METHODOLOGY REPORT
SOCIAL PROGRESS INDEX:
AUSTRALIA

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THE AUSTRALIAN SOCIAL PROGRESS INDEX

SPI produces the Social Progress Index that is a holistic and robust measurement framework for national, social & environmental performance that can be used by leaders in government, business and civil society at the country level as a tool to benchmark success, improve policy, and catalyse action.

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Amplify has been funded with generous support from the UNSW Strategy 2025, as well as PricewaterhouseCoopers, QBE, and other donors.

Table of Contents

INTRODUCTION

The purpose of the Australian Social Progress Index was to develop an Index that captures the performance of States and Territories of Australia on Basic Human Needs, Foundations of Wellbeing, and Opportunity. Developing this Index can identify where there are particular needs and opportunities for policy and structural changes to help decision makers, investors, civil society actors as well as the general public understand and focus their efforts where they are needed the most.

A multi-stage iterative process was followed to reach the most accurate framework of the Social Progress Index for Australia.

The first stage involved an interaction with the Social Progress Imperative to gain understanding of Social Progress Index concept, principles and methodology.

The second stage involved identifying a possible set of indicators and data sources that meet the Social Progress Index criteria.

The third step involved engagement with key experts and stakeholders to solicit feedback and validation.

This report describes the methodology used to calculate the Social Progress Index for the Australian States and Territories for the years 2015-2018. The first section talks about the conceptual architecture of the Social Progress Index and the principles that guide the index creation process. The second section provides a step-by-step overview of the process of constructing the Social Progress Index for Australia: data collection, missing values, data transformation, assessment of the fit, and aggregation. Furthermore, the report outlines the challenges and solutions to calculating the Australian Social Progress Index and describes the method for conducting elative analysis of performance for the States and Territories of Australia.

SOCIAL PROGRESS INDEX PRINCIPLES

The Social Progress Index is a composite index which represents the first comprehensive framework for measuring social progress that is independent of traditional economic indicators, but complementary to them. The Index focuses on what matters to societies and people by giving them the tools to better understand and seize opportunities and building blocks to enhance and sustain the quality of their lives, as well as create the conditions to reach their full potential.

Developed in collaboration with a team of scholars led by Professor Michael E. Porter of Harvard Business School, the Index is being used by national and city leaders across Latin America, and the European Commission's Directorate General for Regional and Urban Policy for agenda setting, policymaking, prioritizing resource mobilization and measuring impact.

The Index presents a granular, actionable picture of what matters most to people regardless of their wealth. It creates a common understanding of how well a community performs on the things that matter to all societies, rich or poor. As a complement to traditional measures of economic performance, such as income, the Social Progress Index provides better understanding of the bi-directional relationship between economic gain and social progress. Its unique framework offers a systematic, empirical foundation for governments, businesses, civil society and communities to prioritise social and environmental issues, and benchmark performance against other countries, regions, cities and communities to inform and drive public policies, investments, and business and community decisions.

Guided by a group of academic and policy experts, the Social Progress Index follows a conceptual framework that defines social progress as well as its key elements. In this context, social progress is defined as the "**capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and create the conditions for all individuals to reach their full potential.**"

The Social Progress Index is built around a framework that comprises three architectural elements: dimensions, components, and indicators.

Dimensions represent the broad conceptual categories that define social progress:

- **Basic Human Needs** considers citizens' ability to survive with adequate nourishment and basic medical care, clean water, sanitation, adequate shelter, and personal safety. These needs are still not met in many disparate countries and are often incomplete in more prosperous countries.

- **Foundations of Wellbeing** captures whether a society offers building blocks for citizens to improve their lives, such as gaining a basic education, obtaining information, and access communications, benefiting from a modern healthcare system and live in a healthy environment.

- **Opportunity** captures whether citizens have the freedom and opportunity to make their own choices. Personal rights, personal freedom and choice, tolerance and inclusion, and access to advanced education all contribute to the level of opportunity within a given society.

- Within each dimension are components: four distinct but related concepts that together make up each dimension (Figure 1).

Basic Human Needs	Foundations of Wellbeing	Opportunity
Nutrition and Basic Medical Care	Access to Basic Knowledge	Personal Rights
Water and Sanitation	Access to Information and Communications	Personal Freedom and Choice
Shelter	Health and Wellness	Inclusiveness
Personal safety	Environmental Quality	Access to Advanced Education

Figure 1: Social Progress Index framework

Source: (Social Progress Imperative, 2020)

Each component is composed of indicators that measure as many valid aspects of the concept as possible.

Together, this interrelated set of factors represents the primary elements that combine to produce a given level of Social Progress Index. The methodology allows measurement of each component and each dimension, and yields an overall score and ranking.

The three dimensions and twelve components of the Social Progress Index Framework provide the backbone of the Social Progress Index. The twelve-component structure provides the guidelines, while the questions below (Figure 2) provide a first guide for interpreting each component and help to identify locally relevant data to define it.

Basic Human Needs

Nutrition & Basic Medical Care

Do people have enough food to eat and are they receiving basic medical care?

Water & Sanitation

Can people drink water and keep themselves clean without getting sick?

Shelter

Do people have adequate housing with basic utilities?

Personal Safety

Do people feel safe?

Foundations of Wellbeing

Access to Basic Knowledge

Do people have access to an educational foundation?

Access to Information & Communications

Can people freely access ideas and information from anywhere in the world?

Health & Wellness

Do people live long and healthy lives?

Environmental Quality

Is this society using its resources so they will be available to future generations?

Opportunity

Personal Rights

Are people's rights as individuals protected?

Personal Freedom & Choice

Are people free to make their own life choices?

Inclusiveness

Is no one excluded from the opportunity to be a contributing member of society?

Access to Advanced Education

Do people have the opportunity to access the world's most advanced knowledge?
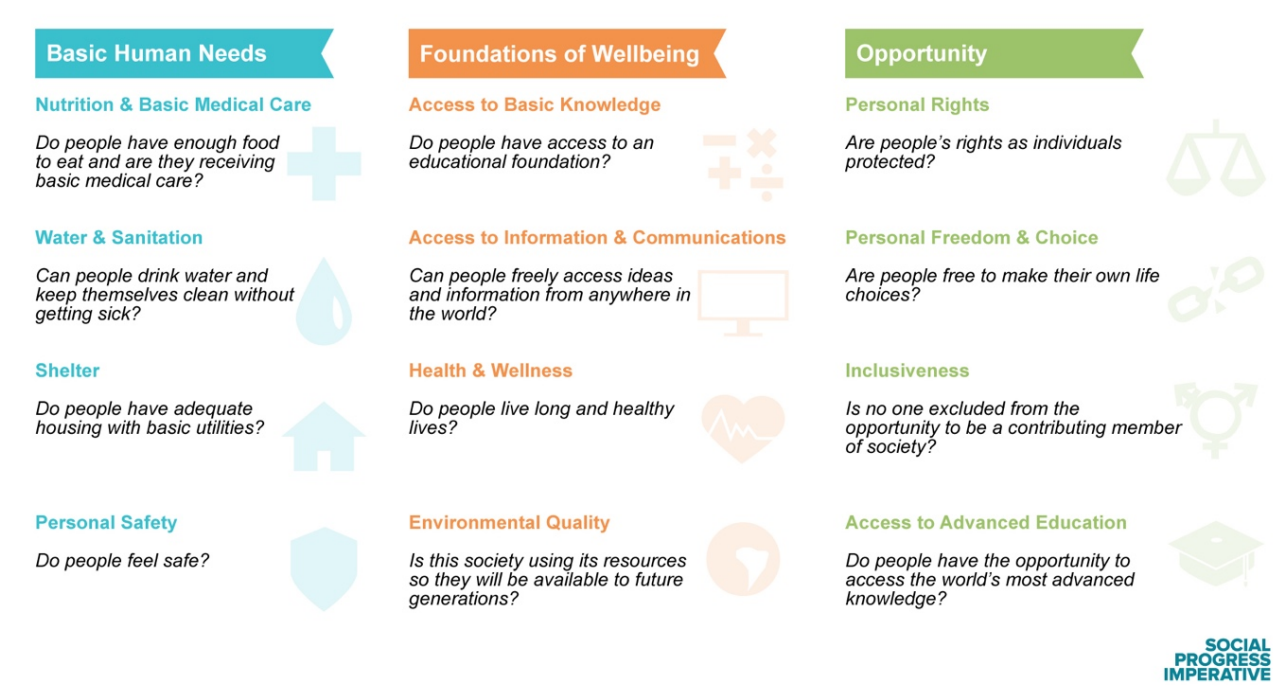
SOCIAL PROGRESS IMPERATIVE

Figure 2: Social Progress Index Guiding Questions

The Index is explicitly focused on non-economic aspects of performance. Unlike most other measurement efforts, the index treats social progress as distinct though associated with traditional economic measures such as income per capita. In contrast, other indices such as the Human Development Index (UNDP, 2016) or the OECD Better Life Index (OECD, 2015) combine economic and social indicators. The SPI objective is to utilize a clear yet rigorous methodology that isolates the non-economic dimensions of social performance.

The Index applies a set of **unique design principles** that allow an exclusive analysis of social progress and help the Index stand out from other indices:

Social and environmental indicators only: While economic development is generally beneficial for social progress, it is not sufficient to fully capture the wellbeing of societies, and certain kinds of economic development can reduce social progress. The relationship is complex: social progress can drive as well as be driven by economic progress. Consequently, social progress needs to be measured directly, without combining economic performance. Measuring social progress exclusively and directly, rather than utilizing economic proxies or combining economic and social variables is therefore the key principle of any Social Progress Index.

Outcomes, not inputs: There are two broad categories of conceptually coherent methodologies for index construction: input indices and outcome indices. Both can help countries benchmark their progress, but in very different ways. Input indices measure a country's policy choices or investments believed or known to lead to an important outcome. In competitiveness, for example, an input index might measure investments in human capital or basic research. Outcome indices directly measure the outcomes of investments. The Social Progress Index has been designed as an outcome index. The Index measures the lived experience of real people, regardless of effort spent or the capacity to impart change. Given that there are multiple distinct aspects of social progress each measurable in different ways, the Social Progress Index has been designed to aggregate and synthesize multiple outcome measures in a conceptually consistent and transparent way that will also be salient to benchmarking progress for decision-makers.

