Towards a reliable and accurate ethnicity database at district and national levels: progress in Canterbury

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Abstract

Aims To analyse the extent of ethnicity and related recording in Canterbury primary health organisations (PHOs), to examine variation between general practices and PHOs in ethnicity recording, and to compare the findings with census figures with particular reference to Māori.

Methods Data for July 2009 from the five Canterbury PHOs were analysed. Totals and rates for different categories of ethnicity were calculated including ethnicity ‘not stated’. Differences in rates between general practices for ethnicity ‘not stated’ were calculated. The results were compared with census figures for different ethnicities.

Findings A total population of 476,042 was analysed of whom 6.2% were Māori and 2.1% Pacific people. ‘No ethnicity’ was recorded for only 3.4% of the population. This figure varied from 0.4 to 4.5% between PHOs but was much wider between practices. Comparison with census figures showed that 95.4% of the Canterbury district population were enroled. Only 76.4% of Māori were classified as enroled as compared with the census estimates.

Conclusion Canterbury PHOs/general practices, along with national PHOs, have reduced ethnicity ‘not stated’ to almost negligible levels. The difference between the PHO and census figures for Māori is probably due to the different systems used by Statistics New Zealand for the census and for health classifications. Nationally there are now some 102,000 less in the PHO data as compared with census estimates. However the PHO general practice records should now be used to provide an accurate and up-to-date district and national database for analysis and funding. In doing so it ensures that calculated morbidity and other rates use an identical denominator and numerator.

The accurate classification of ethnicity in the New Zealand health system is now widely regarded as an important and critical factor in the planning and management of health services. However, obtaining reliable and up-to-date ethnicity data, especially relating to Māori, remains an issue of continuing concern. As Frizelle has recently noted: ‘accurate ethnicity statistics are essential to effectively plan, deliver, and evaluate cancer control policy and interventions for their effect on inequalities.’

Rates of health services utilisation by ethnicity have been traditionally based upon hospital classification as the numerator and census data for the denominator. However it has been widely recognised that the hospital numerator data have been incomplete, especially for Māori. As a consequence, Māori have been reported as underutilising certain (e.g. cardiology) services. Most DHBs have made a special effort to improve their ethnicity recording, but hospital-based classification has its limitations.
An alternative and recently developing source of ethnicity recording is through patient enrolment in PHO general practices fostered through the primary healthcare strategy. From a recent report, patient enrolment and associated ethnicity recording (as at mid-2009) now covers 95.4% of the census population. However the same report noted that Māori enrolment was only 86.1% for females and 83.8% for males when compared with July 2009 census estimates. In contrast, enrolment of Pacific peoples was 105.3% and 103.0% respectively. This raises the question are Māori selectively failing to enrol in PHO practices or is there a discrepancy between census and health classifications of Māori? In the protocols for ethnicity classification in health, both for hospital and PHOs, Level 2 is used where Māori is only one category.

When patients enrol in a general practice they fill in a form and are requested to tick up to three categories of ethnicity. Where Māori is listed in any of the three categories the enrollee is counted as Māori. In other words if the enrollee puts down European and Māori they are counted only as Māori. However only 3% of Māori put Māori in their second and/or third listing. In other words 97% of enrollees list Māori as their primary classification (Ministry of Health data, personal communication, 2009). Practice data is forwarded through the PHO to the Ministry of Health on a quarterly basis where it is used in the funding formula for general practice. The data are sent back to DHBs.

In contrast, in the 2006 census a person filling in their census form could tick up to six different ethnicity categories including combinations e.g. Māori, Māori/Pacific, Māori/Pacific/European etc. More categories could be added. In the census, Māori were listed in up to 13 combinations of categories and were all counted as Māori. Māori alone were only 53% of the total counted and the combination of Māori/European, etc, were another 37%.

The list of options is the same as the PHO enrolment except the latter process is limited to three categories only. This reduced choice could be one explanation for many fewer Māori being counted in the PHO data than the census data. On the other hand it could be that Māori enrolling in PHO practices are showing much greater certainty about their ethnicity than in the census. Almost no studies have been undertaken to examine the quality of ethnicity recording in PHO general practices. Early attempts to assess this indicated significant weaknesses. However through a range of management and quality strategies at national, DHB and PHO level it appears that ethnicity recording has continued to improve.

