

Deprivation profiles in Wellington IPA practices

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ABSTRACT

Aims

To characterise the socioeconomic deprivation and ethnicity of populations attending a number of general practices in the Wellington area.

Methods

The Wellington Independent Practice Association (WIPA) patient register was analysed using the NZDep96 index of deprivation and ethnicity data derived from secondary care contacts.

Results

The deprivation profile of the total WIPA patient population was less deprived than New Zealand overall, but included a diverse range of populations. Distinct types

of deprivation profile could be distinguished among WIPA general practices. Ethnicity data were only indicative, but suggested higher levels of CSC holding for Maori at all levels of deprivation.

Conclusion

General practices serve very diverse populations, which can be hidden within a population profile for a whole IPA. NZDep96 and ethnicity profiles are tools which general practices can use to help understand both their registered patients, and the broader communities in which they are located.

Key Words

General practice, socio-economic status, ethnicity

(NZFP 2001; 28:327–332)

Introduction

Measurement of the socio-demographic characteristics, such as age, sex, ethnicity, and socioeconomic deprivation of general practice populations is important for a variety of reasons.¹ First, socioeconomic factors and ethnicity are strongly associated with need for health services and health outcomes.^{2–4} Second, sociodemographic measures are required for planning and targeting primary care interventions to areas of highest need. Such targeting may result from formal needs assessments carried out by Dis-

trict Health Boards, or through more focused local needs assessments carried out by primary care and public health services (for example, see Warnes et al,⁵ Fleming et al,⁶ and Ward et al⁷). Third, with a trend towards capitation funding of general practice, there is a need to accurately characterise registered practice populations in order to determine funding levels. Community services card holding rates, on their own, may not be adequate for this purpose.^{8,9} Fourth, there is a powerful research imperative to investigate issues of access to general practice services,

given that barriers to access are a clearly identified issue of concern for the government.^{10,11}

A number of studies in New Zealand have used ethnicity and socioeconomic measures to characterise users of general practice services. In most instances such studies have used survey data to measure socioeconomic factors and ethnicity.^{12–16} There are likely advantages associated with such data being generated on a routine basis in general practice: timely availability of data, lower cost of data collection, and ready availability of results to primary care professionals.

At the time of the study the Wellington Independent Practice Association (WIPA) was a group of 103 general practitioners in the Wellington region, extending as far north as Paraparaumu. WIPA practices served populations in the suburbs of Wellington, the inner city, Porirua and the Kapiti Coast. The group served approximately half of the usually resident 1996 Census population in the region. General practices within WIPA tended to come from the mainstream of New Zealand general practice, configured as partnerships between medical practitioners with fee for service GMS funding. Non WIPA practices in the area spanned the range from traditional GMS funded practices to capitated practices and clinics with salaried medical practitioners.

This study describes the measurement of socioeconomic deprivation and ethnicity of patients registered with WIPA, and discusses some implications of the results.

