Differences in patient throughput between community health centre and private general practitioners

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Abstract

This study sought to compare the rate of patient throughput by community health centre general practitioners (GPs) and their private practice fee-for-service counterparts.

The study group comprised 44 community health centre GPs (out of an identified 51) in 16 community health centres; the control group comprised 268 GPs. Community health centre GPs were found to have significantly fewer consultations and significantly smaller rebates than their private practice counterparts. The difference of means for consultation numbers and rebates was 30.3 per cent. The pattern was reversed in the case of rural community health centre GPs (who retain fee-for-service arrangements).

Figures are uncorrected for patient status, and data relate to Medicare billing practices rather than observed activity or outcome. However, at face value they would indicate that if Australian general practice moved to a community health centre model, with predominantly salaried GPs, then patient throughput in general practice could be expected to drop. Whether these results reflect the impact of incentives on throughput and, if so, whether this indicates a difference in the quality or accessibility of the service provided to patients is not certain.

Introduction

The aim of this study is to compare the rate of patient throughput by community health centre GPs and their private practice counterparts in Victoria. Community health centre GPs are predominantly salaried and generate income for the community health centre through Medicare billing; rural community health centres more often employ GPs on a fee-for-service basis, although all patients are direct-billed to Medicare with no patient payment (Montalto, Dunt & Young 1994; Davenport & Duckett 1984). This sets them apart from Australian general practice which is based on a private, fee-for-service model, although direct billing is also used in such practices.

In previous studies reported by this team (Montalto et al. 1994; 1995; 1996), differences between community health centre and private GPs have been described in the areas of:

- community health centre GP characteristics and attitudes towards community health centre practice
- health promotion and disease prevention activity during consultations
- outcomes of consultations with respect to referrals (to medical specialists and allied health professionals), prescribing, investigations, recall, advice and counselling, and admission to hospital.

However, in considering the contribution that the community health centre model can make to overall general practice policy, throughput remains an important issue, especially in the uncapped fee-for-service universal health insurance system in which Australian general practice operates.

The impact of general practice remuneration on work practices has been examined in the United Kingdom, Scandinavia and North America and reviewed in a discussion paper by Scott and Hall (1993). These studies are usually based on natural experiments where the impact of the introduction of new remuneration systems for general practice has been analysed (Hickson, Altemeier & Perrin 1987; Kransik et al. 1990). Scott and Hall (1993) suggest that general practitioners will take advantage of opportunities to increase income through altering service and utilisation intensity.

Method

Defining throughput

For the purposes of this study, throughput was measured by:

- the number of consultations recorded by the Health Insurance Commission, and
- the level of rebate paid by the Health Insurance Commission.

Since the advent of Medicare, and the inability of patients to insure against the gap between the actual fee charged and the rebate, the use of Medicare rebate and consultation numbers has been an accurate reflection of the throughput and billing of GPs. Apart from small contributions from State workers' and transport accident compensation funds, Medicare is the dominant source of income for Australian GPs.

The study group

The study sought permission from all identified full-time Victorian community health centre GPs to access their Health Insurance Commission provider numbers. The study was confined to analysing the information that is routinely fed back to the GPs by the Health Insurance Commission. GPs were approached from May to October 1993, and their cooperation in this project was sought, along with their involvement in an interview and a comparison of work activities. All practitioners were initially approached by telephone, but permission to use provider numbers was obtained in a face-to-face interview.

All community health centre GPs who gave their approval signed a consent form to allow the release of the data. Individual providers were not identified. Further, it is standard procedure for the Health Insurance Commission to supply data in a manner that ensures that the contents of cells containing, or pertaining to, less than three doctors cannot be read off or derived. This has obvious limitations for the number of available classifications.

The control group

The comparison group comprised all non-study group doctors who were identified as non-specialist medical practitioners by the Health Insurance Commission and who worked in the same 15 postcodes as the study group GPs. Identical information on fees charged and consultation numbers was collected.

Other exclusion criteria

Although only full-time community health centre GPs were approached, it was predicted that some could change their working pattern over the period of data collection. Therefore, only those (study and control group) who generated fees in excess of A$40 000 were included in the final analysis.