Holistic and relevant to all communities: A multidimensional measure of social progress that encompasses the many inter-related aspects of thriving societies everywhere. The Social Progress Index aims to be a practical tool for decision makers in any given country regardless of its level of development. At the national level, the Social Progress Index fulfils this value proposition by deepening our understanding on the relationship between social progress and economic growth and by designing a very relevant tool to highlight strength and weakness at the component and indicator levels, using GDP comparator groups. Nevertheless, what matters at the national level to compare countries among themselves may not be what matters for the policy debate in a given country. For example, tuberculosis is not an issue in the Amazon region, but Malaria is. These examples illustrate how building subnational indices by preserving the 12-components structure of the Social Progress Index and by customizing the indicators to be monitored and targeted, can increase the capacity of the Social Progress Framework to boost relevant and timely policy-debates in every country at every stage of development.

Actionable: The Index aims to be a practical tool with sufficient specificity to help leaders and practitioners in government, business, and civil society to benchmark performance and implement policies and programs that will drive faster social progress. At the national level, the Social Progress Index fulfils this value proposition by focusing on the granularity of the model. Every component supposes an essential area for human wellbeing. And every indicator implies a potential "entry-point" and an "explicit target" for public policy. Building subnational indices with local networks will strength the actionability of the social progress framework, if the process of disaggregating and customizing the index is also supported by strong political buy-in around socially legitimate targets. A practical tool that will help leaders and decision-makers in government, business and civil society to implement policies and programs that will drive faster social

progress.

The successes of the Global Social Progress Index has resulted in an increased demand for subnational indices to address the need for greater actionability; the need to make the index relevant for all countries at all levels of development and at any level of geography; and a need to build common languages and to align interventions. As a result local stakeholders around the world have developed innovative initiatives to build relevant and consistent social progress indices at the macro (national), meso (regional, municipal) and micro (community, organizational) levels, to influence the policy decision-making process and move the needle of social progress around the world.

SOCIAL PROGRESS INDEX: STATES AND TERRITORIES OF AUSTRALIA

The Australian Social Progress Index follows the Social Progress Index rationale as well as its key principles and methodology. As such, it adopts the same dimension and component level framework as the global Social Progress Index, although the indicators and their data sources differ from the global Index due to the following reasons:

- There are certain indicators that are valid globally but are not directly applicable at subnational level (such as rural defecation, and property rights for women)

- It was important to take into consideration Australia's unique challenges to include indicators that are specifically relevant and reflect the real issues across Australia's States and Territories.

These indicators and challenges were identified through multiple rounds of consultation with data and topic experts in academia, industry, and the not-for-profit sector.

GEOGRAPHIC COVERAGE AND TIME SPAN

The Index is calculated for the eight Australian States and Territories. Most data sources provided data that were broken down at the State or Territory level as the maximum granularity. The Australian Bureau of Statistics (ABS) publishes statistics that are at the community (SA4) level; however, this was the case for the minority of indicators considered and included.

The Index is calculated for four recent years – 2015–2018, based on the availability of data for the various indicators. A detailed table with annual data availability for each indicator is presented in Appendix B.

INDEX CALCULATION

Calculating the Australia Social Progress Index involved the following multistage process:
1. Consultation and Stakeholder Input
2. Indicator Selection and Data Collection.
3. Dealing with missing values.
4. Data Transformation.
5. Aggregation and scaling.
6. Evaluating the fit.

CONSULTATION AND STAKEHOLDER INPUT

Multiple rounds of one-on-one and group consultations were conducted between October 2018 and September 2019.

November 2018-March 2019
The purpose of the first round of consultations were to introduce the SPI, and seek input on a 'wishlist' of potential indicators that could be included in the Index, as well as collating potential data sources. A total of thirteen consultation meetings were held:

Local government – 1
Peak body – 1
Industry – 2
University/academics – 7

Following suggestion and feedback, all potential indicators and data sources sourced or recommended were pursued. A total of 395 potential indicators were investigated. A common reason for exclusion of indicators were due to a lack of appropriate and rigorous data sources that met indication selection criteria. Some indicators were not being measured at all, others were being measured sporadically or were not appropriately representative of the Australian population.

June 2019-August 2019
A list of 53 preliminary indicators, their definition, and data source were presented at an event at the Progress 2019 Conference in Melbourne. Approximately 40 conference delegates attended the event and were provided the opportunity to ask questions about the Index and the indicators, and provide feedback on the proposed Australian framework. The audience included executive staff of peak Australian not-for-profit sector organisations, media, social purpose advocacy groups, and campaigners for environmental issues. No new additional indicators were suggested – all queries about missing indicators were captured by the list of considered and excluded indicators. Three follow up consultation meetings were held following the presentation with attendees from the event.

September-October 2019
Following the calculation of the beta-Index, additional consultations were carried out with stakeholders to receive feedback on the final indicators, the scores that the SPI calculations produced, and the overall messaging and narrative of the Australian SPI scores. These consultations were done with the wider research team at the Centre for Social Impact, as well as with two academics, the staff of a government funded data collection agency, and one chief of research and data at a peak body organization representing the social purpose sector.

INDICATOR SELECTION AND DATA COLLECTION
The Indicators for the Australian SPI were selected following SPI general design principles: non-economic focus, outcome indicators, relevant to all units of observation and actionable. Furthermore, credibility of sources, expert feedback, and data availability were also considered. The process of indicator selection followed the Social Progress Index methodology as outlined in Figure 4.

Detailed information on individual indicators included in the Index is presented in Appendix A. A list of indicators that were taken into consideration but are not included in the final index is presented in Appendix C.
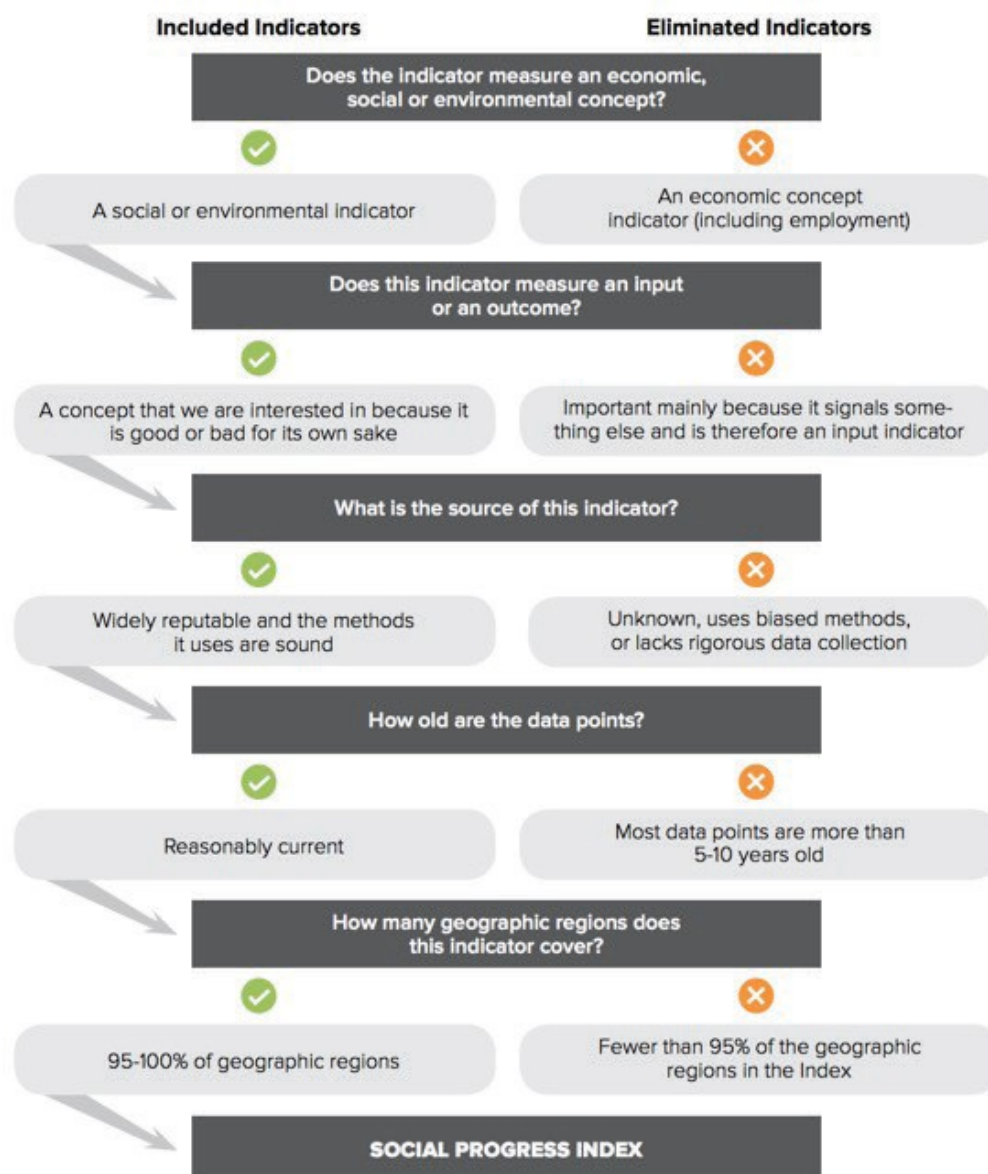
Figure 3: Indicator selection tree

Source: (Stern et al., 2018)

All the data used in the Index was compiled from national data sources, unless otherwise indicated. In a number of cases, however, the data for certain States or Territories was missing for particular indicators, and these had to be completed by imputation methods.

An exploratory factor analysis was used to test the underlying factors among the set of selected indicators in each component. In this process, the indicators that were statistically incompatible, or formed a second, less dominant factor, were removed.

Forty-seven indicators that had usable data were excluded from the final Index framework because of poor model fit (correlations either too high or too low, or negatively correlated) (N = 43), or the suggested indicators did not fit conceptually with the other indicators included in the component to answer the universal question (N = 4).

The final framework is presented in Figure 4.

Basic Human Needs	Foundations of Wellbeing	Opportunity
Nutrition and Basic Medical Care Infant mortality Pnenumococcal prevalence Rotavirus prevalence Premature mortality (<75) Indigenous mortality rates	**Access to Basic Knowledge** NAPLAN Numeracy Year 9 NAPLAN Reading Year 9 - Indigenous High school student retention rates Access to early childhood education Gap in Indigenous student attendance rate	**Personal Rights** Voter registration Police integrity Male sexual assault and related offences Teen pregnancy
Water and Sanitation Waterborne diseases - Shingellosis Waterborne diseases - Cryptosporidiosis Waterborne diseases - Salmonella Water interruption	**Access to Information and Communications** Digital access Digital affordability Digital ability Registered library users	**Personal Freedom and Choice** Child abuse substantiations - Indigenous disparity Out of home care - Indigenous disparity Public transport safety
Shelter Estimated homelessness rate Overcrowding Housing service accommodation provision Social housing overcrowding	**Health and Wellness** Community mental health treatment Suicide Respiratory mortality Diabetes mortality Cancer mortality Cardiovascular mortality	**Inclusiveness** Gender pay gap Gender employment underutilisation Volunteering Satisfaction with connection to community
Personal safety Perceived safety at home at night Physical assaults Acts to cause injury Youth crime rates Youth justice supervision	**Environmental Quality** Sulfur dioxide concentrations PM10 concentrations PM2.5 concentrations Water stress	**Access to Advanced Education** Post high school enrolment Educational attainment per population NEET Gender parity in higher education achievement

Figure 4: Australian Social Progress Framework

Source: Authors

DEALING WITH MISSING VALUES

Overall, the following 4 approaches were considered for missing values imputation (see Table 1):

1. using historical data forward

2. using most recent data backward

3. using comparable State/Territory data (geographic and population size)

Imputing values by regression analysis was tested, however the results were not believed to be more accurate than the above methods, therefore this method was not used in any missing values imputations.