Methods

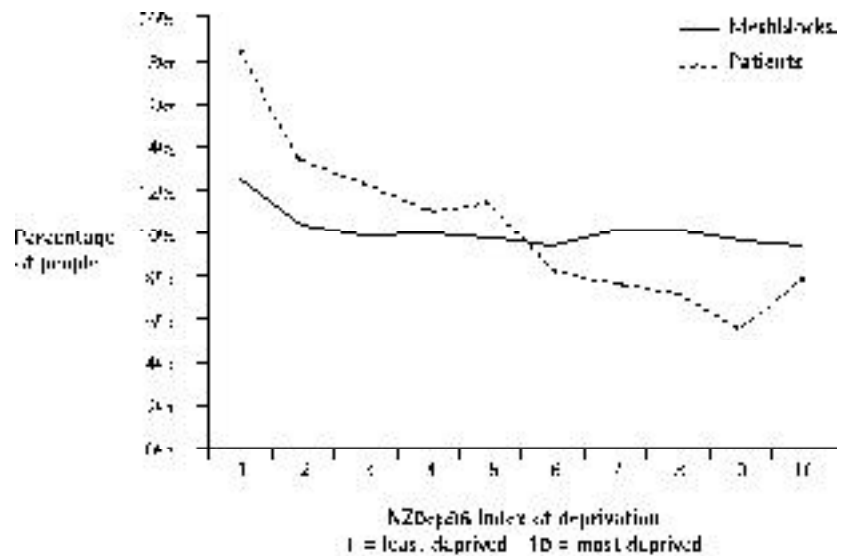
The IPA register

WIPA routinely maintained a patient register to a documented standard as specified in WIPA's contract with the Health Funding Authority. Register maintenance involved monthly updates of the data from practices, removing duplicated patient records, and removing the records of patients who had not visited during the two years before the register extraction date. Data held on the register included National Health Index (NHI) number (91% of records), Community Services Card (CSC) status, gender, date of birth and date of last consultation. The dataset did not include records of casual patients.

Ethnicity data

The New Zealand Health Information Service (NZHIS) assigned ethnicity

Figure 1. NZDep96 profiles for WIPA patients and census population



codes to patient records on the WIPA register, using NHI as the linking field. NZHIS holds ethnicity data for patients who have been admitted to hospital. Ethnicity records were coded to the following six groups: European, Maori, Pacific Island, Asian, Other, Not-stated. The Statistics New Zealand priority ethnicity coding method was used as the basis for coding Maori and Pacific Island ethnicity.¹⁷

Measuring socio-economic deprivation of registered practice populations

The New Zealand index of deprivation (NZDep96) is a tool for measuring the socioeconomic deprivation of populations. NZDep96 is an area-based measure of deprivation combining nine variables* from the 1996 census that reflect eight dimensions of deprivation.^{3,18} The index was created for small areas with, as far as possible, at least 100 people usually resident. These small areas were created from one or more contiguous meshblocks. Meshblocks contained a median of 90 people and are the smallest geographical units defined

by Statistics New Zealand. NZDep96 provides a deprivation value for each meshblock in New Zealand (since the small area value is given to each constituent meshblock). The NZDep96 scale runs from one to 10 where, for example, a value of 10 indicates that the meshblock is in the most deprived 10 per cent of small areas in New Zealand.

For measuring deprivation of area of residence of registered patients the following process was carried out:

1. NZHIS was contracted to geocode each address in the patient register (i.e. assign meshblock numbers to addresses);
2. The NZDep96 deprivation scale was then assigned to each geocoded address using the meshblock number as the linking field;
3. The percentage of patients in each deprivation level was calculated.

Overall, 75.5% of the total WIPA register was successfully geocoded (of the total register of 122 716 records, 111 212 (90.6%) had an NHI number, 92 675 (83.3%) were geocoded). The geocoding success rate could possi-

* Proportions of people: with no access to a telephone; aged 18-59 receiving a means tested benefit; aged 18-59 unemployed; living in households with equivalised† income below an income threshold; with no access to a car; aged <60 living in a single parent family; aged 18-59 without any qualifications; not living in own home; living in households below equivalised* bedroom occupancy threshold. † Equalisation: methods used to control for household composition

bly have been increased by using a manual matching process in addition to the automated technique used by NZHIS (manual matching was not carried out due to cost). It is not known whether there was any bias in the geocoding resulting from differential matching rates across the NZDep96 scale. Rural district addresses were somewhat less likely to be successfully geocoded than urban ones (personal communication, NZHIS), but this was likely to have had only a minor effect on the results as the WIPA population was mainly urban.

Results

Socioeconomic deprivation

The deprivation profile of the registered general practice population can

be interpreted within the context of the whole population in the area being served. This shows whether the registered population reflects the general population in the area. The percentage of practice patients in each of the 10 deprivation categories can be graphed, and compared with the percentage of the census usually resident population in each of the 10 categories (for those meshblocks which are represented in the practice sample). Figure 1 shows this comparison for the total WIPA population. Since an average New Zealand population is approximately evenly divided across each of the 10 deprivation categories, a disproportionately large number of patients living in less deprived areas were registered with WIPA general practices.

