

Do vocationally registered GPs obtain better outcomes than other GPs?

A study of Accident Compensation claims data

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ABSTRACT

Aims

With regard to compensation claims paid by the Accident Compensation Corporation (ACC) during 2002–3, we aimed to compare vocationally registered and non-vocationally registered GPs in New Zealand and to test the hypothesis that vocationally registered GPs generate better patient outcomes, such as fewer claims for weekly compensation.

Methods

GPs were divided into vocationally registered GPs and non-vocationally registered GPs according to the Medical Council Register of 12 January 2001. We analysed claims paid for visiting GPs, and associated visits and GP treatment costs, for the year ending 31 December 2002. Also analysed were data on owned claims followed for 12 months from the date first seen: potentially from 1 January 2002 to 31 December 2003.

Results

Among vocationally registered GPs, 3.2% of owned claims received weekly compensation, which was 0.28

percentage points lower (95% Confidence interval: 0.18 to 0.38) than among other GPs (and signifies a difference of 8.0%). At the 0.05 level, the proportion of owned claims seen by radiologists was smaller for vocationally registered GPs (20.12%) than other GPs, and the proportion of owned claims seen by physiotherapists was higher for vocationally-registered GPs than other GPs.

Conclusions

These results tentatively support the hypothesis that vocationally registered GPs generate better outcomes than do other GPs. This conclusion makes the untested assumptions that effective treatment, on average, generates lower total costs, and that both GP groups see largely similar claims.

Keywords

Vocational registration, general practice, outcomes, Accident Compensation Corporation

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Introduction

Vocational registration in general practice seeks to 'assure' potential quality in health care, and distinguish general practice as a profession rather than a 'career default option.'¹ Obtained through Fellowship of the Royal New Zealand College of General Practitioners, including ongoing participation in its quality assurance and continuing education programme (Maintenance of Professional Standards, MOPS), vocational registration defines a professional standard of competence and perform-

ance. Meeting this standard permits individual GPs to work independently in general practice and supervise or generally oversee probationers, general registrants and doctors on temporary registration. Vocationally registered GPs have increased prescribing rights to certain drugs in New Zealand. In Australia, but not New Zealand, vocational registration entitles doctors to access increased rebates.

Is the implicit attainment of professional excellence worth the extra investment of time and money made by doctors and the state? Do

Vocational registration defines a professional standard of competence and performance

vocationally registered GPs provide higher quality care than other GPs?

Little empirical evidence exists to answer such questions. St George²

has recently reported in this journal that GPs with vocational registration in New Zealand are less likely than

those generally registered to attract concerns around competency, require a competence review, or have educational needs identified at review. However, in the previous issue, the same author acknowledged US evidence³ that *'those whose performance has not been the cause of expressed concern are just as likely to be performing poorly as those about whom concerns have been raised'*.⁴

It will never be possible to randomise GPs to programmes leading to vocational registration, or not. At best, we must depend on quasi-experimental studies of the impact of vocational training for general practice, for example on clinical knowledge and skill acquisition. However, we know of only two studies^{5,6} that added a control group to comparisons made before and after vocational training. As one of us has previously noted,⁷ at best, other, pre-experimental studies are prone to selection bias because better doctors may enrol in vocational training programmes in the first place.

Other design options include the assembly and analysis of existing, population-based, cross-sectional data. Observational studies of this type can cost-effectively compare relatively frequent characteristics, such as claims for weekly compensation, by GP registration. Despite their significant limitations, including the inability to prove causal associations, such studies can help to address the relative paucity of current knowledge regarding outcomes for vocationally registered GPs.

Therefore, we aimed to compare vocationally registered and non-vocationally registered GPs in New Zealand with respect to claims for weekly compensation made to the Accident Compensation Corporation (ACC) during 2002–3. We hypothesised that vocationally registered GPs generate better outcomes, such as fewer claims for earnings related compensation, than other GPs. Two assumptions were made. The first was that effective treatment, on average,

generates lower costs (in totality), through a lower proportion of claims receiving weekly compensation (which makes up a large proportion of costs to ACC) and less time off work for these claims. The second assumption was that the claims seen by both groups of GPs are largely similar.

We are using the term 'claims' here instead of 'patients' because one patient may have two claims (for example two separate injuries). Also, claims refer not to all patients but rather only to patients with accident-related injuries who are receiving some financial compensation for treatments that come under an accident insurance scheme. The data reported are a by-product of the information requirements of an accident insurance operator (ACC). Using the term 'claim' shows this and avoids misunderstanding.

Method

GPs were divided into vocationally registered GPs and non-vocationally registered GPs using the details shown in the Medical Council Register of 12 January 2001. GPs working in places such as Accident and Medical clinics were excluded from the study because ACC information was not available for such individuals; and the caseload of these GPs is likely to be very different from that of other GPs.