Table 1: Missing value imputations

Indicator	Missing Value	Estimation
Rotavirus prevalence	VIC all years, ACT 2015-2017	Use NSW values for Vic (conservative); Tasmania values for ACT 2015-2017 (2018 rates are similar)
Indigenous mortality rates	VIC, TAS, ACT all years	Use lowest rate (usually NSW; also as the largest population in Australia a useful reference state)
	2018 values	Impute 2017 values
Water interruption	NT all years, TAS 2015-2017	NT - use WA, also remote areas, large land area. TAS - use SA, primarily regional
Estimated homelessness rate	2015, 2017 and 2018 values	Impute 2016 values across all years
Housing service accommodation provision	2015 values	Impute 2016 values
Youth crime rates	VIC 2018 value	Impute VIC 2017 value
Registered library users	2018 values	Impute 2017 values
Sulfur dioxide concentrations	SA, TAS, ACT all years, NSW 2018	impute SA and NT with WA value, ACT with NSW and TAS with VIC value, 2018 NSW with 2017 value
PM10 concentrations	SA all years, TAS 2016-2018, NSW 2018	impute SA with WA value, and TAS 2016-2018 impute with 2015 value, 2018 NSW with 2017 value
PM2.5 concentrations	SA, TAS, NT all years, NSW 2018	impute SA and NT with WA value, and TAS 2016-2018 impute with 2015 value, 2018 NSW with 2017 value
Water stress	2015, 2017 and 2018 values	Impute 2016 values across all years
Male sexual assault and related	WA 2018	Use WA 2017 values
Child abuse substantiations -	NSW, TAS 2018	Use NSW, TAS 2017 values
Out of home care - Indigenous disparity	TAS 2018	Use TAS 2017 values

Source: Authors

DATA TRANSFORMATION

Several key data transformations took place in the process of calculating Australia's Social Progress Index.

First transformation concerned data for three indicators that were sourced from HILDA survey. As the sample size at the state level is relatively small **Bayesian estimations** were applied to the survey results of the following indicators to increase the probability of accurate distribution:

- Overcrowding
- Volunteering
- Satisfaction with connection to community

Secondly, there were specific cases where data values for certain indicators were over a rational boundary. In some other cases, data values exceed all other values (aka outliers) which excessively skewed the distribution. These indicators are **confined** at a boundary, a list is presented in Table 2.

Table 2: Capped indicators

Indicator	Treatment	Explanation of treatment
Rotavirus incidence	NT 2017 value capped	Replace NT 2017 value with next highest NT value (2015)
Estimated homelessness	All NT values capped to next highest rate in reference year, with additional 30% buffer added	NT values 9 times higher than other states/territories. Capped using next highest rate with 30% buffer to maintain rank
Social housing overcrowding	NT 2018 value capped	Remove outlier by replacing with NT 2016 value
Youth crime rates	ACT 2018 and 2017 values capped at best case scenario	Values for both years were significatnly lower in comparison to other states. Capped at best case scenario value to maintain rank and score 100.
Registered library users	VIC 2015 value capped at worst case scenario value	VIC 2015 value was significantly lower compared with other years and states. Capped using the lower boundary value to maintain rank and score 0.

Source: Authors

On account of having outliers that ultimately did not support a normal distribution, several indicators were log transformed in order to address this issue. These are:
- Pnenumococcal prevalence
- Waterborne diseases - Shingellosis
- Waterborne diseases - Cryptosporidiosis
- Waterborne diseases - Salmonella
- Acts to cause injury
- NAPLAN Numeracy Year 9
- NAPLAN Reading Year 9 – Indigenous
- Diabetes mortality

Fourthly, as all the indicators are measured in different units, it was important to **standardize** them so that they become comparable. Otherwise, a variable that has less variation relatively but is measured on a larger scale compared to other variables may appear to have much greater variation than it actually does. Standardization helps solving the problem by making indicators unitless as it rescales them with a mean of zero and standard deviation of one.

Finally, we **invert** all indicators for which a higher value denotes lower social progress, such as rotavirus incidence where higher means worse and lower means better. A list of the inverted indicators is presented in Appendix D.

AGGREGATION
For the Australian Social Progress Index the researchers adopted the geometric mean approach to aggregation, which applies the geometric mean to aggregate the four components within each dimension into a dimension score and across dimensions into the overall index score.

The Social Progress Index uses the Principal Component Analysis (PCA) for calculating the weights of indicators within a component.[1] There are no indicators with smaller than ideal weights.

The component values are calculated by summing the weighted scores using the following formula:

Component$_s$ = ∑ (w$_i$ * indicator)

A complete list of weights is presented in Appendix E.

To calculate *component scores* the Index transforms indicator values onto 0 to 100 scale. This is done by calculating scores using best- and worst-case scenarii which are defined at the indicator level according to desirable or theoretically possible upper and lower bounds. See Appendix F for the worst and best-case scenarii.

This method enhances comparability as well as comprehensiveness across the dataset.

The calculation is done using the following formula:

$$\frac{Xj - Worst\ Case}{Best\ Case - Worst\ Case}$$

Where, Xj represents the raw component values.

Each *dimension* score is then taken to be the geometric average[2] of its four components.

$$Dimension_d\ score = \sqrt[4]{(\prod_{c=1}^{4} Component_c\ score)}$$

The overall *Index* score is the geometric average of the three dimensions.

$$Social\ Progress\ Index = \sqrt[3]{(\prod_{d=1}^{3} Dimension_d\ score)}$$

EVALUATING THE FIT

The indicator selection process entails including the indicators that describe the concept of the component in the best possible way and are conceptually linked to each other. The rigor of the Social Progress Index methodology is strengthened by assessing multiple aspects of fit between those. First, exploratory factor analysis is used to test the underlying factors among the set of selected indicators in each component. In this process, the indicators that are statistically incompatible are removed. This step was initially done when defining the framework for the Australian SPI.

Furthermore, the Social Progress Index methodology involves evaluating the fit between the individual indicators by calculating Cronbach's alpha for each component. Alpha was developed by Lee Cronbach in 1951 to provide a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1 (Tavakol & Dennick, 2011). Internal consistency describes the extent to which all the items in a test measure the same concept

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[1] Principal Component Analysis is a multivariate technique which was developed in early 20th century for the purpose of aggregating information. Calculations were done in STATA, using "factor, pcf" command.

[2] Geometric mean represents the central tendency of a group of numbers – the nth root of the product of n numbers. Unlike arithmetic means, geometric mean compensates outlier performances, *to a point*, but also penalizes inconsistent performance in any of the components within a dimension. This helps to emphasize nuance across States and Territories.

or construct and hence it is connected to the inter-relatedness of the items within the test. Internal consistency can be employed for research or examination purposes to ensure validity. An applied practitioner's rule of thumb is that the alpha value should be above 0.7 for any logical grouping of variables (Cortina, 1993). The alpha values are presented in Table 3.

Table 3: Alpha values

	Component	Cronbach's Alpha
Basic Human Needs	Nutrition and Basic Medical Care	0.94
	Water and Sanitation	0.89
	Shelter	0.73
	Personal Safety	0.92
Foundations of Wellbeing	Access to Basic Knowledge	0.94
	Access to Information and Communications	0.89
	Health and Wellness	0.95
	Environmental Quality	0.84
Opportunity	Personal Rights	0.93
	Personal Freedom and Choice	0.85
	Inclusiveness	0.92
	Access to Advanced Education	0.92

Source: Authors

After calculating each component, the goodness of fit is evaluated using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy3. The KMO index ranges from 0 to 1, as a rule of thumb, KMO scores should be above 0.5 (Williams, Onsman, & Brown 2010). The results of this analysis are shown in Table 4. The KMO values are well above the set standards for each of the component reflecting appropriate selection of indicators.

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[3]The statistics is a measure of the proportion of variance among variables that might be common variance.

Table 4: KMO values

	Component	Mean KMO
Basic Human Needs	Nutrition and Basic Medical Care	0.89
	Water and Sanitation	0.65
	Shelter	0.68
	Personal Safety	0.81
Foundations of Wellbeing	Access to Basic Knowledge	0.85
	Access to Information and Communications	0.71
	Health and Wellness	0.85
	Environmental Quality	0.73
Opportunity	Personal Rights	0.77
	Personal Freedom and Choice	0.61
	Inclusiveness	0.78
	Access to Advanced Education	0.83

Source: Authors

The last test undertaken to validate the conceptual fit of indicators selected for the three dimensions was exploratory principal component analysis (PCA)[4]. The results for PCA applied on the three dimensions of Basic Human Needs, Foundations of Wellbeing and Opportunity are shown in Figures 5-7 respectively. Eigenvalues higher than 1 imply there is a significant underlying concept. As all three scree plots indicate within each dimension there is only one strong concept as measured by the four components within each dimension.
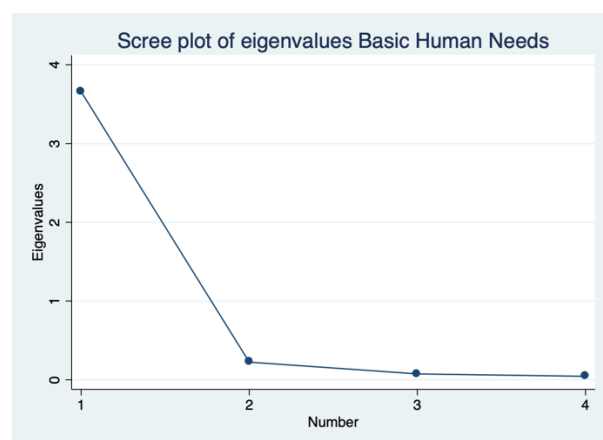

