PAPER

Trends in general practice in the Waikato, 1979-80/1991-92, II: social variations in service use and clinical activity

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Abstract

Aims. To document trends in ethnic group and occupational class differences in the use of general practitioner services and in patterns of clinical activity for the Hamilton Health District of the Waikato over the period 1979-80 to 1991-92.

Methods. The data are drawn from a baseline and a follow-up survey of general practice in the Waikato region representing a one per cent sample of all in-surgery, in-hours, week-day encounters at two points in time. The data were recorded by participating general practitioners in four collection weeks spaced over the period of a year. In total, 9468 and 10 235 patient encounter forms were completed respectively.

Results. Over a period in which service availability and rates of medical contact grew, there was a relatively greater increase in utilisation among Maori and lower socioeconomic groups: between the two surveys the ratio of Maori to non-Maori rates increased from 0.8 to 1.0 and the ratio of visits for lower to higher socioeconomic groups grew from a differential of 2.5 to one of 3.1. More serious conditions apart, these changes seemed to occur uniformly regardless of the severity, amenability or susceptibility of the condition presented to the general practitioner. Changes in ethnic group and occupational class patterns of service activity almost exactly mirrored these trends.

Conclusions. A notable relative increase in rates of contact for primary medical care among Maori and lower socioeconomic groups seems to have accompanied the growth in the 1980s of the availability of general practitioner services in this region of New Zealand.

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The 1980s saw major changes in New Zealand society and in the shape of key institutional sectors. While critics have seen this period as marking a significant and ideologically-motivated dismantling of hard-fought protections,[1] others have interpreted this as a time of necessary, and long overdue, modernisation, required to meet drastically changing social and economic conditions.[2]

Although this period witnessed some significant changes in health care organisation in New Zealand, apart from minor adjustments to benefit levels and the introduction of the short-lived voluntary contract scheme in 1990, few modifications of any substance occurred in the primary care sector over this period.[3] While ostensibly deteriorating social and economic conditions over this period may be presumed to have reduced the accessibility of primary care services for vulnerable sectors of the population, the steady increase in the availability of general practitioner services[4,5] may have had the reverse effect. The analysis that follows seeks to address this question.

Methods

Study site. The data for this study are drawn from baseline and follow-up surveys of general practice carried out in 1979-1980 (CoMedCa) and 1991-1992 (WaiMedCa) in the Waikato region. For administrative purposes the first survey covered the then Hamilton Health District (a regional district of the Department of Health), while the second covered the Waikato Area Health Board. Only data for the common geographical area covered by the Hamilton Health District in the two surveys are included in this analysis.

Data collection. The core survey instrument is the encounter report form modelled on that used in the National Ambulatory Medical Care Survey in the United States.[6] The population of general practitioners in the two surveys was 128 and 187, respectively. Response rates represent the proportion of possible participating general practitioner/weeks completed. These rates were 83% and 69%, generating 9468 and 10 235 encounter forms, respectively. Non-participating doctors in WaiMedCa tended to be younger and not to have an association with either the RNZCGP or the NZMA.[7]

Variables. Each patient encounter record was completed by the general practitioner at the time of the contact. A full account of sampling and data collection details, including a copy of the encounter form and a description of variable definitions, have been outlined elsewhere.[7] Of particular relevance to the following analysis are the following definitions:

New episode: first presentation to the doctor of a problem.

Illness condition: a problem with which symptoms are associated.

Severity: a condition was defined as "more serious" if, in the doctor's view, the gravity of the patient's complaint was high (CoMedCa) or the extent of overall disability was such that the patient was unable to fulfil the usual obligations of a person of comparable age (WaiMedCa).

Medical amenability: causes of mortality considered to be avoidable through medical intervention.[8]

Group susceptibility: illness conditions for which lower socioeconomic groups[9] and Maori[10] were considered particularly vulnerable on the evidence of mortality data from earlier research.

Practitioners were requested to classify ethnic group membership according to the patient's choice of affiliation. Missing information for this question was 0.4% and 4.9% respectively, for CoMedCa and WaiMedCa. For the purposes of this analysis, and in keeping with the allocation of "not specified" cases in the Census, patients who were not classified as Maori, or for whom an ethnic assignment was not made, were categorised as non-Maori.

