A centralised data tool for regional data across public datasets

Amy Foulkes | NQPHN

A challenge while completing requests, regional snapshots and Joint Regional Needs Assessment (JRNA) analysis is constraints in individual data preparation and analysis. Where managing relevant public datasets in a central location is complicated by:

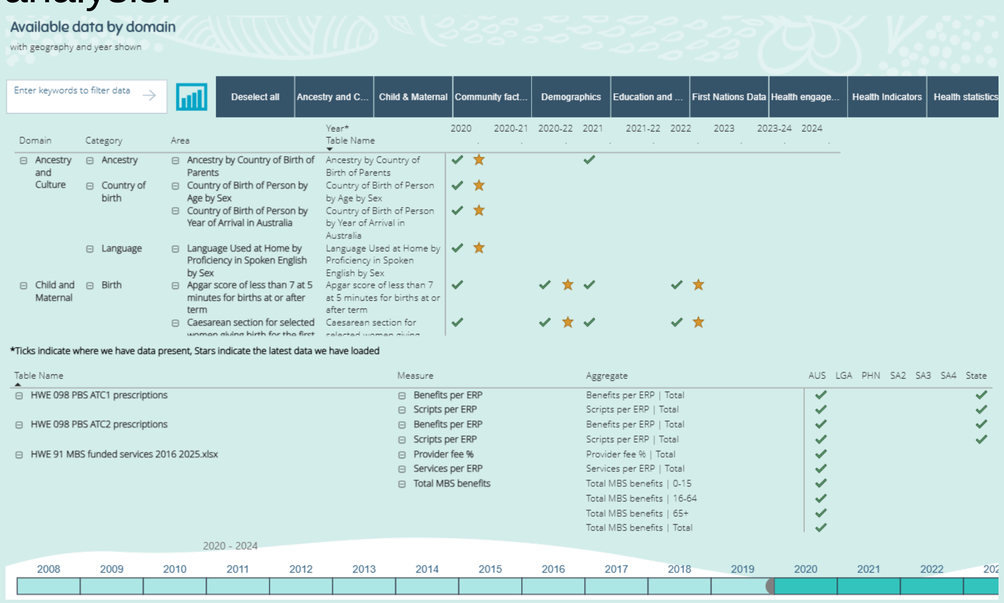
- Different data sources and structures
- Both qualitative and quantitative data, relative and non-relative measures
- Varying geographic boundaries with complex boundary and catchment challenges
- Multiple levels of aggregation

A two-part solution of a data model processed through python with an adaptable Power-BI hosted application. Standardising diverse data, enabling cross-geographic comparison and facilitating user driven analysis.

Key Features

The standardised key system enabled efficient categorisation, searchability and comparison while facilitating the core data. A combination of dashboards were produced which included a key of data available by category and available geographies with a search and slicer features to flexibly facilitate data analysis.

Visualisation pages included a matrix builder to compare and extract metrics with multiple aggregate groupings. Visually dynamic views were also produced display data from both a metric and geographic perspective, facilitating high/low level analysis.