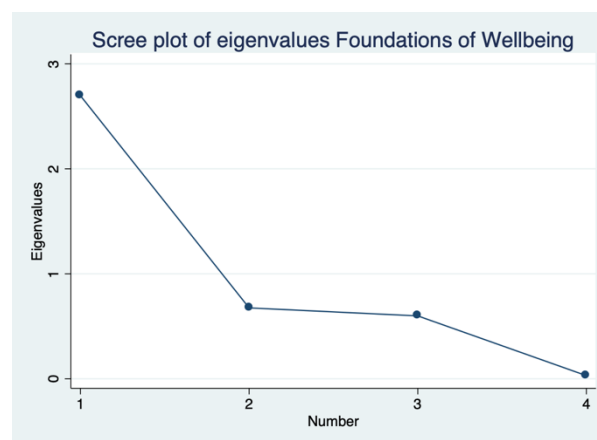*Figure 6: Scree plot Basic Human Needs*

Figure 5: Scree plot Foundations of Wellbeing

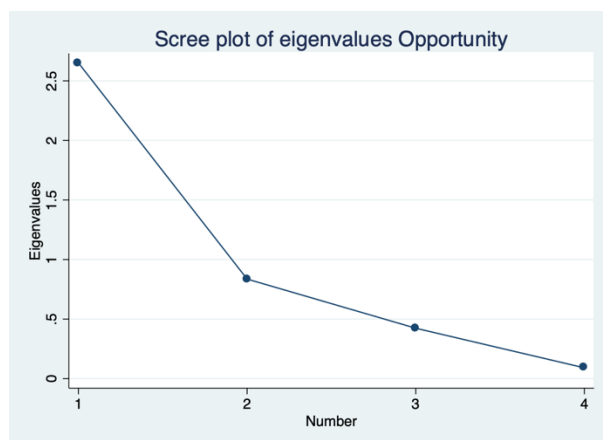[4] Following Annoni, P. Dijkstra, L. and Hellman, T. (2016)

Figure 7: Scree plot Opportunity

RELATIVE PERFORMANCE OF STATES AND TERRITORIES

The absolute scores do not distinguish States and Territories on the basis of economic development. In some cases, it is more illuminating to compare a state's performance with its economic peers. For instance, a state may score low on certain aspects of social progress, but its performance could exceed the scores of states with similar per capita income levels. Conversely, a high-income state may have a high absolute score on a component, but still fall short of what is typical for comparably wealthy states. The authors have identified two suitable economic metrics that best reflect Australia's context and constructed two sets of scorecards – one using median household wealth and second using Gross State Product (GSP) per capita.

For this reason, the Social Progress Index developed a methodology to assess state's strengths and weaknesses on a relative rather than absolute basis.

Scorecards are used to depict the relative results. The scorecards portray a State or Territory's detailed absolute and relative analysis. The scorecards are colour-coded to highlight relative strengths and weaknesses. Red indicates performance below the peer group median; yellow indicates performance consistent with the peer group; and blue highlights areas of relative strength.

To determine the relative strength and weakness of each state, the first step is to identify a peer group. The authors define state's economic peers as 4 states closest in median household wealth/state gross product (Appendix G). We then calculate median social progress scores for the peer group (overall, and by dimension, component, and indicator). A State or Territory's performance is then compared to its peer group's median social progress scores to identify its relative strengths and weaknesses. A strength is performance significantly greater than the median score, while a weakness is performance significantly lower than the median score. Neutral performance is neither strong nor weak, but within the same range as economic peers. Significance is determined by a score that is greater than or less than the average absolute deviation from the median of the comparator group.

CONCLUSION

The Social Progress Index for the States and Territories of Australia is the first endeavor of its kind. Lead by the Center for Social Impact at UNSW, in collaboration with the Social Progress Imperative, the process involved input from key stakeholders and actors across Australia to ensure the Index captures the most relevant metrics for Australia's society, and highlights gaps in data collection. The research team devoted significant time to the index construction, to produce a robust and rigorous outcome which can be used to inform policies, investments, and other decisions in order to advance social progress across Australia. However, this is just the beginning, the index will be updated on regular basis, and it is our sincere hope that with time, there will be more and better measures. Please do not hesitate to get in touch with us if you know of any indicators that would be suitable, or if you would like to use the index in any way. We will be looking forward to hearing from you.

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APPENDIX A: INDICATOR DEFINITIONS AND SOURCES

Dimension/component	Indicator Name	Definition	Source
Basic Human Needs			
Nutrition and Basic Medical Care	Infant mortality	The number of deaths of children under one year of age in a specified period per 1,000 live births in the same period.	ABS Deaths and Infant Mortality Rates
	Pnenumococcal prevalence	Notification rate of Pneumococcal, per 100,000	Department of Health National Notifiable Diseases Surveillance System
	Rotavirus prevalence	Notification rate of rotavirus, per 100,000	Department of Health National Notifiable Diseases Surveillance System
	Premature mortality (<75)	Potential years of life lost, per 100 000 of the population aged 1-64	ABS Deaths Register and Rates
	Indigenous mortality rates	Rate ratio between Indigenous and non-Indigenous standardised death rates, per 100,000 people	ABS Deaths Register and Rates
Water and Sanitation	Waterborne diseases - Shingellosis	Notification rates per 100,000 of shingellosis	Department of Health National Notifiable Diseases Surveillance System
	Waterborne diseases - Cryptosporidiosis	Notification rates per 100,000 of cryptosporidiosis	Department of Health National Notifiable Diseases Surveillance System
	Waterborne diseases - Salmonella	Notification rates per 100,000 of salmonella	Department of Health National Notifiable Diseases Surveillance System
	Water interruption	Average frequency of unplanned interruptions - water (no per 1000 properties) (averaged over providers)	Bureau of Meteorology Urban National Performance Report
Shelter	Estimated homelessness rate	Estimated rate of homelessness per 10,000 of the population	ABS Census
	Overcrowding	Proportion of households where more than 2 people share a bedroom	HILDA
	Social housing overcrowding	Proportion of public housing dwellings that are overcrowded (requiring one or more bedrooms)	AIHW National Housing Assistance Data Repository
Personal Safety	Perceived safety at home at night	Perceptions of safety at home at night Index score	Federal Productivity Commission Report on Government Services

	Physical assaults	Rate of persons who experienced physical assault in last 12 months (per 10,000)	ABS Crime Victimisation Survey
	Acts to cause injury	Offender rate of recorded acts intended to cause injury	ABS Recorded Crime
	Youth crime rates	Offender rate of all recorded crime committed by youth	ABS Recorded Crime
	Youth justice supervision	Rate of 10-17 year olds under community and detention supervision on an average day (per 10,000)	AIHW Youth Justice in Australia
Foundations of Wellbeing			
Access to Basic Knowledge	NAPLAN Numeracy Year 9	Proportion of population achieving below the national minimum standard for writing	NAPLAN
	NAPLAN Reading Year 9 - Indigenous	Difference in Proportion of population achieving below the national minimum standard for reading - Indigenous cf non-Indigenous	NAPLAN
	High school student retention rates	Apparent retention rates for students, Year 7/8 - Year 11	ACARA National report on Schooling in Australia
	Access to early childhood education	Proportion of children aged 4-5 enrolled in preschool program (%)	ABS Children enrolled in preschool program
	Gap in Indigenous student attendance rate	Gap in student attendance rate years 1-10 - Indigenous to non-Indigenous students	ACARA National report on school attendance
Access to Information and Communications	Digital access	Digital access score in Digital inclusion index	Digital Inclusion Index
	Digital affordability	Digital affordability score in Digital inclusion index	Digital Inclusion Index
	Digital ability	Digital ability score in Digital inclusion index	Digital Inclusion Index
	Registered library users	Total number of registered or active members as a percentage of the population (need to calculate as %)	NSLA Annual Australian Public Library Statistics
Health and Wellness	Community mental health treatment	Patient rate per 1,000 population receiving community mental health care	AIHW Mental Health Services
	Suicide	Standardised death rate due to self-harm (suicide)	ABS Causes of Death
	Respiratory mortality	Age-standardised death rate due to respiratory disease	ABS Causes of Death

	Diabetes mortality	Age-standardised death rate due to diabetes	ABS Causes of Death
	Cancer mortality	Age-standardised death rate due to cancer-neoplasms	ABS Causes of Death
	Cardiovascular mortality	Age-standardised death rate due to diseases of the circulatory system	ABS Causes of Death
Environmental Quality	Sulfur dioxide concentrations	Median daily maximum 1 hour average concentrations of sulfur dioxide, averaged across monitoring stations	State Environment agencies
	PM10 concentrations	Median 24 hour concentrations of PM10, averaged across monitoring stations	State Environment agencies
	PM2.5 concentrations	Median 24 hour concentrations of PM2.5 measured using continuous BAM method, averaged across monitoring stations	State Environment agencies
	Water stress	Average exposure to water risk indicators	World Resources Institute Aqueduct 3.0 Country Rankings

Opportunity			
Personal Rights	Voter registration	Proportion of eligible adults enrolled to vote (%)	Australian Electoral Commission enrolment statistics
	Police integrity	Police integrity - total proportion in agreement with 'police treat people fairly and equally' (%)	Federal Productivity Commission Report on Government Services
	Male sexual assault and related offences	Offender rate of recorded sexual assualt and related offences by males	ABS Recorded Crime
	Teen pregnancy	Rate of 15-19 year old women who gave birth (per 1,000)	ABS Births and Deaths Statistics
Personal Freedom and Choice	Child abuse substantiations - Indigenous disparity	Rate ratio of Indigenous to non-Indigenous children aged 0-17 who were the subjects of substantiations of notifications received	AIHW Child Protection Australia
	Out of home care - Indigenous disparity	Rate ratio of Indigenous to non-Indigenous children in out of home care (per 1,000)	AIHW Child Protection Australia
	Public transport safety	Perceptions of safety on public transport at night Index score	Federal Productivity Commission Report on Government Services

Inclusiveness	Gender pay gap	Female total cash earnings, expressed as a percentage of men's total cash earnings.	ABS Average Weekly Earnings
	Gender employment underutilisation	The difference between women's and men's underutilisation rate, expressed as a ratio of female to male underutilisation	ABS Labour Force Survey
	Volunteering	Proportion of people who reporting volunteering for more than half an hour a week	HILDA
	Satisfaction with connection to community	Proportion of people who are satisfied with feeling part of the community	HILDA
Access to Advanced Education	Post high school enrolment	Proportion of the population aged 15-64 who are attending higher education, TAFE or other institution/organisation (not secondary) (%)	Survey of Education and Work, ABS
	Educational attainment per population	Proportion of population 20-64 with post-school qualification	Survey of Education and Work, ABS
	NEET	Proportion of 15-24 year olds who are not fully or partially engaged in employment or study	Survey of Education and Work, ABS
	Gender parity in higher education achievement	Proportion of women with a bachelor degree or above as a ratio to men with a bachelor degree or above aged 20-64	Survey of Education and Work, ABS

