

Adolescent and adult household crowding in Auckland - the spatial distribution of a major risk factor for meningococcal disease among under 8 year old children

Nick Jones

Auckland Healthcare
New Zealand

**Presented at SIRC 2000 – The 12th Annual Colloquium of the Spatial Information Research Centre
University of Otago, Dunedin, New Zealand
December 10-13th 2000**

EXTENDED ABSTRACT

Objectives

The aims of the project were: to estimate the number of children (under 8) in Auckland's most crowded houses, to visualise their spatial distribution, to visually demonstrate the correlation between crowding and disease, and to generate maps which can be used to target prevention strategies.

Background

Auckland Public Health Protection along with ESR and Auckland University have recently completed a study examining risk factors for meningococcal disease among under 8 year old Aucklanders. The study showed the most important factor was the ratio of persons over 10 years of age per room residing in the child's house. Adolescent and adult crowding is likely to be important because carriage of the organism that causes the disease is uncommon among children under 10 years.

Methods and Materials

Counts of children under 8 years by crowding index bands and meshblock were obtained from Statistics NZ. The crowding index was identical to that found to be a key factor in the case control study. Counts were also obtained by crowding index and ethnicity for Auckland census area units. ArcView was used to visualise these data both as crude counts and as proportions of total under 8 populations per areal unit. After masking case x,y locations by randomly moving the points up to 100 metres a point coverage overlay was used to demonstrate a visual correlation between crowding and disease

Results

Resulting maps and graphs showing the distribution of children by crowding index for the whole region, will be presented. The presenter will also discuss the impact these maps have had in various settings eg in a presentation to the Housing NZ chief executive.

Implications for Public Health Practice

This project has demonstrated that visualisation of the spatial distribution of newly identified risk factors can enhance public health action by: motivating decision makers, public health workers and communities and by providing tools to target interventions.