

Index of Multiple Area Level Deprivation (IMALD) for Auckland

What is the Auckland IMALD 2013?

The Auckland Index of Multiple Area Level Deprivation (IMALD) is a tool developed by the University of Auckland for identifying small area concentrations of deprivation across the Greater Auckland region in a consistent way. Using methodology developed for the Scottish Government's Scottish Index of Multiple Deprivation (SIMD) 2012, it incorporates seven domains of deprivation and combines them into a single index, capturing dimensions of deprivation that the current New Zealand Index of Deprivation excludes.

The expected outcomes of this research are a more current and comprehensive measure of area-level disadvantage to better inform clinicians, researchers and policy makers of the determinants of health and well-being in New Zealand today. Through identifying small areas where there are concentrations of multiple deprivation, the IMALD can be utilised to target policies and resources. The Auckland IMALD is intended as a pilot for a larger New Zealand wide index of multiple area level deprivation.

In addition to this summary, the University of Auckland has also published [online interactive maps](#) to aid in the dissemination of the IMALD 2013 outcomes. The maps illustrate the distribution of relative deprivation in Auckland across small areas called Lower Zones (LZ).

Lower zones

The IMALD divides the Auckland Region into 1734 Lower Zones containing an average of 760 people each, and it provides a relative ranking for each LZ, from 1 (least deprived) to 1734 (most deprived). LZs were developed to establish a consistent and stable core geography for readily (and regularly) making available small area statistics across most policy areas. They are designed to respect existing boundaries (e.g. District Health Boards and General Electoral Districts) and have geographic contiguity, population equality and compactness. Where possible, LZs respect elements of the physical environment (e.g. highways, railways, rivers) and the social environment (e.g. community centres, similar socio-economic situation). For these reasons, they are more reliable units of analysis than existing small area census boundaries for analyses of local process and for measuring variations in social outcomes, and they will aid in identifying concentrations of deprivation that might be missed in analyses based on larger areas such as census area units. The 1,734 Auckland LZs are aggregated to form 88 Upper Zones (UZ) which range in population size from 12,000 to 18,000.

Multiple Deprivation

The concept of 'deprivation' has different meanings and connotations, depending on which aspect of deprivation is being discussed and how the definition is being applied. As reported in SIMD 2003¹ (p. 5), Townsend's 1987 article 'Deprivation', argues that *'people can be said to be deprived if they lack the types of diet, clothing, housing, household facilities and fuel and environmental, educational, working and social conditions, activities and facilities which are customary ...'*

Multiple deprivation is simply an accumulation of single deprivations. Each of IMALD's seven aspects of deprivation is measured independently using the best indicators available to generate a domain score. While each domain is conceptualised as separate and distinct, they may have cumulative effects in an area (or for any individual). Thus to be poor *and* in ill-health is clearly a worse state than experiencing just one of these deprivations on their own. This approach avoids the need to make any judgments about the complex links between different types of deprivation (for example the links between poor health and unemployment), and enables clear decisions to be made about the contribution that each domain should make to the overall IMALD

Area level multiple deprivation

It is important that people using these indices realise that describing the combination of single deprivations as area level multiple deprivation says little of the *individual* experience of *multiple* deprivation. For example, we don't know how much individuals and families experiencing deprivation cluster together geographically, and we don't know how other individuals and families who are not experiencing deprivation are affected by the overall level of deprivation in their area.

Deprivation indices

The need for information about the geographical distribution of deprivation in New Zealand has long been recognised. For the past 20 years, the New Zealand Index of Deprivation (NZDep) has been the universal measure of area-based social circumstances for New Zealand. NZDep is a composite measure of deprivation derived from census data, representing nine aspects of material deprivation, including people receiving a benefit, people on a low income, dwellings not owner occupied, people unemployed, people with no qualifications, single parent families, overcrowding, access to a telephone and access to a car.

¹ Scottish Indices of Deprivation 2003 (p 5). Available from <http://www.scotland.gov.uk/Resource/Doc/47032/0025597.pdf>

Advances in the collection and use of non-census data sources, such as administrative data routinely collected and maintained by Government departments, have allowed analysis of deprivation at small area level in the inter-censal period and with more precision and in a more robust and consistent way than has been possible before. Such advances have also released the analysis from using proxy indicators from the Census in favour of using direct measures of deprivation, such as the standardised mortality ratio and geographical access to key services.

IMALD's seven domains

The seven domains in the IMALD 2013, which have been used to measure multiple area level deprivation, are:

- Employment
- Income
- Crime
- Housing
- Health
- Education
- Geographic Access

It is possible to assess each aspect of deprivation for a particular LZ as well the overall level of deprivation.

What can the IMALD be used for?

The Auckland IMALD 2013 can be used to:

- Identify areas with high levels of deprivation
- Identify areas that may be deprived in specific domains (e.g. employment) even if they are not considered 'deprived' in the overall index
- Compare all of the LZs in Auckland to identify the overall least/most deprived
- Compare larger geographical areas by looking at the proportion of the most deprived LZs contained in each of those areas (by using an appropriate cut-off, such as the 5%, 10%, 15%...most deprived).

What should the IMALD not be used for?

The Auckland IMALD 2013 cannot:

- Convey how much more deprived one LZ is than another
- Suggest whether or not an area is affluent.
- Quantify an *individual's* experience of deprivation.