APPENDIX B: ANNUAL DATA AVAILABILITY

Data source	Availability and most recent update
ABS Average Weekly Earnings	Updated every six months in February and August; latest data update for November 2019 released February 2020
ABS Births and Deaths Statistics	Updated annually; latest update with 2018 data released January 2020
ABS Causes of Death	Updated annually; latest update with 2018 data released September 2019
ABS Census	Updated every 5 years; 2016 data released March 2018
ABS Children enrolled in preschool program	Updated annually; 2019 data released February 2020
ABS Crime Victimisation Survey	Updated annually; 2018-19 data released February 2020
ABS Labour Force Survey	Updated monthly; January 2020 data released February 2020
ABS Recorded Crime	Updated annually; 2018-19 data released February 2020
ABS Survey of Education and Work	Updated annually; 2019 data released November 2019
ACARA National report on school attendance	Latest update available with 2018 data
ACARA National report on Schooling in Australia	Latest update available with 2018 data
AIHW Child Protection Australia	Updated annually; 2017-2018 data released March 2019
AIHW Mental Health Services	Updated continuously throughout year; community mental health data last updated for 2017-18
AIHW National Housing Assistance Data Repository	Updated annually; 2019 data released July 2019
AIHW Youth Justice in Australia	Updated annually; 2017-18 data released May 2019
Australian Electoral Commission enrolment statistics	Updated annually; 2019 data released July 2019
Bureau of Meteorology Urban National Performance Report	Updated annually; 2017-19 report released 2019
Department of Health National Notifiable Diseases Surveillance System	Updated daily
Digital Inclusion Index	Updated annually; 2019 data released August 2019
Federal Productivity Commission Report on Government Services	Updated annually; 2018-19 data released February 2020

HILDA	Updated annually; 2018 wave released December 2019
NAPLAN	Updated annually; 2019 preliminary results online only February 2020
NSLA Annual Australian Public Library Statistics	Updated annually with two-year lag; 2016-17 results released April 2019
State Environment agencies	Sourced from individual State and Territory Environment agencies; update frequency and timing varies
World Resources Institute Aqueduct 3.0 Country Rankings	First data released August 2019

APPENDIX C: EXCLUDED INDICATORS
Nutrition and Basic Medical Care

MALNUTRITION/HUNGER
DESCRIPTION
Proportion of the population with intakes less than the estimated average requirement for key nutrients (%)
SOURCE, YEAR RANGE AVAILABLE
AIHW – 2011-2012
REASON FOR EXCLUSION
Data more than 5 years old

ANAEMIA
DESCRIPTION
Anaemia biomarker estimates, normal and at risk of anaemia
SOURCE, YEAR RANGE AVAILABLE
ABS – 2011-2012
REASON FOR EXCLUSION
Data more than 5 years old

AUSTRALIAN DIETARY GUIDELINES
DESCRIPTION
Proportion of people with usual daily intake less than recommended number of serves
SOURCE, YEAR RANGE AVAILABLE
ABS – 2011-2012
REASON FOR EXCLUSION
Data more than 5 years old

INFECTIOUS DISEASES
DESCRIPTION
Notification rates per 100,000 population (bloodborne, gastrointestinal, bacterial, quarantinable, STI, vaccine preventable, vectorborne, zoonoses)
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 1991-2017
REASON FOR EXCLUSION
Indicator refined to specific diseases – choice made to look at vaccine-preventable diseases

DIPHTHERIA
DESCRIPTION
Notification rate of diphtheria per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Not enough variability across time points

POLIO
DESCRIPTION
Notification rate of Polio, per 100,000
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
No notifications across all years and States/Territories

TETANUS
DESCRIPTION
Notification rate of Tetanus, per 100,000
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Not enough variability across time points

CHICKENPOX
DESCRIPTION
Notification rate of chickenpox (varicella), per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

INFLUENZA
DESCRIPTION
Notification rate of influenza (laboratory confirmed) per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

HEPATITIS B
DESCRIPTION
Notification rate of Hepatitis B (newly acquired) per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

HIB (HAEMOPHILUS INFLUENZAE TYPE B)
DESCRIPTION
Notification rate of HIB (Haemophilus influenzae type B) per 100,000 people
SOURCE, YEAR RANGE AVAILABLE

Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

MEASLES
DESCRIPTION
Notification rate of measles, per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

MENINGOCOCCAL
DESCRIPTION
Notification rate of meningococcal disease (invasive), per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
NT outliers, otherwise little variability

MUMPS
DESCRIPTION
Notification rate of mumps, per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
NT outliers, otherwise little variability

RUBELLA
DESCRIPTION
Notification rate of rubella, per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

WHOOPING COUGH (PERTUSSIS)
DESCRIPTION
Notification rate of whooping cough (pertussis), per 100,000 people
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Poor model fit

UNMET MEDICAL NEEDS
DESCRIPTION
Proportion of people who needed to go to hospital but didn't at least once in last 12 months
SOURCE, YEAR RANGE AVAILABLE
ABS Patient Experiences in Australia Survey – 2011-12, 2016-17
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

UNMET MEDICAL NEEDS - REMOTENESS
DESCRIPTION
Proportion of people who needed to go to hospital but didn't at least once in last 12 months, urban cf remote/very remote
SOURCE, YEAR RANGE AVAILABLE
ABS Patient Experiences in Australia Survey – 2011-12, 2016-17
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

MATERNAL MORTALITY
DESCRIPTION
Maternal mortality ratio by State or territory per 100,000 women who gave birth
SOURCE, YEAR RANGE AVAILABLE
AIHW Maternal Deaths in Australia – 2012-2014
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

MATERNAL MORTALITY
DESCRIPTION
Standardised death rate for females who died due to pregnancy, childbirth and the peurperium
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2013-2017
REASON FOR EXCLUSION
Data not reported due to small numbers

LOW BIRTH WEIGHT
DESCRIPTION
Live infants born with a birthweight of less than 2,500 grams (rate)
SOURCE, YEAR RANGE AVAILABLE
AIHW Children's Headline Indicators – 2006-2015
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

LOW BIRTH WEIGHT - REMOTENESS
DESCRIPTION
Live infants born with a birthweight of less than 2,500 grams (rate)
SOURCE, YEAR RANGE AVAILABLE
AIHW Children's Headline Indicators – 2006-2015

REASON FOR EXCLUSION
Data collected and excluded - not enough time series

LOW BIRTH WEIGHT - INDIGENOUS
DESCRIPTION
Live infants born with a birthweight of less than 2,500 grams (rate)
SOURCE, YEAR RANGE AVAILABLE
AIHW Children's Headline Indicators – 2006-2015
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

STILLBIRTH RATE
DESCRIPTION
Perinatal mortality (stillbirths, neonatal and perinatal deaths) rate per 1000 births
SOURCE, YEAR RANGE AVAILABLE
AIHW Australia's Mothers and Babies – 2013-2016
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

SATISFACTION WITH MEDICAL CARE
DESCRIPTION
Proportion of people who waited longer than felt acceptable to get an appointment with a GP in last 12 months (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Patient Experiences in Australia Survey – 2011-12, 2016-17
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

SATISFACTION WITH MEDICAL CARE - REMOTENESS
DESCRIPTION
Proportion of people who waited longer than felt acceptable to get an appointment with a GP in last 12 months, broken into remoteness areas (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Patient Experiences in Australia Survey – 2011-12, 2016-17
REASON FOR EXCLUSION
Data collected and excluded - not enough time series

VACCINATIONS IN CHILDREN
DESCRIPTION
Proportion of children fully immunised at 1 year of age
SOURCE, YEAR RANGE AVAILABLE
Australian Department of Health – 2013-2017
REASON FOR EXCLUSION
Input, not outcome

VACCINATIONS IN CHILDREN - INDIGENOUS
DESCRIPTION
Proportion of Indigenous children fully immunised at 1 year of age
SOURCE, YEAR RANGE AVAILABLE
Australian Department of Health – 2013-2017
REASON FOR EXCLUSION
Input, not outcome

WATER AND SANITATION
ACCESS TO PIPED WATER
DESCRIPTION
Proportion of total state households who have access to mains/town water (%)
SOURCE, YEAR RANGE AVAILABLE
ABS – 2007, 2010, 2013
REASON FOR EXCLUSION
Data more than 5 years old

WATERBORNE DISEASES
DESCRIPTION
Notification rates per 100,000 of certain water and food-borne diseases (listeria, salmonella, cryptosporidium)
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 1991-2017
REASON FOR EXCLUSION
Have sourced data for individual diseases to include

WATERBORNE DISEASES – CAMPYLOBACTERIOSIS
DESCRIPTION
Notification rate per 100,000 of Campylobacteriosis
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 1991-2019
REASON FOR EXCLUSION
Poor model fit

WATERBORNE DISEASES – LISTERIA
DESCRIPTION
Notification rate per 100,000 of Listeria
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 1991-2019
REASON FOR EXCLUSION
Poor model fit

SEWAGE TREATMENT
DESCRIPTION
Average number of sewer main breaks and chokes per 100 kilometres of sewer main

SOURCE, YEAR RANGE AVAILABLE
Bureau of Meteorology – 2006-2012
REASON FOR EXCLUSION
Data more than 5 years old

SATISFACTION WITH WATER QUALITY
DESCRIPTION
Satisfaction with quality of water for drinking, proportion (%)
SOURCE, YEAR RANGE AVAILABLE
ABS – 2007, 2010, 2013
REASON FOR EXCLUSION
Data more than 5 years old

WATER STABILITY
DESCRIPTION
Average number of water main breaks per 100km of water main
SOURCE, YEAR RANGE AVAILABLE
Bureau of Infrastructure, Transport and Regional Economics – 2008-2016
REASON FOR EXCLUSION
Not reported in 2018 report

WATER RECYCLING SERVICES
DESCRIPTION
Percentage of effluent recycled (%) (averaged over providers)
SOURCE, YEAR RANGE AVAILABLE
Bureau of Meteorology Urban National Performance Report – 2008-2016
REASON FOR EXCLUSION
Input rather than outcome

WATER SERVICE VIOLATIONS
DESCRIPTION
Percentage of population where microbiological compliance was achieved (%) (averaged over providers)
SOURCE, YEAR RANGE AVAILABLE
Bureau of Meteorology Urban National Performance Report – 2005-2016
REASON FOR EXCLUSION
Input rather than outcome

