

## Gana Burrai: applying population data linkage to more accurately measure Aboriginal maternal and infant outcomes in the Goulburn Murray Region

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### Introduction

The Australian 2016 census reported Aboriginal population of Goulburn Murray Region (GMR) as being 3% of the total GMR population is considered a significant under ascertainment. This is supported by the Freemantle et al population data linkage project that reported an underestimation of 51% of Aboriginal births in Hume region.

### Objectives and Approach

The main objective of the Gana Burrai project was to undertake a Proof of Concept (POC) project to address the critical issue the under-ascertainment of data describing Aboriginal maternal and child health outcomes within the GMR. The PoC explored the feasibility of linking a number of population administrative datasets that included information describing Aboriginal babies born and mothers and fathers living in, the GMR. The PoC also enabled an evaluation of the cultural, organisational, practical and technical issues critical to the development of this comprehensive population data set. The linkage was undertaken using GRHANITETM privacy protecting software.

### Results

Population data from seven administrative datasets describing birth years 2005-2015, representing 111862 records were successfully extracted. These data represented 37,338 patients. Following the linkage process, 28,016 patient records were successfully linked. The ever-Aboriginal concept was applied to the linked data. After linkage, there was a significant under ascertainment of Aboriginal births in records maintained by the Shire of Campaspe (16%), less so by Shire of Greater Shepparton (50%); Goulburn Valley Heath (92%), and Echuca Regional Health (86%) demonstrated a more complete ascertainment. However, the linkage showed a strong correlation of patient Indigenous identity collected by the shires'/hospitals' and the mothers'/fathers' chance of having a record at the Aboriginal Community Controlled Health Organisations. Selected birth outcomes were also analysed and will be reported.

### Conclusion/Implications

1st Nations Governance combined with a privacy-protecting linkage model underpinned PoC ensuring strong community trust, engagement and control. It is 1st time such extensive data-linkage has been achieved demonstrating feasibility in developing a comprehensive dataset with the potential for evidence-based, targeted population health initiatives to be developed, implemented and evaluated.