Data were obtained on the number of claims for visiting GPs in the year ending 31 December 2002, and for associated visits and GP treatment costs (ACC component). The claims that were 'owned' (that is, were lodged) by individual GPs were followed for 12 months from the date that the patients associated with these claims were first seen: potentially

from 1 January 2002 to 31 December 2003. Data were collected on the cost and number of visits to the GP associated with these claims, the number of claims and visits to other key groups of health providers, and the number of claims and days for which weekly compensation was being received.

Serious injury claims and claims where the claimant died were excluded. This is because these generally uncommon claims can distort results unevenly across GPs by increasing the average duration of all claims by these GPs, and the number of visits per claim. In addition, GPs may

have little control over these variables. For example, a quadriplegic dependent on ongoing medical care because of a serious injury will remain on weekly compensation whatever the quality of the care given by the GP.

Descriptive statistics were produced in Excel for the populations of vocationally registered GPs and non-vocationally registered GPs respectively. Averages were derived from aggregated data. Hence, the level of dispersion around averages is unknown and the statistical significance of differences at the 0.05 level was only able to be estimated for the measures given as proportions. For total and owned claims, actual earnings related compensation costs were not analysed because they are confounded by claimants' income.

Results

Table 1 enumerates characteristics of the total and owned claims seen by 1935 vocationally registered GPs and 949 non-vocationally registered GPs. The average number of total claims

At best, we can speculate that measures such as weekly compensation rates indirectly describe, at the aggregate level of all vocationally and non-vocationally registered GPs respectively, the effectiveness of GP treatment and management

per vocationally registered GP was 298, which is 22.1% higher than the average number of 244 claims seen by other GPs.

The table shows that vocationally registered GPs made proportionately fewer owned claims than other GPs for earnings-related compensation. Among vocationally registered GPs, 3.2% of owned claims received weekly compensation, which was 0.28 percentage points lower (95% Confidence interval (CI): 0.18 to 0.38) than among other GPs (and signifies a difference of 8.0%). Of the owned claims receiving weekly compensation, this compensation averaged 61.3 days for vocationally registered GPs, which was 2.8% higher than the 59.7 days for the claims owned by other GPs.

Figure 1 shows that vocationally registered GPs had a higher average number of visits per total claim and owned claim respectively. Figure 2 shows that the average GP treatment cost (ACC component) per claim seen by the vocationally registered GPs was therefore also higher than that of other GPs. The impact of the higher number of visits per claim among vocationally registered GPs was slightly offset by their average lower cost per visit for total and owned claims. Of the claims owned by the vocationally registered GPs, compared with other GPs,

Table 1. Selected characteristics of claims and visits by claim type and GP registration

	Vocationally registered GPs (N = 1935)	Non-vocationally registered GPs (N = 949)
Total claims^a		
Number of claims seen	576,082	231,603
Visits for claims seen	1,009,252	382,196
GP treatment cost (ACC component) of claims seen (incl. GST)	\$29,453,889	\$11,356,061
Owened claims^b		
Number of claims seen	434,999	174,086
Visits to owners	663,598	251,276
GP treatment cost (ACC component) of visits to owners (incl. GST)	\$19,928,973	\$7,697,506
Total visits to all providers ^c	1,523,171	581,602
Number receiving weekly compensation	13,838	6,019
Total days of weekly compensation	848,876	359,276

a For period 1 January 2002 to 31 December 2002;

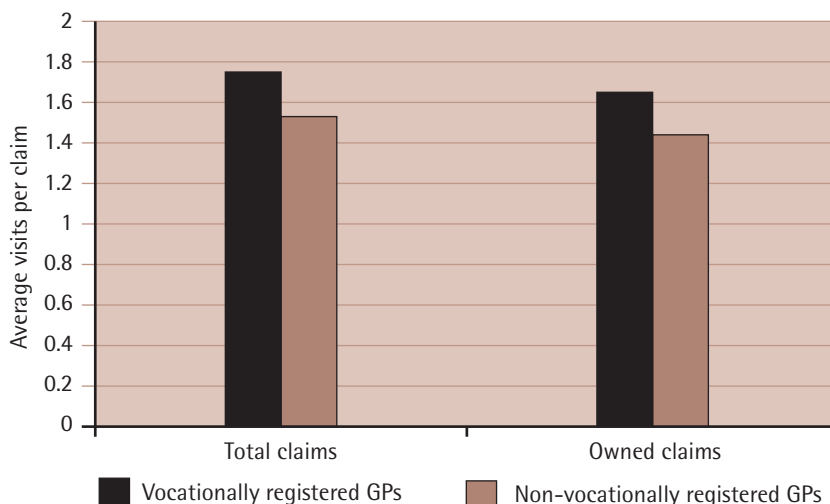
b First seen in year ending 31 December 2002 and tracked for 12 months

c Specifically to the following groups of providers: GPs, chiropractors, osteopaths, acupuncturists, High Tech Imaging services, physiotherapists, radiologists, and specialists

a higher proportion of visits were to owners; physiotherapists; and chiropractors, osteopaths and acupuncturists; and a lower proportion of visits were to radiologists and specialists (Table 2). These findings reflect (a) the percentage of owned claims that were seen by different provider groups (mostly referrals) and (b) the number of visits per claim for these groups.