SEWER OVERFLOWS
DESCRIPTION
Sewer overflows reported to the environmental regulator (number per 100km of sewer main) (averaged over providers)
SOURCE, YEAR RANGE AVAILABLE
Bureau of Meteorology Urban National Performance Report – 2005-2018

REASON FOR EXCLUSION
Input rather than outcome

   Shelter
HOMELESSNESS
DESCRIPTION
Rate of homelessness (per 10,000 of the population)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

HOMELESSNESS - INDIGENOUS
DESCRIPTION
Rate of Indigenous people who are reported as homeless (per 10,000 of the population)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

HOMELESSNESS - DISABILITY
DESCRIPTION
Rate of people who need assistance with core activities who are classified as homeless (per 10,000 of the population)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

HOMELESSNESS – YOUNG PEOPLE
DESCRIPTION
Rate of homelessness in people aged 12-24 years (per 10,000 of population)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

HOMELESSNESS – AGING POPULATION
DESCRIPTION
Rate of homelessness in people aged 55+ years (per 10,000 of population)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

HOMELESSNESS SERVICE USE - INDIGENOUS
DESCRIPTION
Rate ratio of Indigenous to non-Indigenous clients accessing homelessness services

SOURCE, YEAR RANGE AVAILABLE
AIHW Specialist Homelessness Services – 2011-2017
REASON FOR EXCLUSION
POOR CORRELATIONS

HOUSING AFFORDABILITY
DESCRIPTION
Housing costs as a proportion of gross household income (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Income and Housing – 1994-2016
REASON FOR EXCLUSION
Not enough data points

HOUSING AFFORDABILITY – INCOME QUARTILE DISPARITIES
DESCRIPTION
Disparity in housing costs as a proportion of gross household income (%) between highest and lowest income quartiles
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Income and Housing – 1994-2016
REASON FOR EXCLUSION
Not enough data points

LOW INCOME HOUSING STRESS
DESCRIPTION
Proportion of low-income rental households spending more than 30% of their gross income on housing costs
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
Not enough data points

LOW INCOME HOUSING STRESS
DESCRIPTION
Proportion of low-income rental households spending more than 30% of their gross income on housing costs
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Income and Housing – 2007-2016
REASON FOR EXCLUSION
Not enough data points

LOW INCOME HOUSING STRESS
DESCRIPTION
Total disposable household income divided by annual rent or mortgage payments
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
Economic indicator
OVERCROWDING- REMOTENESS
DESCRIPTION

Rate of dwellings that require 2 or more extra bedrooms to meet the Canadian National Occupancy Standard (HOSD) (%) - remote/very remote areas
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION
Cells too small to conduct analysis

OVERCROWDING
DESCRIPTION
Proportion of dwellings that require 2 or more extra bedrooms to meet the Canadian National Occupancy Standard (HOSD) (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
2016 data only available

OVERCROWDING - INDIGENOUS
DESCRIPTION
Proportion ratio of dwellings that require 2 or more extra bedrooms to meet the Canadian National Occupancy Standard (HOSD) (%) - Households with Aboriginal and/or Torres Strait Islander person(s) vs. other households
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
2016 data only available

ELECTRICITY/BLACKOUTS
DESCRIPTION
Total number of people affected by blackouts, duration, number of outages, average number of people affected per outage, average duration of outage, cause of outage.
SOURCE, YEAR RANGE AVAILABLE
Eaton – 2005-2017
REASON FOR EXCLUSION
Not a reputable data source

ELECTRICITY INTERRUPTIONS
DESCRIPTION
Average number of times a customer's supply is interrupted per year - System Average Interruption Frequency Index
SOURCE, YEAR RANGE AVAILABLE
Australian Energy Regulator and BITRE Report – 2006-2016
REASON FOR EXCLUSION
Input not outcome

ACCESS TO GARBAGE COLLECTION

DESCRIPTION
Waste collection and disposal in area (garbage, recycling, hard rubbish, garden waste, other) (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Environmental Views and Behaviour – 2011-12
REASON FOR EXCLUSION
Data more than 5 years old

ACCESS TO SOCIAL HOUSING - INDIGENOUS

DESCRIPTION
Disparity in proportions of households owned by state or territory housing authority divided by total households (%) - Indigenous vs non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

ACCESS TO SOCIAL HOUSING – REMOTENESS

DESCRIPTION
Disparity in proportions of households owned by state or territory housing authority divided by total households (%) - urban vs remote/very remote
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Cells too small to conduct analysis

ACCESS TO SOCIAL HOUSING – COUNTRY OF BIRTH

DESCRIPTION
Disparity in proportions of households owned by state or territory housing authority divided by total households (%) - born in Australia vs overseas
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2011, 2016
REASON FOR EXCLUSION
Not enough time series

PEOPLE WITH DISABILITY ACCESS TO HOUSING

DESCRIPTION
Proportion of people accessing social housing with a disability (%)
SOURCE, YEAR RANGE AVAILABLE
AIHW – 2014-2018
REASON FOR EXCLUSION
Not enough data points

YOUTH ACCESS TO HOUSING

DESCRIPTION
Proportion of people accessing social housing aged 15-24 (%)
SOURCE, YEAR RANGE AVAILABLE

AIHW – 2014-2018
REASON FOR EXCLUSION
Not enough data points

EVICTIONS – CONCERNS INCLUDED

DESCRIPTION
Proportion of people who said main reason for last move - notice given by landlord (%)
SOURCE, YEAR RANGE AVAILABLE
ABS General Social Survey – 2014
REASON FOR EXCLUSION
Data more than 5 years old

PUBLIC HOUSING COMPLAINTS

DESCRIPTION
Overall satisfaction with services provided by housing organisation (% satisfied or very satisfied)
SOURCE, YEAR RANGE AVAILABLE
AIHW National Social Housing Survey – 2014-2018
REASON FOR EXCLUSION
None listed

SATISFACTION WITH HOME

DESCRIPTION
Proportion of people reporting that they are satisfied with the home in which they live, scale 1-10
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2011-2016
REASON FOR EXCLUSION
Poor correlation

SATISFACTION WITH SOCIAL HOUSING SERVICES

DESCRIPTION
% satisfied or very satisfied with overall services
SOURCE, YEAR RANGE AVAILABLE
AIHW National Social Housing Survey – 2014, 2016, 2018
REASON FOR EXCLUSION
Not enough data points

HOMELESSNESS SERVICE USE - INDIGENOUS

DESCRIPTION
Rate ratio of Indigenous to non-Indigenous clients accessing homelessness services
SOURCE, YEAR RANGE AVAILABLE
AIHW Specialist Homelessness Services – 2011-2017
REASON FOR EXCLUSION
Poor correlations with other homelessness data

HOMELESSNESS SERVICE USE - GENDER
DESCRIPTION
Rate ratio of male to female clients accessing homelessness services
SOURCE, YEAR RANGE AVAILABLE
AIHW Specialist Homelessness Services – 2011-2017
REASON FOR EXCLUSION
Poor correlations with other homelessness data

AIRCONDITIONING
DESCRIPTION
Air conditioner ownership (%)
SOURCE, YEAR RANGE AVAILABLE
Energy Efficient Strategies and ABS – 1978-2010
REASON FOR EXCLUSION
Data more than 5 years old

HEATING
DESCRIPTION
Percentage of people unable to heat home (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
POOR DATA AND NOT APPROPRIATE FOR SAMPLE

Personal Safety
PERCEIVED SAFETY
DESCRIPTION
Proportion of people reporting that they are satisfied with how safe they feel, scale 1-10
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
HILDA indicator and will use other source for perceived safety

PERCEIVED SAFETY – WALKING ALONE AT NIGHT
DESCRIPTION
Perceptions of safety walking alone in neighbourhood at night Index score
SOURCE, YEAR RANGE AVAILABLE
Federal Productivity Commission Report on Government Services – 2012-2018
REASON FOR EXCLUSION
Using other indicators for perceived safety

PERCEIVED SAFETY – PUBLIC TRANSPORT DURING DAY
DESCRIPTION
Perceptions of safety on public transport during the day Index score
SOURCE, YEAR RANGE AVAILABLE

Federal Productivity Commission Report on Government Services – 2012-2018
REASON FOR EXCLUSION
Using other indicators for perceived safety

PERCEIVED SAFETY – WALKING ALONE DURING DAY
DESCRIPTION
Perceptions of safety walking alone in neighbourhood during the day Index score
SOURCE, YEAR RANGE AVAILABLE
Federal Productivity Commission Report on Government Services – 2012-2018
REASON FOR EXCLUSION
Will use perceived safety at home at night instead – more representative of component

VICTIMIZATION – PROPERTY CRIME
DESCRIPTION
Proportion of people who report being victim of property crime in the last 12 months (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Property crime captured in another indicator

VICTIMIZATION – PROPERTY CRIME
DESCRIPTION
Rate of households who experience attempted break ins, robbery, motor vehicle theft, or other malicious property damage in the last 12 months (per 10,000)
SOURCE, YEAR RANGE AVAILABLE
ABS Crime Victimization Survey – 2008-2017
REASON FOR EXCLUSION
Doesn't fit conceptually

VICTIMIZATION – PHYSICAL VIOLENCE
DESCRIPTION
Proportion of people who report being victim of physical violence in the last 12 months (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Victimization/violence captured in another indicator

VICTIMIZATION – THREATENED ASSAULT
DESCRIPTION
Rate of persons who experienced a threatened assault in last 12 months (per 10,000)
SOURCE, YEAR RANGE AVAILABLE
ABS Crime Victimization Survey – 2008-2017
REASON FOR EXCLUSION
Will use rates of physical assault instead

DOMESTIC AND FAMILY VIOLENCE – REMOTENESS, SEIFA, CULTURAL DIVERSITY, DISABILITY, SEX
DESCRIPTION
Proportion of the population who have experienced violence by partner in the last 12 months (%) disparity urban vs remote/very remote, first and tenth decile of SEIFA, those born in Australia/main English-speaking countries and other countries, has disability vs doesn't have disability, women vs men
SOURCE, YEAR RANGE AVAILABLE
ABS Personal Safety Survey - 2016
REASON FOR EXCLUSION
Not enough data points

SEXUAL HARRASSMENT – REMOTENESS, SEIFA, CULTURAL DIVERSITY, DISABILITY, SEX
DESCRIPTION
Proportion of the population who experienced sexual harassment in the last 12 months (%) disparity in women vs men, urban vs remote/very remote, first and tenth decile of SEIFA, those born in Australia/main English-speaking countries and other countries, has disability vs doesn't have disability
SOURCE, YEAR RANGE AVAILABLE
ABS Personal Safety Survey – 2016
REASON FOR EXCLUSION
Not enough data points