We prepared these graphs for every WIPA practice, in each case

comparing the registered population with that of the general population in the same meshblocks. By visual inspection we have grouped these profiles into four general types, which we show schematically (Figure 2). Type I practices (12 in total) were located in the central city area and in less deprived suburbs. These practices tended to recruit patients who lived in the least deprived areas. Type II practices (10 in total) were located in residential suburbs with a more even distribution of deprivation, and tended to recruit patients in the middle deprivation deciles (i.e. not the extremes). Type III practices (one in total) were also located in residential suburbs with a reasonably even distribution of deprivation, but tended to recruit patients living in somewhat more deprived areas. Type

Figure 2. Socioeconomic deprivation profiles

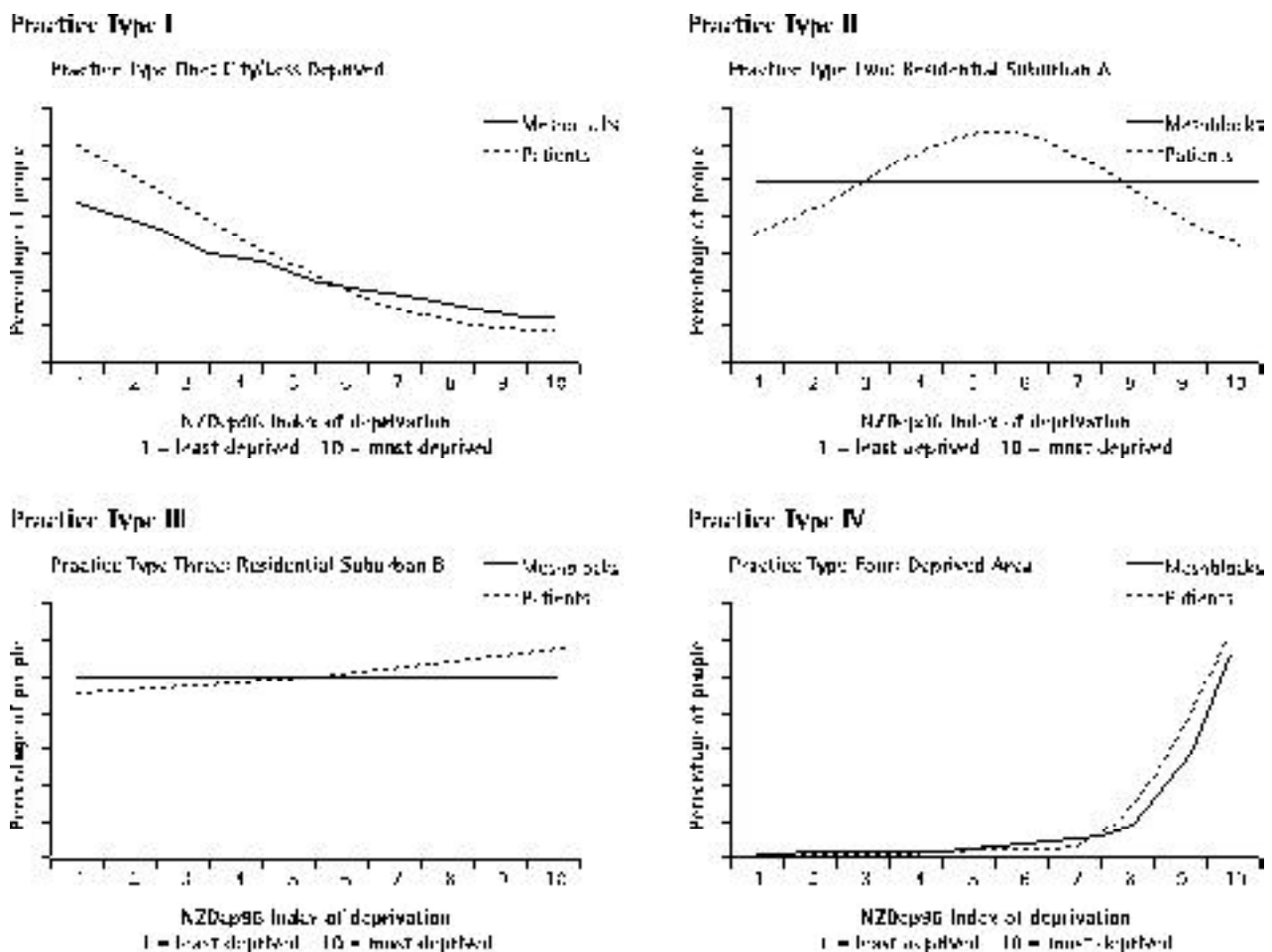


Table 1. Ethnicity of WIPA patients

Ethnic Group	1996 Census usually resident population	WIPA patients	WIPA excluding Not Stated and Other
Asian	6%	2%	5%
European	71%	36%	80%
Maori	10%	4%	9%
Pacific Island	7%	3%	6%
Not Stated	5%	26%	–
Other	1%	29%	–

IV practices (five in total) were situated in the most socioeconomically deprived areas, and recruited patients representative of those areas. While there was only one example of a Type III practice, the observed pattern was so distinctive that we were unable to assign it to any of the other categories. It is unclear whether this is a unique practice, or genuinely represents a general category.