In terms of (a), Table 3 shows that the proportion of owned claims seen by radiologists was smaller for vocationally registered GPs (20.12%) than other GPs (absolute difference (d) = 1.25; 95% CI: 1.03 to 1.48). The proportion of owned claims seen by physiotherapists was higher for vocationally-registered GPs (19.03%) than other GPs (d = 0.75; 95% CI 0.54 to 1.00). The proportion of owned claims seen by other providers did not differ at the 0.05 level between vocationally and non-vocationally registered GPs respectively. As for (b), Figure 3 indicates more visits, per claim owned by vocationally registered GPs compared with other GPs, to one provider group in particular – chiropractors, osteopaths and acupuncturists. Therefore, it appears that the higher percentage of visits for vocationally registered GP claims to this provider group was not because of the higher percentage of claimants going to chiropractors, osteopaths and acupuncturists, but rather the higher number of visits per claim when they got there.

Figure 1. Average visits per claim for total claims and owned claims by GP registration



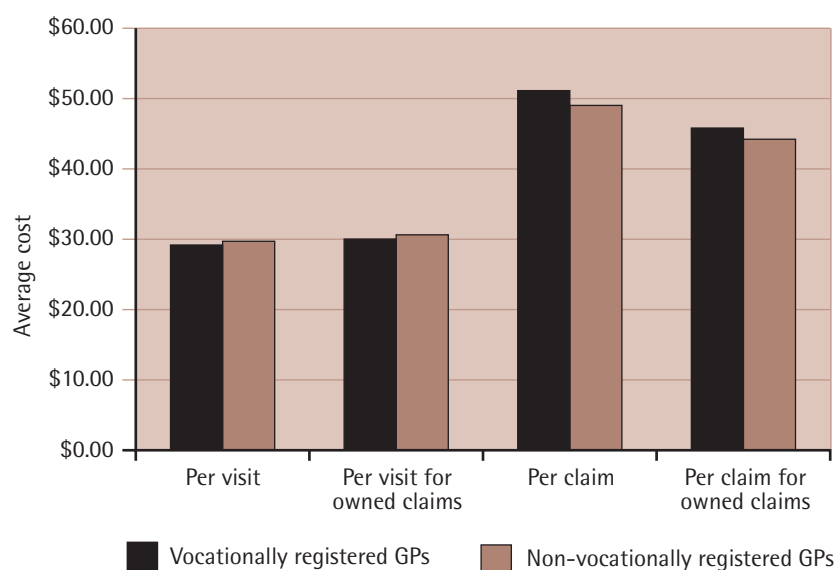
Discussion

These results tend to support the hypothesis that vocationally registered GPs generate better outcomes than do other GPs. At the 0.05 level of statistical significance, the vocationally registered GPs had an 8.0% lower proportion of owned claims receiving weekly compensation than did other GPs. This difference was higher than the 2.8% longer average duration of weekly compensation among vocationally registered GPs.

We can only infer tentatively the relative effectiveness of the care provided by vocationally registered GPs, and a difficult issue is how to explain the longer average duration of the claims made by vocationally registered GPs. One explanation may be that the average duration is more likely to be affected by outliers (with long periods of duration) than is the proportion of claims for which weekly compensation was being received.

Claims owned by vocationally registered GPs, compared with other GPs, were associated with a higher proportion of visits to these owners, physiotherapists, and the combined group of chiropractors, osteopaths and acupuncturists, and with a lower proportion of visits to radiologists and specialists. One reason for this was that, at the 0.05 level, the proportion of owned claims seen by radiologists was smaller for vocationally registered GPs than other GPs, and the proportion of

Figure 2. Average treatment cost (ACC component) per visit and per claim for total and owned claims by GP registration.



owned claims seen by physiotherapists was higher for vocationally-registered GPs than other GPs.

Strengths and limitations

This paper adds to a very sparse literature on whether vocational registration of GPs improves outcomes. At best, we can speculate that measures such as weekly compensation rates indirectly describe, at the aggregate level of all vocationally and non-vocationally registered GPs respectively, the effectiveness of GP treatment and management. However, we have assumed that effective treatment, on average, generates lower total costs and that both GP groups

see largely similar claims. These assumptions were not tested, even though the claims seen by each group may differ, especially in regard to the complexity and seriousness of patient injuries.