VICTIMIZATION – VIOLENCE – SEX, REMOTENESS, SEIFA, DISABILITY, COUNTRY OF BIRTH
DESCRIPTION
Proportion of the population who experienced violence in the last 12 months (%) disparity in women vs men, urban vs remote/very remote, first and tenth decile of SEIFA, those born in Australia/main English-speaking countries and other countries, has disability vs doesn't have disability
SOURCE, YEAR RANGE AVAILABLE
ABS Personal Safety Survey – 2016
REASON FOR EXCLUSION
Not enough data points

ROAD/TRAFFIC ACCIDENTS
DESCRIPTION
Number of fatal road crashes (all passengers) calculated as a proportion of the population
SOURCE, YEAR RANGE AVAILABLE
Department of Infrastructure and Regional Development - Road Trauma Annual Summaries – 2001-2017
REASON FOR EXCLUSION
Numbers too small to calculate rate

DEATHS FROM TRAFFIC ACCIDENTS
DESCRIPTION
Standardised death rate from transport accidents
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2008-2017
REASON FOR EXCLUSION
Not constrained to traffic accidents but includes all transport

DEATHS IN CUSTODY
DESCRIPTION
Rate of deaths in custody per 100 prisoners on an average day
SOURCE, YEAR RANGE AVAILABLE
AIC Deaths in Prison Custody – 2013-2015
REASON FOR EXCLUSION
Unable to attribute deaths to lack of social progress; not enough time points

DEATHS IN CUSTODY - INDIGENOUS
DESCRIPTION
Ratio of deaths in police custody and custody related operations - (non-Indigenous compared with Indigenous)
SOURCE, YEAR RANGE AVAILABLE
Federal Productivity Commission Report on Government Services – 2007-2014
REASON FOR EXCLUSION
Numbers too small to calculate rates

WORK-RELATED FATALITIES
DESCRIPTION
Fatality rate of accidents at work
SOURCE, YEAR RANGE AVAILABLE
Safework Australia Fatality statistics – 2003, 2012-2016
REASON FOR EXCLUSION
Not enough time points

DROWNING
DESCRIPTION
Standardised death rate for accidental drowning or submersion
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2008-2017
REASON FOR EXCLUSION
Not enough variability

BULLYING – WORKPLACE, CYBER – SEIFA, SEX
DESCRIPTION
Proportion of people who have experience bullying and/or harassment in the last 12 months (%) disparity

between first and tenth decile of SEIFA, men and women
SOURCE, YEAR RANGE AVAILABLE
ABS General Social Survey – 2014
REASON FOR EXCLUSION
Not enough data points

YOUNG PEOPLE UNDER SUPERVISION - INDIGENOUS
DESCRIPTION
Rate of 10-17 year olds under community and detention supervision on an average day (per 10,000) - Indigenous compared to non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
AIHW Youth Justice in Australia – 2014-2017
REASON FOR EXCLUSION
Poor model fit

ABUSE SUBSTANTIATIONS
DESCRIPTION
Rate of children aged 0-17 years old who were the subjects of substantiations of notifications received (per 1,000)
SOURCE, YEAR RANGE AVAILABLE
AIHW Child Protection Australia – 2014-2018
REASON FOR EXCLUSION
Abuse substantiations captured in Personal Freedom and Choice in comparison with Indigenous rate

ABUSE SUBSTANTIATIONS - REMOTENESS
DESCRIPTION
Rate of children aged 0-17 who were the subjects of substantiations of notifications received (per 1,000) - urban and remote/very remote
SOURCE, YEAR RANGE AVAILABLE
AIHW Child Protection Australia – 2014-2018
REASON FOR EXCLUSION
Rate comparison not possible

RATE OF OUT OF HOME CARE/SEPARATION FROM PARENTS
DESCRIPTION
Rate of children in out of home care (per 1,000)
SOURCE, YEAR RANGE AVAILABLE
AIHW Child Protection Australia – 2014-2018
REASON FOR EXCLUSION
Out of home care captured in Personal Freedom and Choice in comparison with Indigenous rate

Access to Basic Knowledge
NAPLAN READING SCORE - YEAR 3
DESCRIPTION
Proportion of population achieving above the national minimum standard for reading

SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career.

NAPLAN READING SCORE - YEAR 5
DESCRIPTION
Proportion of population achieving above the national minimum standard for reading
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN READING SCORE - YEAR 7
DESCRIPTION
Proportion of population achieving above the national minimum standard for reading
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN READING SCORE - YEAR 9
DESCRIPTION
Proportion of population achieving above the national minimum standard for reading
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
High correlation, covered by Indigenous reading gap

NAPLAN NUMERACY SCORE - YEAR 3
DESCRIPTION
Proportion of population achieving above the national minimum standard for numeracy
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN NUMERACY SCORE - YEAR 5
DESCRIPTION
Proportion of population achieving above the national minimum standard for numeracy
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN NUMERACY SCORE - YEAR 7
DESCRIPTION
Proportion of population achieving above the national minimum standard for numeracy
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2018
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN READING SCORE - YEAR 3 - INDIGENOUS
DESCRIPTION
Difference in proportion achieving above the national minimum standard in Reading - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN READING SCORE - YEAR 5 - INDIGENOUS
DESCRIPTION
Difference in proportion achieving above the national minimum standard in Reading - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN READING SCORE - YEAR 7 - INDIGENOUS
DESCRIPTION

Difference in proportion achieving above the national minimum standard in Reading - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Correlations very high between years 3, 5, 7, 9. Isabella and Petra decided on year 9 (28/05/2019) as literature shows the biggest gap in achievement in year 9, and is more determinant in further study/career

NAPLAN READING IMPROVEMENT - YEAR 3 TO 5
DESCRIPTION
Average gain in Reading scores between year 3 and year 5
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
FORMULA
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN READING IMPROVEMENT – YEAR 5 TO 7
DESCRIPTION
Average gain in reading scores between year 5 and year 7
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN READING IMPROVEMENT - YEAR 7 TO 9
DESCRIPTION
Average gain in reading scores between year 7 and year 9
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
FORMULA
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN NUMERACY IMPROVEMENT - YEAR 3 TO 5
DESCRIPTION
Average gain in numeracy scores between year 3 and year 5
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN NUMERACY IMPROVEMENT – YEAR 5 TO 7
DESCRIPTION
Average gain in numeracy scores between year 5 and year 7
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN NUMERACY IMPROVEMENT – YEAR 7 TO 9
DESCRIPTION
Average gain in numeracy scores between year 7 and year 9
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
FORMULA
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN READING IMPROVEMENT - YEAR 3 TO 5 - INDIGENOUS
DESCRIPTION
Difference in average gain in Reading scores between year 3 and year 5 - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
FORMULA
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN READING IMPROVEMENT - YEAR 5 TO 7 - INDIGENOUS
DESCRIPTION
Difference in average gain in Reading scores between year 5 and year 7 - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN READING IMPROVEMENT - YEAR 7 TO 9 - INDIGENOUS
DESCRIPTION
Difference in average gain in Reading scores between year 7 and year 9 - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
FORMULA
Will use proportion above national minimum standard instead, as gain showed negative correlations

NAPLAN NUMERACY IMPROVEMENT - YEAR 3 TO 5 - INDIGENOUS
DESCRIPTION
Difference in average gain in numeracy scores between year 3 and year 5 - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Including only Indigenous literacy indicators

NAPLAN NUMERACY IMPROVEMENT - YEAR 5 TO 7 - INDIGENOUS
DESCRIPTION
Difference in average gain in numeracy scores between year 5 and year 7 - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Including only Indigenous literacy indicators

NAPLAN NUMERACY IMPROVEMENT - YEAR 7 TO 9 - INDIGENOUS
DESCRIPTION
Difference in average gain in numeracy scores between year 7 and year 9 - Indigenous - non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Including only Indigenous literacy indicators

NAPLAN READING IMPROVEMENT - YEAR 3 TO 5 - LBOTE
DESCRIPTION
Difference in average gain in reading scores between year 3 and year 5 – LBOTE – non-LBOTE
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Not enough variability

NAPLAN READING IMPROVEMENT - YEAR 5 TO 7 - LBOTE
DESCRIPTION
Difference in average gain in reading scores between year 5 and year 7 – LBOTE – non-LBOTE
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Not enough variability

NAPLAN READING IMPROVEMENT - YEAR 7 TO 9 - LBOTE

DESCRIPTION
Difference in average gain in reading scores between
year 7 and year 9 – LBOTE – non-LBOTE
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Not enough variability

**NAPLAN NUMERACY IMPROVEMENT - YEAR 3 TO 5 -
LBOTE**
DESCRIPTION
Difference in average gain in numeracy scores between
year 3 and year 5 – LBOTE – non-LBOTE
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Not enough variability

**NAPLAN NUMERACY IMPROVEMENT - YEAR 5 TO
7 - LBOTE**
DESCRIPTION
Difference in average gain in numeracy scores between
year 5 and year 7 – LBOTE – non-LBOTE
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Not enough variability

**NAPLAN NUMERACY IMPROVEMENT - YEAR 7 TO 9 -
LBOTE**
DESCRIPTION
Difference in average gain in numeracy scores between
year 7 and year 9 – LBOTE – non-LBOTE
SOURCE, YEAR RANGE AVAILABLE
NAPLAN – 2015-2017
REASON FOR EXCLUSION
Not enough variability

EDUCATIONAL ATTAINMENT (YEAR 10)
DESCRIPTION
Proportion of the population aged 25+ who completed
year 10 (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Education and Work – 2015-2018
REASON FOR EXCLUSION
Will use retention rates instead – greater changes
across years rather than for 25+

EDUCATIONAL ATTAINMENT (YEAR 10) – DISABILITY
DESCRIPTION
Proportion of the population aged 20+ who completed
year 10 (%) – has need for assistance compared with
does not have need for assistance

SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
Use participation as an indicator for inclusion

**EDUCATIONAL ATTAINMENT (YEAR 10) -
REMOTENESS**
DESCRIPTION
Difference in proportion of population aged 25+ who
completed year 10 or above - regional/remote
compared with urban/major city areas
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
Missing states/territories

EDUCATIONAL ATTAINMENT (YEAR 10) – SEX
DESCRIPTION
Difference in proportion of population aged 25-74 who
completed year 10 or above - Male cf. female
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Education and Work – 2015-2018
REASON FOR EXCLUSION
Lack of variability, indicator is not very relevant in
Australian context