Ethnicity

Of 111 212 patient records with an NHI number, 110 362 (99.2%) records were assigned an ethnicity code by NZHIS, although 54.7% of these were either "Not Stated" or "Other".

The distribution of ethnic groups in the WIPA population is shown in Table 1. The 1996 Census distribution of ethnic groups in the Wellington, Porirua and Kapiti areas is shown for comparison.¹⁹ The ethnic composition of the "Not Stated" and "Other" groups is unknown. If these are excluded, then the distribution of ethnic groups in WIPA returns to approximately that found in the 1996 Census.

Community Services Card uptake

Figure 3 shows the percentage of CSC holders in each of the 10 NZDep96 categories, for the Maori and Pacific Islands ethnic groups as well as the total WIPA population. There was a strong and consistent association between the proportion of CSC holders and NZDep96. For the total WIPA patient population 15% of patients liv-

ing in the least deprived areas held a CSC, compared with 61% of patients living in most deprived areas. For Pacific Islands people the comparable figures were 31% and 66%, and for Maori 34% and 73%.

Discussion

Ethnicity

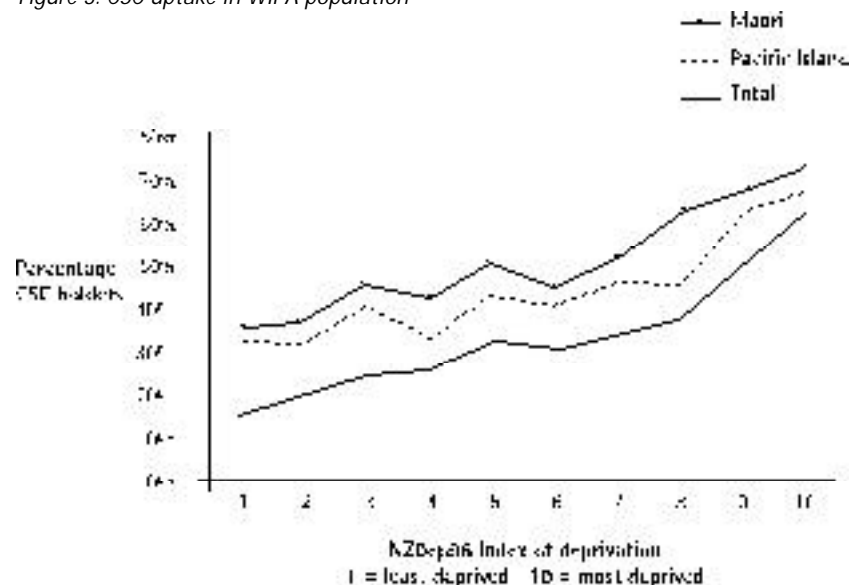
At 45% the ethnicity data coverage is low, which limits the reliability of the results. However, as the routine level of ethnicity recording in New Zealand general practice has recently been found to be low,²⁰ NHI matching is likely to represent an improvement upon the base level of ethnicity coverage.