The average number of visits per owned claim to other provider groups may best indicate any such difference, since GPs have less control over this measure than over, say, weekly compensation rates and the per cent of claims seen by different provider groups. For only one of these groups – chiropractors, osteopaths and acupuncturists – was there clearly a difference by GP registration. Even here, this may reflect dif-

Table 2. Per cent of visits to different providers for owned claims by GP registration, 1 January 2002 to 31 December 2003

Visit to:	Vocationally registered GPs	Non-vocationally registered GPs	Absolute difference between percentages	95% Confidence interval
Owner	43.6	43.2	0.04	0.21 to 0.51
Chiropractor, osteopath and/or acupuncturist	7.79	7.58	0.21	0.13 to 0.29
High Tech Imaging services	0.36	0.37	0.01	-0.00 to 0.03
Physiotherapist	36.7	36.3	0.43	0.29 to 0.58
Radiologist	7.94	8.86	0.92	0.84 to 1.01
Specialist	3.65	3.71	0.07	0.01 to 0.13

Table 3. Percent of owned claims seen by different provider groups by GP registration, 1 January 2002 to 31 December 2003

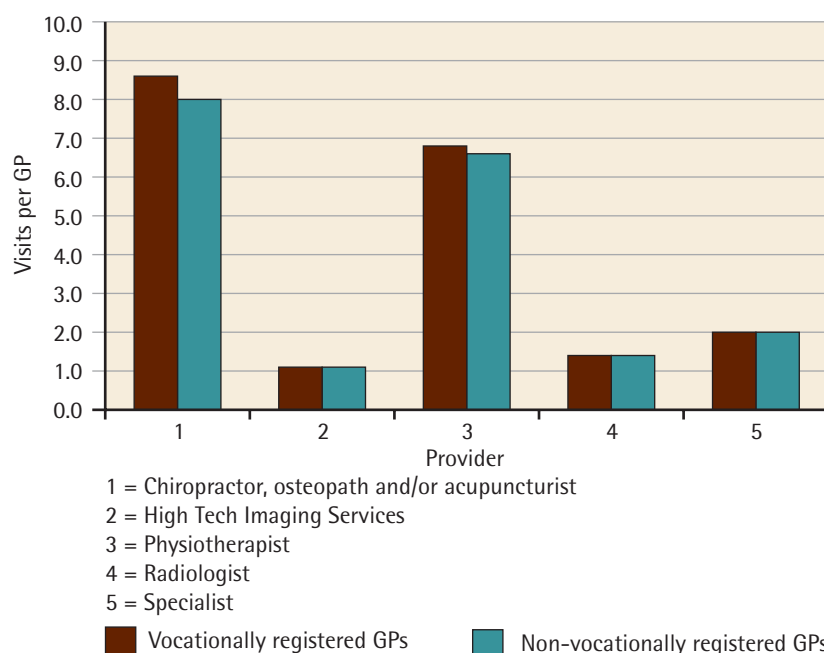
Seen by:	Vocationally registered GPs	Non-vocationally registered GPs	Absolute difference between percentages	95% Confidence interval
Chiropractor, osteopath and/or acupuncturist	3.17	3.17	0.00	-0.10 to 0.10
High Tech Imaging services	1.16	1.15	0.00	-0.06 to 0.06
Physiotherapist	19.03	18.28	0.75	0.54 to 1.00
Radiologist	20.12	21.37	1.25	1.03 to 1.48
Specialist	6.29	6.18	0.11	-0.02 to 0.25

ferences in GP care rather than in the seriousness of the injury. However, if the claims owned by vocationally registered GPs, compared with other GPs, were, on average, not less serious – and especially if they were more serious on average (given these claims' higher average number of visits per claim, and higher average GP treatment costs) – this would strengthen the achievement of the vocationally registered GPs' proportionately fewer owned claims receiving weekly compensation. It would further indicate better outcomes among this group than the non-vocationally registered GPs.

Implications

The encouraging but tenuous findings of this exercise invite further research into how vocational registration of GPs influences outcomes. Future analysis should firstly be based on improved data. For example, there is a need to derive averages (or other measures of central tendency) from unit record data, so that it is possible to calculate both the level of dispersion around these

Figure 3. Visits per claim to different providers for owned claims by GP registration.



averages and the statistical significance of, say, differences between two (unpaired) sample averages. Improved data are needed also to aid assessment of the clinical significance of findings that have been demonstrated to be statistically significant. Secondly, there is scope to

separately analyse claims that have been categorised by specific Read codes and thereby increase the likelihood of comparing similar claims. However, ACC lacks the means of accurately identifying which claims require the highest levels of treatment at present.

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