

Maternity services in remote Australia

Margaret Rolfe, Jo Longman, Lesley Barclay, Deborah Donoghue, Geoff Morgan

University of Sydney, University Centre for Rural Health- North Coast, NSW

Introduction: Of the nearly 300,000 babies born in Australia each year, 2.8% are born in remote and very remote areas, and accounts for over 9% of rural births.

Aims: To explore the distribution of maternity services in remote and very remote Australia, and to identify factors associated with that distribution.

Methods: The first step of our study, the Australian Rural Birth Index was to identify public health facilities which serviced community catchment populations of 1,000 to 25,000. These community catchments were identified as being within 1 hour travel time (driving) in any direction from the facility. Catchment was calculated using the geographic location, road network calculations (based on driving speeds and type of road), and Geographical Information Systems. Small geographical areas with known estimated populations and birth numbers (over 5 years) were overlaid onto the catchment area and area-weighted population and birth numbers calculated. Similarly parameters were determined such as percentage of Aboriginal and Torres Strait Islander peoples and of women of child bearing age, social economic status of the population, population density, birth rate and travel time to the closest maternity service with emergency surgical capabilities.

Services in remote and very remote areas were identified and their distribution, characteristics and level of maternity services were assessed using Chi-square tests and logistic regression. Sensitivity analyses investigated the impact of increasing the catchment area.

Results: We identified 260 facilities for rural and remote populations between 1000 and 25000, of which 109 offer birthing services. Of these 82 were located in remote and very remote Australia, with 65 having no local birthing services.

The 17 facilities with birthing services all had at least emergency Caesarean section capability and were located in Western Australia (7), Queensland (5), South Australia (3) and Northern Territory (2). Only 5 of these were in very remote Australia. The majority (n=16) were over 3 hours road travel time to the next nearest birthing service with surgical capabilities.

The catchment population size, birth numbers, birth rate, and population density were significantly lower for remote/very remote maternity services with no local birthing capabilities. The distribution of birthing services more likely to be in areas where the proportion of Aboriginal population ranged between 10% to 30%, and the catchment socio-economic status was relatively low and travel time to the next nearest CS service was between 3-4 hours, however none of these attributes retained significance in a model inclusive of catchment birthing numbers.

Conclusions: Although the proportion of the Aboriginal population, socio-economic status, and travel time to alternative birthing services are implicated in the distribution of birthing services in remote Australia, these are far outweighed by the size of the catchment birthing population.