**Submission to Closing the Gap Review**
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*Mapping data makes information more accessible. It can reveal clearly where something is going well and not so well. It is an invaluable analytical tool.*

**Priority Reform Four: shared access to data and information at a regional level**

***Mapping national data regionally ("The Gap Atlas")***
To date, the regional level of analysis in Gap Reports has tended to be by State and Territory and or by Remote/non-Remote regions. These units are large[1]and the resulting data and analysis are rather general. Furthermore the data are produced either as text, tables, graphs, or dashboards.

I recommend that consideration be given to:
a) devising a finer grade of regional data, and
b) mapping the data for the regions. This method would improve the level of analysis and also make the data more accessible.

Several agencies now produce and map, or plan to map, data regionally and these sources and methods should be explored by the Review.[2]

The second edition of the *Macquarie Atlas of Indigenous Australia* 2019 (from here, the Atlas) is a model that could also provide some direction. In this model choropleth maps[3] are produced for a range of socio-economic data, generally given as a rate per region. The mapping is at a regional and national level; i.e. maps show the status of Indigenous-specific data by subject, and region - across the nation. The atlases do not compare Indigenous with non-Indigenous people.

The provenance of each map is giving in the 'Sources', and 'References' of the Atlas. These refer to a wide range of agencies due to the intended fact that the Atlas is an edited work in which each contributor, expert in their subject area, drew heavily on material from departments and agencies known to them.

Each map is accompanied by a short 'map caption' which aims to describe, from the author's expert perspective, what the reader might deduce from the distribution.

Deriving regions for choropleth maps is invariably a compromise between the size of regions and the availability of the necessary data: the smaller the region the scarcer the data. The Atlas regions were derived in collaboration with the Australian Bureau of Statistics (ABS) as described in Appendix 2 of the Atlas 'Mapping Conventions and Geographies', included here as Attachment 1. Note that these are not off-the-shelf regions. They were specially derived (customised) by considering the subject matter,

[1] Remote and very remote regions together make up around 80 percent of the area of the Australian mainland (ABS pers.com.), and include Australia's deserts.
[2] Examples include the Australian Institute of Health and Welfare's 'Regional Insights for Indigenous Communities', and the recent ABS initiative to increase the spatial representation of data within branches of the Australian Public Service.
[3] Choropleth maps divide the whole country into regions and the relevant data is mapped by these regions, giving a clear picture of how a statistical feature varies across the country.

regional populations etc. to give the best compromise between region and data. I accept that other subjects and data might determine other regions. Nonetheless, as will be seen from Attachment 2, this method resulted in a significant number and variety of maps.

A list of the Choropleth maps built to these regions is in Attachment 2.

Attachment 2 also refers to other types of map that show data which may be of interest to the Review. For example, some 'column maps' were built showing data associated with the status of children and to imprisonment and prisoners. Typically column maps were constructed for the Atlas when there were insufficient data to build choropleth maps.

I recommend that a *similar* model of mapping to that used in the Atlas be considered for future Gap data. A relevant agency (possibly the ABS who constructed the majority of the Atlas choropleth maps) should be given the task of creating the maps.

I acknowledge that the ABS and government departments (State and Federal) may have to be encouraged to obtain the necessary data to make choropleth maps of the Gap targets.

***Regional Indigenous Atlases***

Priority Reform Four can also be taken to apply to data within and across regions.

I recommend that some thought be given to constructing *Regional Indigenous Atlases*. These would map data within any region of the country, however these regions might be defined. This is a new and completely different exercise from that associated with the choropleth mapping discussed above and is a feature that does not presently exist.[4]

Regional Atlases would vary substantially across the country as they would depend on the life circumstances in the regions and the requirements of the regional Indigenous communities and organisations.

Collecting and mapping the data for a region would be carried out by the relevant Indigenous organisation. Each Indigenous organisation would decide on the composition of their atlas, possibly by drawing on items from a master map menu. (A working draft of such a menu is available.)

This initiative would serve several functions: make regional priorities clearer; make data more accessible; increase regional autonomy; encourage departments to obtain and provide the necessary regional data; and build the capacity of regional organisations (resulting in some cross-over with the Review's ***Priority Reform Two: Building the community-controlled sector***.)

Some regional bodies may be in a better position than others to carry out this mapping role. It is possible that Native Title Representative Bodies or Service Providers could be in a position to take on the task, albeit with the necessary capacity development. In addition, should the Indigenous Voice to Parliament get up, this may provide some guidance regarding relevant regional bodies.

[4] Nonetheless, some regional organisations have made progress in this regard.

The concept of *Regional Indigenous Atlases* should be tested by carrying out pilot studies over several regions. If successful, the initiative could be expanded to include all relevant agencies within a funded and national program at the Federal level.

I recommend that, in the first instance, the Review process include a survey of some relevant organisations to establish their desire and capacity to collect and map their region's data.

***Interactive (and online) mapping***

The above discussion relates to fixed static maps. However, interactive functions have the potential to increase the analytical power of maps. For example maps can be overlayed and so make clearer the spatial relationships between distributions. An example might be where a choropleth map for employment is overlayed with the ABS remoteness map revealing more clearly in which regions employment is more or less likely to be impacted by remoteness. Similarly, the remoteness map might be overlayed on a map of the distributions of communities, again clearly allowing us to consider the impact of one on the other.[5] The value of an interactive function can apply to a wide range of different maps; not just choropleth maps.

In addition, interactivity goes hand-in-hand with establishing maps online and so allows users – for example Indigenous organisations - greater access to the data and to the analytical power of the mapping.

***References***

Arthur, W. and F. Morphy (eds.) 2019. *Macquarie Atlas of Indigenous Australia*, Second Edition, Macquarie Library and Macmillan Education Australia, Melbourne.

[5] A great many Indigenous communities are located in the remote and very remote parts of the country.