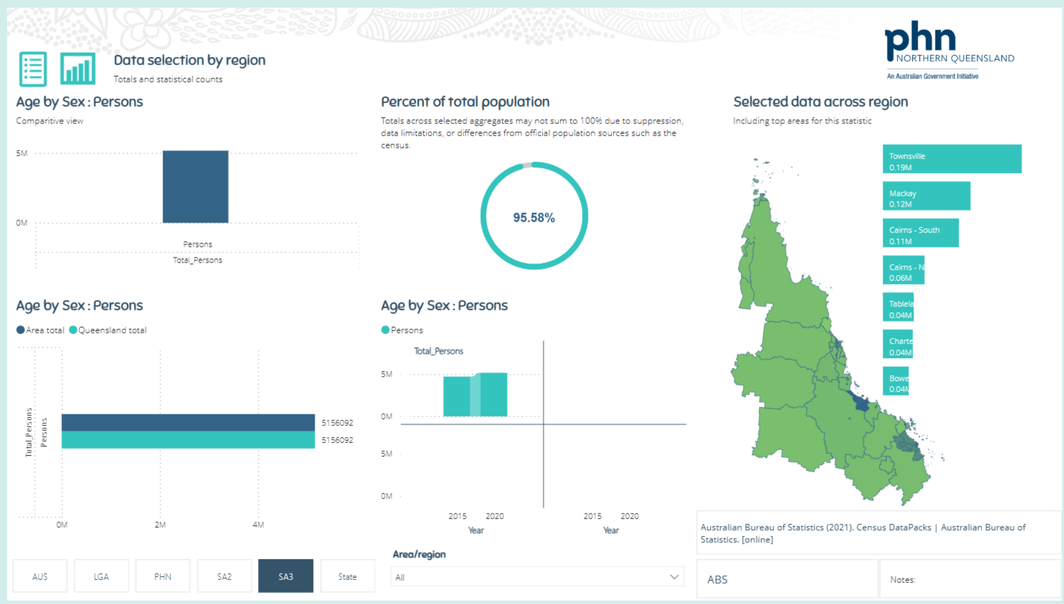


The Data Model

Transformation completed using a python script which transformed into a uniform long form and appended dataset to dataset.

The output was a single summary table with geographic row level specific results, caveats and notes which was linked by a key to a reference table that enabled measure specific detail, categorisation and handled metadata, the geographic code on the summary table was then linked to a concordance with geographic detail and boundary rules and nesting. This data mobile enabled the management across geographies, measures and level of aggregation to optimise the flexibility of the dashboard and inclusion of all relevant data.

Datasets included were sourced from: ABS, PHIDU, AIHW, AIR, QGSO, and other smaller publicly available datasets

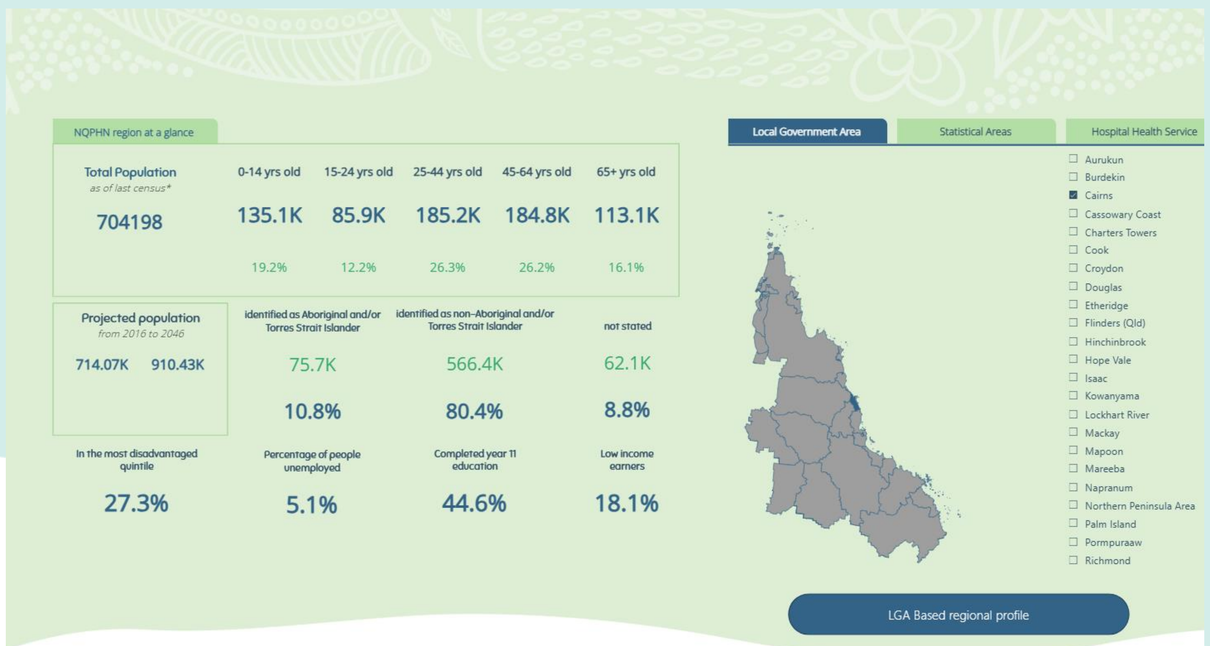


The tool and data model was further adapted by for an internal geographical tool within NQPHN with learnings applied to aid in navigating the significant data library within and manage computation and navigation more efficiently, facilitating a central highly flexible tool that leveraged desired publicly available data across available geographies.

Outcomes

A flexible tool that unifies data for use across the organisation which supports:

- Comparison of measures across geographies
- Comparison of geographies across measures
- Faster, reliable data preparation
- Fulfilling many of our data request use-cases



Amy Foulkes | Senior Data Analyst | Data & Intelligence Team

Amy,Foulkes@nqphn.com.au