Practitioners also recorded patient information on occupation. Occupational class was assigned according to the Elley-Irving classification[11] based on the occupation of the main family income earner. For those patients who were not members of a family group, the individual's own occupation was used. Encounters were excluded from the analysis either where the main family income earner or individual was under 65 but not in paid employment (7.4% in CoMedCa, 22.7% in WaiMedCa) or where they were aged 65 years or over (10.3% and 16.8%). A further category were missing or incomplete data (3.8% versus 5.8%). Proportions of sample data excluded in this way were 21.5% and 45.3% respectively for CoMedCa and WaiMedCa, the greater exclusion rate in the latter survey being largely attributed to a sharp drop in workforce participation in the 1980s.

Rates of medical contact are calculated using as the denominator the population usually resident and at home on the respective census nights, and as numerator the 1% sample of encounters in each survey inflated to represent all week-day encounters registered over the period of a year. The data have been age- and gender-adjusted using the age groupings 0-14, 15-24, 25-44, 45-64, 65+, with the 1991 New Zealand census distribution as the standard population.

Results

Table 1 outlines key trends in levels of medical contact and rates of clinical activity. In interpreting these figures it should be noted that for the intercensal period 1981-1991,

Table I. Trends in levels of medical contact and patterns of clinical activity: by ethnic group and occupational class*

Measures	CoMedCa (1979-80)				WaiMedCa (1991-92)			
By ethnic Group	Maori (n=1242)	Non-Maori (n=8226)		Ratio M:NM	Maori (n=1550)	Non-Maori (n=8685)		Ratio M:NM
Average number visits p.a. per capita	3.0	3.6		0.8	3.9	4.0		1.0
Percentage of visits for which:								
Script written	62.5	61.4		1.0	58.4	56.3		1.0
Investigation Ordered	19.5	17.8		1.1	16.6	17.0		1.0
Referral Resulted	5.9	7.5		0.8	8.8	9.9		0.9
Follow-up	71.3	70.6		1.0	77.8	75.4		1.0
By occupational class	L (n=1679)	M (n=4520)	H (n=1228)	Ratio L:H	L (n=1094)	M (n=3297)	H (n=1210)	Ratio L:H
Average number visits p.a. per capita	4.9	3.5	2.0	2.5	5.0	3.9	1.6	3.1
Percentage of visits for which:								
Script written	61.2	60.5	61.4	1.0	54.8	55.6	56.2	1.0
Investigation Ordered	17.9	19.2	18.2	1.0	15.3	17.7	17.0	0.9
Referral Resulted	7.8	7.6	7.4	1.1	10.8	10.7	9.9	1.1
Follow-up	70.9	68.9	68.2	1.0	75.6	74.0	72.6	1.0

*Elley-Irving groups classified into High (1,2), Medium (3,4), and Low (5,6). Encounters for which the main family income earner was either under 65 and not in paid employment or over the age of 65 are excluded.

the percentage of the population classified as Maori increased from 16.1% to 16.5% and the proportion in employment declined from 82.2% to 69.9%.

Over the period under study the overall rate of medical contact increased. In the case of the ethnic group comparison this resulted in a substantial narrowing of the gap in rates of medical contact between Maori and non-Maori - from a ratio of 0.8 to one of 1.0. Occupational class differences in rates of contact moved in the same direction; the differential in rates of usage favouring patients of lower (groups 5 and 6) versus higher socioeconomic background (groups 1 and 2) grew from about 2.5 to over 3 in this period. Ethnic group and occupational class ratios of clinical activity remained more or less stable over this period.

These data relate to all visits. New episodes of illness, however, might be considered least susceptible to provider influence and most likely to reflect need-related, patient-generated demand for care. Furthermore, only for episodes of illness associated with a single diagnosis is it possible to assess the extent to which severity, medical amenability and group susceptibility were influential in affecting these trends; only in these instances is it possible definitively to link diagnosis to encounter.

In Table 2 ethnic and class variations in rates of medical contact are assessed according to the severity of conditions presented. Because of the smaller numbers involved and the problems of rounding error, these are presented as rates per 1000 population.

Apart from more serious conditions, the trends almost exactly replicate those outlined for overall rates of medical contact in the previous table. There is a greater social differential for more serious conditions, for both the ethnic group and occupational class comparisons. Furthermore, this differential appears to increase over time. The data for medical amenability are not reproduced here since they show no difference in ratios and closely follow trends in the overall rates.

In Table 3 rates of medical contact by group susceptibility are assessed over time. The trend is very similar for both ethnic group and occupational class comparisons and for both categories of illness condition; indeed, it seems to occur equally for those conditions with no special ethnic or class susceptibility as it does for those to which these groups were judged to be particularly vulnerable. The resultant ethnic and class distributions in contact rate suggest that these measures of need do not predict social differentials in rates of utilisation.