Our results indicate that patients registered with WIPA general practices in the Wellington area may have had an ethnicity profile broadly similar to that of the total Wellington area population (if the high proportion of "Other" and "Not Stated" are excluded). This suggests in turn that access to mainstream general practice services in Wellington, of which WIPA practices are examples, is not strongly affected by ethnicity.

Since ethnicity data have not been widely collected in general practice, there is a need for more comprehensive collection of this information in order to understand the relationship between ethnicity and use of primary care services. The approach taken in this study of matching NHI ethnicity information to practice registers is a pragmatic response to the low level of ethnicity recording which has been the norm in general practice, and thus represents better ethnicity information than has hitherto been collected in most general practice settings. But in the longer term, direct recording of ethnicity in general practice is likely to be both a more accurate and complete method of collecting this information.

For the 45% of patients for whom ethnicity was recorded, it appears that the Maori and Pacific Islands ethnic

Figure 3. CSC uptake in WIPA population



groups had a consistently higher uptake of CSCs across all deprivation categories than the total WIPA population. This may be a consequence of community knowledge and attitudes towards CSCs; if many people in an ethnic community have a card, then an individual may be more likely to take up their entitlement. Alternatively, Maori and Pacific Islands ethnic groups may have higher levels of CSC eligibility at each level of deprivation than the European ethnic group. The results observed in this study are at odds with previous findings about the uptake of CSCs in ethnic communities,¹² which found that Maori and Pacific People had a low rate of card uptake.²¹ Further studies of CSC uptake, with more comprehensive ethnicity data, are required to clarify these results.

Deprivation

The total WIPA population was less deprived compared with the Wellington population overall. There may be some bias due to increased mobility of people living in the most deprived areas (who may be less likely to be registered with a general practice). Such unregistered patients were excluded from this study.

At the level of individual general practices four distinct deprivation patterns were distinguished. These patterns may reveal differences in the relationship between a general practice and the community in which it is located. In the most deprived areas the deprivation profile of the population served by a general prac-

tice tended to closely resemble that of the community. In suburban and city areas the picture was more complex, possibly as a result of commuting patterns. It may be that less deprived populations from the suburbs were consulting in city practices (thus explaining the disproportionately low number of these patients in some suburban practices, and the high proportion in city practices).

These graphs also hint that there may be barriers arising from relative, rather than absolute, deprivation in access to general practice. When the deprivation profiles of the practice and community match closely, then the practice is likely to be serving all patients in that community in equal proportion. Where the profiles differ, then the implication is that the practice is serving some groups more than others. Since the most deprived areas (Type IV) have a closer match between the practice and area deprivation profiles than less deprived areas, such as Type II, the implication is that deprived people in well off communities have greater difficulty in accessing general practice than people in more homogeneously deprived areas. If this is the case then there are distinct implications for health funding policies: dealing with access barriers to general practice services is as important in more affluent areas as it is in areas with homogeneously deprived populations.

These results raise a number of questions for further research, such as whether people not registered with mainstream general practices are being served by targeted primary care organi-

Key points

- General practices can serve very diverse populations, even within a relatively small geographic area.
- NZDep96 can be used to compare the socio-economic deprivation of a practice population with the wider community.
- This research suggests that there are distinct patterns of deprivation among practices and communities, and that these imply distinct issues of access to primary care for individual practices and their communities.

sations, and to what extent commuting patterns, cost barriers and other factors can explain the profiles which we have observed. While government policies on the funding and organisation of primary care services often turn upon questions of socioeconomic status and access to services, there have as yet been few analyses of the populations served by general practices compared with the communities from which they are drawn. Such analyses will be important in developing and monitoring policies which are designed to address access barriers to primary care.

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