This study has examined the extent of ethnicity and related recording in the five PHOs associated with the Canterbury DHB. It aims to:

- Analyse, by practice and PHO, the extent of ethnicity and related recording;
- Examine variation between practices and PHOs in recording;
- Compare the findings with census figures; and to
- Discuss the district and national implications.
Methods

As part of their contracts, PHOs send general practice enrolment data to the Sector Services section of the Ministry of Health for funding purposes on a quarterly basis. It is checked for any duplications of NHIs and the data sent back to DHBs. Data for this study was sent to the author by Canterbury DHB with encrypted NHIs, practice identification, date of birth, gender, ethnicity, New Zealand deprivation decile, HUHC and Care Plus. The data were for July 2009.

The data were analysed by PHO and PHO practice for numbers and percentages of ethnicity classifications. They were also analysed by practice to determine variation between practices in ethnicity not recorded. The total by Māori, Pacific, and Other were compared with the census estimates for July 2009.

Results

Table 1 presents the results of the analysis of ethnicity recording in the five PHOs together with totals. It also presents the numbers and percentages of ethnicity ‘not stated’ and the variation between general practices in ethnicity ‘not stated’. The overall recording of Māori is 6.3%. Importantly only 3.4% of the population now have ethnicity ‘not stated’. However practices within PHOs varied widely in their levels of this recording.

Table 1. Totals and percentages of ethnicity recording in the Canterbury DHB PHOs and the variation between general practices in ethnicity ‘not stated’

<table>
<thead>
<tr>
<th>Variables</th>
<th>Enroled</th>
<th>Māori.</th>
<th>Māori.</th>
<th>Pacific</th>
<th>Pacific</th>
<th>Ethnicity not stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHO</td>
<td>total</td>
<td>%</td>
<td>total</td>
<td>%</td>
<td>total</td>
<td>%</td>
</tr>
<tr>
<td>Partnership Health</td>
<td>359627</td>
<td>6.2</td>
<td>8173</td>
<td>2.3</td>
<td>11967</td>
<td>3.3</td>
</tr>
<tr>
<td>Rural</td>
<td>68327</td>
<td>5.3</td>
<td>709</td>
<td>1.0</td>
<td>3105</td>
<td>4.5</td>
</tr>
<tr>
<td>Christchurch</td>
<td>27880</td>
<td>6.2</td>
<td>625</td>
<td>2.2</td>
<td>885</td>
<td>3.2</td>
</tr>
<tr>
<td>Hurunui</td>
<td>13510</td>
<td>8.5</td>
<td>70</td>
<td>0.5</td>
<td>50</td>
<td>0.4</td>
</tr>
<tr>
<td>Canterbury Community</td>
<td>6698</td>
<td>22.5</td>
<td>607</td>
<td>9.1</td>
<td>84</td>
<td>1.3</td>
</tr>
<tr>
<td>Total</td>
<td>476042</td>
<td>6.3</td>
<td>10184</td>
<td>2.1</td>
<td>16091</td>
<td>3.4</td>
</tr>
</tbody>
</table>

*Excludes two very small practices.

Table 2 compares the PHO enrolment figures for ethnicity for July 2009 with the estimates of census population figures for the midpoint of 2009 for Canterbury DHB supplied by the Ministry of Health (MOH). This shows that 95.4% of the census population are enroled with PHOs. While 97.2% have their ethnicity classified as ‘Other’ (e.g. Asian), only 76.4% of Māori appeared to be enroled as compared with the census figures.