Data collection

Information was sought for the financial year 1993–1994. Data were collected by the Analysis Section of the Commonwealth Department of Human Services and Health from the Health Insurance Commission database. Data on consultation numbers and rebates on eligible items were collected for comparative analysis. GPs were classified according to age, sex, rural location of practice and vocational registration status. No patient data were available from the Health Insurance Commission.

Data analysis

All full-time community health centre GPs were approached for inclusion in the study group. The control group comprised all full-time private GPs. Thus, with a good study group response rate, the data had potential to be interpreted as a census. However, due to the restrictions placed on data presentation by the Health Insurance Commission, the analysis was limited to comparing the mean values of the two throughput measures for the overall groups (not age, sex or location subgroups). The differences between the mean values for the study and control groups were tested using independent t tests.

Results

A total of 51 eligible community health centre GPs were identified in 19 separate community health centres. Forty-five GPs in 16 community health centres consented to the use of their provider number. One of them (and one community health centre) fell below the A$40 000 billing level and was thus excluded. This resulted in 44 of 51 community health centre GPs (86.3 per cent response rate) in 15 of 19 centres forming the study group.

The control group comprised 271 GPs. Three outlier control group GPs, all males over 45 years practising in metropolitan Melbourne, were found to generate more than A$511 351 in Medicare rebates per annum (25 329 consultations), and were excluded from further analysis as outliers. This left 268 GPs in the control group. Table 1 describes GP numbers, mean consultation numbers and rebates received by the study and control groups. The table classifies the data by age and sex.

Table 1: GP numbers, mean consultation numbers (Cons) and fees charged (FC) for CHC group and control (non-CHC) group, by age and sex sub-categories

		<35 yrs			35–44			>45 yrs			All ages		
	Group	No.	FC ($) Mean	Cons Mean	No.	FC ($) Mean	Cons Mean	No.	FC ($) Mean	Cons Mean	No.	FC ($) Mean	Cons Mean
Female	Control	15	95 658	4814	35	105 930	4535	18	117 553	5328	68	106 741	4806
	CHC	5	91 651	4293	6	77 352	3505	3	97 264	4317	14	86 726	3960
Male	Control	28	149 384	6998	76	170 532	7537	96	156 546	6824	200	160 858	7119
	CHC	4	80 112	3385	20	109 876	4822	6	125 339	5797	30	109 000	4825
All	Control	43	130 643	6236	111	150 162	6590	114	150 389	6588	268	147 127	6532
	CHC	9	86 523	3889	26	102 370	4518	9	115 981	5304	44	101 913	4550

CHC = community health centre

Table 2: GP numbers, mean consultation numbers (Cons) and fees charged (FC) for CHC group and control (non-CHC) group, by geographic separation into metropolitan/rural groups

		<40 yr			>40 yr			All ages		
	Group	No.	FC ($) Mean	Cons Mean	No.	FC ($) Mean	Cons Mean	No.	FC ($) Mean	Cons Mean
Capital city	Control	89	140 033	6438	169	154 120	6745	258	149 260	6639
	CHC	17	76 535	3373	14	116 808	5553	31	94 723	4358
Rural	Control	6	77 983	3057	4	113 223	4849	10	92 079	3774
	CHC	9	116 585	4865	4	124 624	5335	13	119 058	5009
All	Control	95	136 114	6225	173	153 174	6701	268	147 127	6532
	CHC	26	90 398	3890	18	118 545	5504	44	101 913	4550

CHC = community health centre

Community health centre GPs had a mean of 1982 (30.3 per cent) fewer consultations than their counterparts in private practice annually (95 per cent CI 564–3400). Similarly, they generated A$45 214 (30.7 per cent) less annual Medicare rebates than their private practice counterparts (95 per cent CI A$17 516–$72 912). The difference (community health centre/control group) in mean consultation numbers for female GPs was 846, while the difference for male GPs was 2294. The difference in consultation numbers in the under 35 age group was 2347, and in the over 45 group it was 1284. The average fee billed per consultation was A$22.40 for study group GPs and A$22.52 for control group GPs. This suggests a dominance of the standard consultation item in the patient billings by GPs.

Table 2 divides the control group and the community health centre group into Melbourne (capital city) and 'rural' areas. It is evident that within postcodes containing a rural community health centre there were fewer private GPs. The overall pattern of throughput differences is reversed in rural community health centre general practices.

