

156 *Fluoridation of public water supplies in remote Australian Aboriginal communities: a feasibility study*

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Fluoridation of public drinking water supplies is well established as one of the most socially equitable public health measures. However, technological and cost factors have limited the fluoridation of water supplies in smaller and remote communities. Aboriginal children living in such communities have some of the highest rates of dental caries in Australia. Dental caries contributes to the poor state of Aboriginal health in a variety of ways, and fluoridation of water supplies therefore has the potential to contribute significantly to efforts to improve health.

Major objectives of this study include (1) identification of communities that are likely to benefit most from fluoridation of the water supply, and (2) examination of the feasibility and impact of introducing fluoridation plants into two communities.

We have mapped the natural levels of fluoride in the water supply of Aboriginal communities across the Northern Territory (using data from the agency responsible for delivery of water supplies) in relation to the oral health status of children aged 4 to 12 years in these communities (using data from the public Children's Dental Service). We negotiated funding through Territory and Federal agencies for the installation and operation of fluoridation units in two remote communities, and have monitored the operation of these units over a two year period. The units appear to have been effective in delivering fluoride within recommended levels for the majority of this period despite some technical and operational challenges. The dental health status of children will be monitored in trial and comparison communities over a minimum of four years to determine impact on dental caries rates.

The findings from this project will be useful in decisions on the design and operation of these units for use in similar settings across Australia and internationally.