Table 2. Comparison of PHO enrolment figures for ethnicity with the census figures estimated for the midpoint of 2009

<table>
<thead>
<tr>
<th>Enrolment vs census</th>
<th>PHO</th>
<th>Census</th>
<th>Difference</th>
<th>PHO % census population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Māori.</td>
<td>30127</td>
<td>39440</td>
<td>9313</td>
<td>76.4</td>
</tr>
<tr>
<td>Pacific</td>
<td>10184</td>
<td>10900</td>
<td>716</td>
<td>93.4</td>
</tr>
<tr>
<td>Other</td>
<td>435731</td>
<td>448500</td>
<td>12769</td>
<td>97.2</td>
</tr>
<tr>
<td>Total</td>
<td>476042</td>
<td>498840</td>
<td>22798</td>
<td>95.4</td>
</tr>
</tbody>
</table>
Discussion

The findings above raise critical issues which need further discussion. The figure of 95.4% of total PHO enrolment is reasonable given that a significant number of people will not have attended a GP in recent years and hence remain unenroled. The gap between Māori enrolment and the census estimates (a difference of 9313) is particularly concerning. This could be due to two factors. Either Māori have selectively not enroled or the difference is due to discrepancies between the health system classification of ethnicity and the classification used by Statistics New Zealand in the census, as discussed above.

Compared with July estimates from Statistics New Zealand supplied to Canterbury DHB by the MOH, the Canterbury level of overall enrolment at 95.4% is identical with the national figure. However Māori enrolment in Canterbury is well below the national figure of 84.3%. This percentage varied widely between DHBs; from a low of 71.3 % in Waitemata to 100.1% in Northland.

Some evidence of Māori enrolment comes from a recent study of attendance at the Christchurch Hospital Emergency Department for the 30 months to December 2008.8 Patients were identified by PHO as well as ethnicity. However some 28,000 attendees were classified as uninvolved, of whom 2525 were Māori.

A high classification of non-enroled population is not unexpected given the pressures on processing people at the Department and the lack of awareness by many people about whether they are enroled. However the ratio of Māori to total uninvolved was similar to the proportion in the enroled population. This suggests that relatively few Māori are actually unenroled.

The high percentage of enrolment of Pacific people, whose enrolment levels would not be expected to differ significantly from Māori, would seem to support this conclusion. Hence it is argued that the gap between the census and health statistics for Māori not being enroled is primarily due to the different classifications referred to above.

Nationally there are now some 102,000 less Māori in the PHO data as compared with census estimates. However a number of uncertainties regarding the issue remain. The different census and PHO enrolment practices have been discussed above. No doubt people respond differently in different situations when filling in forms. The issue of who are Māori is a matter of continuing debate and uncertainty.

Studies of some urgency are needed to explore these issues further and to evaluate the now very complete PHO database and its relevance for addressing key issues facing Māori health including equity, access, utilisation, and funding. More generally the PHO database can now provide a much better framework for building integrating relationships between general practice and specialist services as is progressing in Canterbury.

Another issue needing to be resolved is the discrepancy between ethnic classification derived from hospital attendances and the more recently available classifications from PHOs general practices. Recent studies have shown that the PHO data is statistically significantly more complete in identifying Māori than hospital data.9,10
A high and improving level of classification of ethnicity in PHOs is one important finding of the study. For instance, in Partnership Health, PHO ethnicity ‘not stated’ has reduced from 7.2% to 3.3% in the last 2 years. National figures show that this is now down to 1.1%. This appears to be due to efforts by PHOs and general practices to improve quality generally in general practice.

Practices needing assistance in upgrading their ethnicity classifications can be identified, as indicated above, and targeting such practices appears to have been the main reason for the improvements observed. Further improvements can be expected to reduce the percentage ‘not stated’ to almost zero. Clearly there has been significant improvement from previous studies.

The Canterbury experience indicates that the high quality of its PHO general practice data suggests it could become the foundation for a district and national database. This would be much more reliable, up-to-date, and accurate than the present system of using census data as the denominator.

As indicated above, census data could be up to 20% higher for Māori than the actual data collected by PHOs. Using PHO data would ensure that the same numerator is used as the denominator in calculating rates of morbidity and even mortality. As a consequence, Māori morbidity and mortality could be much higher than previously reported.

Work has already shown that (using PHO data with the NHI as the linkage to hospital data) much more reliable and accurate rates for the use of cardiology and other services by Māori can be calculated than the use of census data for such purposes. Furthermore the use of the PHO data will enable the building of better relationships between primary and secondary care services including the development of a shared electronic access to a common patient record as recommended by the recent Report of the Ministers Review Group.

One implication relating to funding could be a variable effect on current population-based DHB funding. However this needs further investigation as do many aspects of the use of the national PHO database.

Competing interests: None known.

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