The Rural Health Indicators Project

Report 2 - Comparison of Five District Health Boards

Prepared by New Zealand Institute of Rural Health

This report forms part of a series of reports on **Rural Health Indicators** prepared by the **New Zealand Institute of Rural Health**.

This report follows ***The Rural Health Indicators Project Report 1 – Developing a Rural Health Indicator Framework***

and must be read in conjunction with ***Annexe 1 Rural Health Indicators Comparison of Five District Health Boards Incidence of Disease, Mortality and Secondary Care Activity***

Glossary of Terms

AIHW	Australian Institute of Health and Welfare
ALOS	Average Length of Stay
Casemix	The term Casemix refers to the type or mix of patients treated by a hospital or unit. Casemix based funding is the key funding model currently used in New Zealand health care services for reimbursement of the cost of patient care.
CVD	Cardiovascular Disease
CWD Case weighted Discharge and Cost Weighted Discharge	Case Weighted Discharge relating to the weighting put on a particular episode of care whilst the cost weight relates to the price and cost of that particular service.
COPD	Chronic Obstructive Pulmonary Disease
Deprivation Decile	A measure of socio-economic deprivation.
DRG	Diagnostic Related Group
ICD 10 Coding	The International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) is a coding of diseases, signs and symptoms, abnormal findings, complaints, social circumstances and external causes of injury or diseases, as classified by the World Health Organization (WHO).
LOS	Length of Stay
Mortality Collection	The Sector Services Mortality Collection classifies the underlying cause of death for all deaths registered in New Zealand, including all registered foetal deaths (stillbirths), using the ICD-10-AM 2nd Edition and the WHO Rules and Guidelines for Mortality Coding.
NHC	National Health Committee
NMDS	The National Minimum Data Set is a national collection of public and private hospital discharge information, including clinical information, for inpatients and day patients. Unit record data is collected and stored.
Potentially Avoidable Mortalities (PAM)	Deaths that are classified as premature, under 75years of age and potentially treatable.
Rural	A combined category as defined by the National Health Committee including four of the seven Statistics New Zealand Urban/Rural Profile areas: Highly Rural/Remote Areas, Rural Areas with Low Urban Influence, Independent Urban Areas, and Rural Areas with Moderate Urban Influence. The rural population is the population living in these areas.
Secondary Care	Health services such as diagnostics and surgery accessed through referral by a primary health care clinician.
SRG	Service Related Groups
Urban	A combined category as defined by the National Health Committee including three of the seven Statistics New Zealand Experimental Urban/Rural Profile areas: Main Urban Areas, Satellite Urban Areas and Rural Areas with High Urban Influence.

Executive Summary

In continuing the work of the Rural Health Indicator Project, the five district health boards of Northland, Waikato, Taranaki, Canterbury and Southern (Otago and Southland) have been chosen for analysis due to their comparatively large and diverse rural areas. Analysis is based on a prioritised list of Rural Health Indicators taken from the comprehensive framework in Report 1 of this series on the Rural Health Indicator Framework project.

This report identifies and compares the findings using an adaptation of the Statistics New Zealand Experimental Urban/Rural profile[1] as used by the National Health Committee in the document - Rural Health - Challenges and Opportunities for Innovation[2] (see **Appendix 1 - Report 1**) and the National Minimum Data Set (NMDS)[3] from 2005-2009 to analyse:

- incidence of chronic disease - cardiovascular disease, malignancy, renal and respiratory disease),
- mortalities - potentially avoidable mortalities (PAMs) and non potentially avoidable mortalities (Non PAMs),
- secondary care activity levels - discharges, inpatient and day patient, length of stay (LOS) and case weighted discharges (CWD).

The National Minimum Data Set (NMDS) of the five District Health Boards (DHBs) for 2005-2009 was cross analysed by service related groups and diagnostic related groups. This data was analysed into different urban/rural populations using domicile codes within the NMDS in line with the National Health Committee Urban/Rural Profile[4].

All data has been kept at a summary level and has not been adjusted to account for differences in either ethnicity or deprivation. However, this information and data is available by age, gender, ethnicity and ICD 10 Coding by each DHB.

The analysis of different aspects of five district health boards as to the health status and health services for rural people opposed to people who live in urban centres has demonstrated a significant disparity for those people who live in Independent Urban Areas.

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[1] Statistics New Zealand(undated) Urban/Rural Profile
[2] National Health Committee (2010) Rural Health: Challenges of Distance; Opportunities for Innovation
[3] See Glossary of Terms
[4] ibid National Health Committee (2010) Rural Health: Challenges of Distance; Opportunities for Innovation

People who are domiciled in Independent Urban Areas as well as rural areas with low urban influence and in some satellite urban areas in all five DHB regions have the highest incidence of cardiovascular disease, malignancy, renal and respiratory disease alongside the highest levels of potentially avoidable mortalities (amenable deaths - those occurring before 75 years of age) and therefore make up a large percentage of secondary care activity.

Independent Urban Areas have little or no connection to a Main Urban Area, are often service centres for the surrounding rural communities, and have an interdependent relationship with them. The National Health Committee considers these features most relevant to the question of access to rural health services. Independent Urban Areas are the least affluent of the seven urban/rural categories.

The findings in relation to the Independent Urban Areas lead to a number of possible contributing factors.

- The downsizing of the rural hospitals in some of the Independent Urban Areas?
- The socio-economic environments within these towns where people have moved in from more isolated rural areas but are limited to these areas due to the lack of affordability of living within the urban environments?
- A lack of hospital visits from visiting specialists to outlying areas, thereby leaving people with chronic disease to wait longer for initial assessment and referral and therefore increase the rate of admission to hospital in a more advanced state of disease, thereby increasing morbidity/mortality?
- Problems in maintaining an adequate primary health workforce in these towns?

Additional work and analysis would be necessary to confirm or otherwise the impact of the factors listed above.

Further work is planned to compare Statistics New Zealand data (including unemployment rate, Maori/Non-Maori ethnicity, age, social deprivation scores and infant mortalities) between independent urban areas within selected DHBs, against the entire DHB area and between DHBs as well as the impact of large Independent Urban Area's within the dataset and contrasted with specific rural/remote areas.

The following Independent Urban Areas will be of initial interest:

- Kaitaia

- Kerikeri
- Kaikohe
- Dargaville
- Waihi
- Matamata (includes Matamata North and Matamata South)
- Tokoroa (*Mangakaretu (210), Kinleith (228), Paraonui (1,785), Parkdale (714), Matarawa (2,028), Stanley Park (2,055), Tokoroa Central (807), Aotea (3,141), Strathmore (2,403), Amisfield (159))
- Te Kuiti
- Gore includes *Charlton (5,880), North Gore (1,632), East Gore (1,410), Central Gore (837), West Gore (2,778), South Gore (840), Mataura (1,560)
- Alexandra
- Cromwell
- Te Anau

The next two decades will bring growing numbers of older people in both rural and urban communities. Independent Urban Areas are projected to be home to an even larger proportion of older people 70 and over (21 percent) than Highly Rural/Remote Areas and Rural Areas with Low Urban Influence (15 percent). Age-related projections differ dramatically by ethnicity. The European population is facing a much greater increase in proportions of older people than are the Maori and Pacific populations. The Maori and Pacific people's populations will continue to have larger proportions of children. New Zealand is experiencing the unpredictable effects of a worldwide economic recession. This has affected, among other things, the country's gross domestic product, levels of unemployment, attractiveness to international investment, overseas and domestic share markets, and currency value. All these factors have the ability to influence the health status of New Zealanders.