Discussion

While ethnic and socioeconomic differences in rates of medical contact are well established,[12,13] little research has been carried out on trends in such differentials under rapidly changing social and economic conditions. Furthermore, few if any studies have linked growing primary medical care availability with a trend towards higher **relative** rates of uptake among socially disadvantaged groups.[14]

There are good grounds for accepting the results of this study as broadly indicative. In the first place there are sound reasons to believe that the Waikato region provides a demographically representative cross-section, if not a replica, of the country as a whole.[7] Secondly, there is evidence that the practitioner community is not unrepresentative of general practice in New Zealand.[15] Thirdly, the overall utilisation rates are close to those previously calculated for this region (a little above the national average) and the trends in general practitioner availability in this region are consistent with national data.[5]

Some cautions need to be registered in drawing conclusions from these data, however. For example, an alternative interpretation for this apparent growth in utilisation among socially disadvantaged groups may not be the impact of any improvement in access but rather the effects of a possible deterioration in health status.[16] Although the analysis of group susceptibility in this paper does not suggest there has been a growth in need-generated utilisation over the period of study, the results on severity may hint at this possibility.

Also, the two surveys are not directly comparable in every respect. For example, the definition of severity differed, and the response rate among doctors was lower in WaiMedCa, and levels of missing and excluded information on key items higher. It is not clear how these differences might affect results but clearly caution is needed in drawing conclusions about trends from these data.

Nevertheless, taken at face value, the findings reported here suggest that a growth in the availability of primary medical care services has been associated with a relative

Table 2. Trends in medical contact by ethnic group and occupational class*: age- and gender-adjusted rates by severity of episode (new episodes of illness, single diagnosis only - rates per 1000 population).

Measures By ethnic group	CoMedCa (1979-80) Maori (n=438)	Non-Maori (n=2704)		Ratio M:NM	WaiMedCa (1991-92) Maori (n=556)	Non-Maori (n=2695)		Ratio M:NM
More serious	108.9	99.6		1.1	119.5	86.1		1.4
Less serious	824.9	1049.8		0.8	1134.0	1187.1		1.0
All conditions	933.8	1149.4		0.8	1253.5	1273.2		1.0
By occupational class	L (n=620)	M (n=1605)	H (n=422)	Ratio L:H	L (n=389)	M (n=1232)	H (n=348)	Ratio L:H
More serious	172.8	109.3	49.1	3.5	166.5	93.2	30.8	5.4
Less serious	1557.1	1096.1	625.0	2.5	1594.8	1366.2	501.0	3.2
All conditions	1729.9	1205.4	674.1	2.6	1761.3	1459.4	531.8	3.3

*Elley-Irving groups classified into High (1,2), Medium (3,4), and Low (5,6). Encounters for which the main family income earner was either under 65 and not in paid employment or over 65 are excluded.

Table 3. Trends in medical contact by ethnic group and occupational class*. Age- and gender-adjusted rates by group susceptibility of condition (new episodes of illness, single diagnosis only - rates per 1000 population).

Measures By ethnic group	CoMedCa (1979-80) Maori (n=438)	Non-Maori (n=2704)		Ratio M:NM	WaiMedCa (1991-92) Maori (n=556)	Non-Maori (n=2695)		Ratio M;N:
Expected Difference**	353.4	479.4		0.7	421.9	425.4		1.0
Uncertain	580.4	670.0		0.9	831.5	847.9		1.0
All conditions	933.8	1149.4		0.8	1253.4	1273.2		1.0
By occupational class	L (n=620)	M (n=1605)	H (n=422)	Ratio L:H	L (n=389)	M (n=1232)	H (n=384)	Ratio L:H
Expected Difference'	1301.1	906.7	505.5	2.6	1257.6	1204.9	378.7	3.3
Uncertain	428.8	298.6	168.6	2.5	503.6	434.5	153.1	3.3
All conditions	1729.9	1205.3	674.1	2.6	1761.2	1459.4	531.8	3.3

*Elley-Irving groups classified into High (1,2), Medium (3,4), and Low (5,6). Encounters for which the main family income earner was either not in paid employment or over the age of 65 are excluded. **Conditions for which higher levels of morbidity among Maori might be expected (endocrine, genitourinary, respiratory, infectious and circulatory). 'Conditions for which higher levels of morbidity among lower socio-economic groups might be expected (infectious, endocrine, mental, nervous system, respiratory, digestive, genitourinary and accidents and related).

increase in uptake among socially disadvantaged groups. While this increase in utilisation does not appear to be linked to clear need-associated criteria, there are implications here for the development of any resource allocation formula in general practice.[17]

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