Discussion

At face value, the results would indicate that if Australian general practice moved to a community health centre model with salaried GPs, the level of patient throughput in Australian general practice could be expected to drop by a sizeable proportion. Figures reported are uncorrected for patient status, and data relate to Medicare billing practices rather than observed activity. For example, it is impossible to determine any differences that are more sensitive than item numbers, and thus a standard item will be used to describe an 8-minute visit and a 19-minute visit. Further, because community health centre GPs are generally salaried, it could be argued that there is less incentive for them to stringently interpret and apply the billing criteria. Previous work has demonstrated broad similarities in patient characteristics and problem profiles between patients attending private and community health centre GPs (Montalto et al. 1995). However, there were some differences: community health centre GPs, for example, managed more social and gynaecological problems and fewer musculoskeletal problems than did private GPs. While patient profiles were similar, GP characteristics differed: community health centre GPs were younger, more likely to be female and have had fewer years of experience in general practice than private GPs. These factors were not able to be included in the analysis due to small cell sizes, but may all have an effect on the differences.

Nevertheless, the findings indicate a real difference in community health centre and non-community health centre GP throughput. Two explanations for the findings are suggested.

Firstly, community health centre GPs may work fewer overall hours or days in a year. However, our inclusion criteria sought full-time GPs, so if 'full-time' implies a significantly different number of hours worked between the two groups, then the study results indicate the existence of significant incentive effects that are relevant for future workforce planning. A possible criticism of this interpretation is that community health centre GPs may be required to undertake other activities that reduce contact time with patients. A previous study by the authors requested community health centre GPs to quantify the time spent on health promotion and education outside the consulting room, and the time spent on administration (Montalto, Dunt & Young 1994). Based on a 40-hour working week, and assuming the maximum rate in a categorical range, health promotion and education involved 2 per cent and administration 4.5 per cent of the average community health centre GP's time. Thus a maximum of 6.5 per cent of the observed differential may be explained by a reduction of available consulting time for community health centre GPs through such involvement, if we assume that control GPs did not spend time on such activities.

Secondly, community health centre GPs may have a lower patient throughput for the number of hours that they work, possibly as a result of longer consultations, indicating a different, but equally important, incentive effect. As mentioned earlier, Health Insurance Commission item numbers are not sensitive enough to detect such differences. Past work by this team suggests that community health centre GPs undertake more health promotion and disease prevention interventions during their consultations than a group of private practice controls, even where the controls were drawn from practices with teaching affiliation to a university General Practice Unit (Montalto et al. 1996). Work already cited above as describing a difference in patient problems in community health centre practice and community health centre GP characteristics also suggested that community health centre GPs engage patients more often in counselling and advice, refer more often to allied health practitioners, and recall their patients more often than their private practice controls (Montalto et al. 1995). This may help explain the magnitude of the differences.

It should be noted that the overall pattern is reversed in the case of rural community health centre GPs. These GPs usually operate on a fee-for-service basis, and the community health centres provide the bulk of GP services in the

postcodes in which they operate. This supports the belief that the observed differences are attributable to financial incentives.

While the existence of community health centre GPs might reduce Medicare expenditure, this is not a full economic analysis, since such analysis must take into account that the analysis omits overhead costs, and that the data presented omits costs generated from referrals and the use of other services.

Finally, this study does not include a measure of the quality of care or the outcome from the two groups of GPs as is required in an economic evaluation. It is in trying to reach any judgement of the relative effectiveness of the two models that the serious deficiencies in measurement of effectiveness are exposed. This deficiency is reflected in the international literature on the impact of changes in GP behaviour and remuneration. The only outcome measure to date is patient satisfaction (Wensig, Grol & Smits 1994). The proportion of longer consultations has been suggested by Howie et al. (1991) as a de facto measure of quality in general practice. However, GP characteristics as well as problem types and patient age have all been reported to influence consultation length (Wilson 1991). Further, the consultation length is a measure of process, not outcome, and the relationship between consultation length and outcomes is unknown.

This clearly demonstrates the need to develop outcome measures for general practice care. Such measures would allow comparison between GP models, and make possible an assessment of the net benefit of specific GP-based interventions to be recorded and analysed with confidence.

The central question is whether the present results truly reflect the impact of incentives on throughput and, if so, whether this indicates a difference in the quality of the service provided to patients. The answer to that question, we believe, cannot be found in this study and requires further examination.

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