitive indicator still showed fluctuation in Level D participation makes these findings all the more remarkable. The extent indicator is limited as it represents 'the average GP' and does not take into account demand-related considerations, such as the needs of the particular population served by individual GPs. In addition, the practitioner data were a headcount, and GP full-time equivalency will influence the extent of consultation provision. Area-, practice- and practitioner-level factors – such as metropolitan v. rural setting, GP clinic composition and GP time-in-practice – will also influence both engagement and the extent of provision but such factors were outside the scope of this analysis of Australia-wide data. Our research group is currently examining local-level consultation utilisation and participation.

The original intent of the May 2010 reforms was to 'give GPs greater confidence and greater reward to spend more time with patients to deal with multiple health problems and provide valuable preventative care.'³ More than one year after their introduction, and in line with the original prediction,¹ it appears that the May 2010 reforms have yet to realign Medicare with this policy objective. These results indicate a continuing lack of GP confidence, and the 'greater reward' associated with longer consultations has been of little moment. The absence of structural breaks in the consultation pattern post-May 2010 demonstrates the lack of effect of the reforms to date, with GPs continuing to provide long consultations at a level markedly below that

observed before 2008 (Fig. 1). While the reforms may yet prove effective in the coming years, the initial impact was far from impressive. As above, it is important to note that the pre-decline level may not be the 'right' or appropriate level for long consultations, or that the current level of provision may be the 'wrong' level. Irrespective of how many Level D consultations GPs should (or should not) be providing, it is the change in Level D participation that is significant; the fluctuation in Level D participation contrasts markedly with the consistent (and wide-spread) supply of Level C consultations by GPs (Fig. 2). As such, Level D participation may be the GP consultation pattern's equivalent of the canary in the coalmine, warning of disconnection between long-term health policy objectives and actual service delivery. The Australian population – current and future – will require a significant proportion of the GP workforce to at least be prepared to provide this service. Our continuing research will endeavour to establish whether these changes are a generalised trend, or whether certain sectors of general practice are more affected than others; for example, if rural or remote GP participation has decreased to a greater extent than in metropolitan areas.

Two policy-critical questions arise from these findings: (1) what incentives and disincentives drive GP participation (as opposed to utilisation) and (2) how have GPs who no longer provide Level D consultations adjusted their practice? Answering these questions will be critical to making judgments about Medicare's capacity to meet population health needs. As a means of shaping GP behaviour and achieving long-term policy objectives, the MBS will remain a somewhat blunt instrument, but greater understanding of it – and how GPs respond to the different types of incentives and disincentives it creates – will be of benefit in any future redesign of Medicare to ensure a suitable and sustainable system.

Competing interests

The authors declare that there are no conflicts of interest.

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