**EDUCATIONAL ATTAINMENT (YEAR 12) –
REMOTENESS, INDIGENOUS, DISABILITY**
DESCRIPTION
Proportion of the population aged 20+ who completed
year 12 (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
Use Year 10 as indicator

**ACCESS TO EARLY CHILDHOOD EDUCATION -
REMOTENESS**
DESCRIPTION
Disparity in urban vs remote Proportion of children aged
4-5 enrolled in preschool program (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Children enrolled in preschool program – 2013-
2017
REASON FOR EXCLUSION
Not enough variability

**ACCESS TO EARLY CHILDHOOD EDUCATION -
INDIGENOUS**
DESCRIPTION
Disparity in Indigenous vs non-Indigenous Proportion of
children aged 4-5 enrolled in preschool program (%)
SOURCE, YEAR RANGE AVAILABLE

ABS Children enrolled in preschool program – 2013-2017
REASON FOR EXCLUSION
Very high correlations

GAP IN STUDENT ATTENDANCE RATE – REMOTENESS
DESCRIPTION
Disparity in metro and remote student attendance rate years 1-10
SOURCE, YEAR RANGE AVAILABLE
ACARA National report on school attendance – 2014-2017
REASON FOR EXCLUSION
Proportions but not raw numbers reported

DIFFICULTIES ACCESSING EDUCATION
DESCRIPTION
Proportion of people participating in education (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
Not enough data points

DIFFICULTIES ACCESSING EDUCATION DUE TO DISABILITY – REMOTENESS, COUNTRY OF BIRTH
DESCRIPTION
Proportion of people with a disability having an education restriction (%), urban vs remote/very remote areas, born in Australia compared with born overseas
SOURCE, YEAR RANGE AVAILABLE
ABS Income and Housing – 2015-16
REASON FOR EXCLUSION
Not enough data points

PARENTAL ENGAGEMENT IN TEACHING
DESCRIPTION
Proportion of parents reporting no involvement in informal learning activities last week (aged 3-8)
SOURCE, YEAR RANGE AVAILABLE
ABS Childhood Education and Care Survey – 2011, 2014, 2017
REASON FOR EXCLUSION
Not enough data points

ADULT LITERACY
DESCRIPTION
Literacy skill level of adults aged 15-74
SOURCE, YEAR RANGE AVAILABLE
ABS International Assessment of Adult Competencies – 2011-12
REASON FOR EXCLUSION
Data more than 5 years old

ENROLMENT RATES
DESCRIPTION
Proportion of 5 to 15 year olds participating in education (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
Only one data point due to Census

ABSENTEEISM
DESCRIPTION
Student attendance rate years 1-10 (%)
SOURCE, YEAR RANGE AVAILABLE
ACARA National report on school attendance – 2014-2017
REASON FOR EXCLUSION
Extremely high correlation with NAPLAN reading

Access to Information and Communications
INTERNET ACCESS
DESCRIPTION
Proportion of households with internet access at home (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Household Use of Information Technology – 2008-2016
REASON FOR EXCLUSION
Not enough data points and survey will cease in 2019

INTERNET ACCESS
DESCRIPTION
Proportion of households who have access to the internet in the home (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA
REASON FOR EXCLUSION
Access is covered in the Digital Inclusion Index subcomponent which will be included

MOBILE PHONES (PROXY FOR CONNECTIVITY)
DESCRIPTION
Proportion of households with internet access at home (%)
SOURCE, YEAR RANGE AVAILABLE
Deloitte Mobile Consumer Survey – 2017
REASON FOR EXCLUSION
Data only available at national level

NBN
DESCRIPTION
Proportion of premises not yet ready to connect to NBN (%)
SOURCE, YEAR RANGE AVAILABLE

NBN – 2018
REASON FOR EXCLUSION
Not reported in any helpful way

SATISFACTION WITH ACCESS TO SERVICE PROVIDERS
DESCRIPTION
Proportion of people who have not had difficulty accessing service providers in the last 12 months (%)
SOURCE, YEAR RANGE AVAILABLE
ABS General Social Survey – 2014
REASON FOR EXCLUSION
Not enough data points

SATISFACTION WITH ACCESS TO SERVICE PROVIDERS - REMOTENESS
DESCRIPTION
Proportion of people who have not had difficulty accessing service providers in the last 12 months (%) urban vs remote/very remote
SOURCE, YEAR RANGE AVAILABLE
ABS General Social Survey - 2014
REASON FOR EXCLUSION
Not enough data points

RATIO OF INTERNET COST TO INCOME FOR LOW-INCOME HOUSEHOLDS
DESCRIPTION
Ratio of household annual expenditure on telephone rent, calls and internet charges to gross annual household income for low income households
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Use digital inclusion affordability sub-index instead

SOCIAL MEDIA USE
DESCRIPTION
Proportion of people who use some form of social media
SOURCE, YEAR RANGE AVAILABLE
Sensis Social Media Report – 2016-2018
REASON FOR EXCLUSION
Small sample size

Health and Wellness
LIFE EXPECTANCY - MEN
DESCRIPTION
Years of life expectancy at birth (age 0)
SOURCE, YEAR RANGE AVAILABLE
ABS – 2009-2016
Reason for exclusion
Doesn't contribute meaningfully – already have potential years of life lost and mortality rates which are

better indicators

LIFE EXPECTANCY - WOMEN
DESCRIPTION
Years of life expectancy at birth (age 0)
SOURCE, YEAR RANGE AVAILABLE
ABS – 2009-2016
REASON FOR EXCLUSION
Doesn't contribute meaningfully – already have potential years of life lost and mortality rates which are better indicators

CHRONIC OR NON-COMMUNICABLE DISEASE-REMOTENESS, COUNTRY OF BIRTH
DESCRIPTION
Proportion of the population ever experienced an ICD10 condition long-term, either diagnosed or undiagnosed - urban vs remote/very remote, born in Australia vs born overseas
SOURCE, YEAR RANGE AVAILABLE
ABS National Health Survey – 2015
REASON FOR EXCLUSION
Not enough data points

YEARS OF LIFE LOST – BURDEN OF DISEASE
DESCRIPTION
Crude years of life lost rate - total
SOURCE, YEAR RANGE AVAILABLE
AIHW Burden of Disease – 2011, 2015
REASON FOR EXCLUSION
Not enough data points

DALY – DISABILITY ADJUSTED LIFE YEARS – UNDER 15 YEARS
DESCRIPTION
Crude Years of life lost rate - children (under 15 years)
SOURCE, YEAR RANGE AVAILABLE
AIHW Burden of Disease – 2011
REASON FOR EXCLUSION
Not enough data points

DALY – DISABILITY ADJUSTED LIFE YEARS – UNDER 15+ YEARS
DESCRIPTION
Crude Years of life lost rate - children (15+ years)
SOURCE, YEAR RANGE AVAILABLE
AIHW Burden of Disease – 2011
REASON FOR EXCLUSION
Not enough data points

SELF-RATED HEALTH
DESCRIPTION
Proportion of population that reported health as 'fair' or

'poor' (1-5 scale)
SOURCE, YEAR RANGE AVAILABLE
ABS National Health Survey – 2015
REASON FOR EXCLUSION
Not enough data points

SELF-RATED HEALTH - REMOTENESS
DESCRIPTION
Proportion of population that reported health as 'fair' or 'poor' (1-5 scale) – urban vs remote/very remote
SOURCE, YEAR RANGE AVAILABLE
ABS National Health Survey – 2015
REASON FOR EXCLUSION
Not enough data points

SELF-RATED HEALTH
DESCRIPTION
Proportion who rated their health as 'very good or excellent' (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
Poor model fit

MENTAL HEALTH TREATMENT - INDIGENOUS
DESCRIPTION
Rate ratio of community mental health care service contacts per 1,000 population - Indigenous compared with non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
AIHW Mental Health Services – 2014-2017
REASON FOR EXCLUSION
Mental health service contacts, rather than patients

MENTAL HEALTH
DESCRIPTION
Proportion of people with SF-36 mental health component scores below 52 indicating disability
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
HILDA – concerns about representativeness

PSYCHOLOGICAL DISTRESS
DESCRIPTION
Kessler 10 Distress scale score (pdk10s) OR risk categories (pdk10rc)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
Only measured every two years

OBESITY – EXCESS WEIGHT IN ADULTS
DESCRIPTION
Proportion of adults (18+) who are classified as overweight or obese (BMI < 30) (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Political concerns and HILDA calculated. Not needed due to sufficient indicators in H&W component.

OBESITY – CHILDHOOD OBESITY
DESCRIPTION
Proportion of children (0-18 years) who classified as obese (BMI < 30) (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Sample too small - ~234 under aged 15

SUICIDE - INDIGENOUS
DESCRIPTION
Age-standardised death rate due to intentional self-harm - Indigenous compared with non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2013-2017
REASON FOR EXCLUSION
Not enough data points (combined 2013-2017)

DEATH FROM DRUG OVERDOSE
DESCRIPTION
Standardised death rate due to accidental poisoning by and exposure to noxious substances
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2008-2017
REASON FOR EXCLUSION
Doesn't accurately report drug overdose due to inclusion of accidental poisoning from other substances

EATING DISORDERS
DESCRIPTION
Rate of hospitalisations for eating disorders
SOURCE, YEAR RANGE AVAILABLE
AIHW National Hospital Morbidity Database – 2017
REASON FOR EXCLUSION
Data only available at a national level

DENTAL HEALTH – CAVITIES IN CHILDREN
DESCRIPTION
Average number of untreated decayed or filled tooth surfaces in primary dentition (children aged 5-10 years)
SOURCE, YEAR RANGE AVAILABLE
National Child Oral Health Survey – 2012-2014

REASON FOR EXCLUSION
Only reported 2012-2014

DENTAL HEALTH – UNMET NEED
DESCRIPTION
Wait time for general dental care - from listing date to first visit (days - 50ths and 90th percentiles)
SOURCE, YEAR RANGE AVAILABLE
AIHW – 2013-2017
REASON FOR EXCLUSION
Not well measured

SELF-RATED SATISFACTION WITH HEALTH
DESCRIPTION
Proportion of people reporting that they are satisfied with their health (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
FORMULA
Report rate as published by HILDA
REASON FOR EXCLUSION
Using SF-36 item to measure health satisfaction instead

SUBSTANCE USER DISORDER TREATMENT
DESCRIPTION
Change in proportion of clients seeking treatment for alcohol, amphetamines, cannabis and heroin (%)
SOURCE, YEAR RANGE AVAILABLE
AIHW – 2013-2017
REASON FOR EXCLUSION
Data only reports comparisons between drug types – not meaningful for SPI

OPTICAL HEALTH – GLAUCOMA, CATARACTS
DESCRIPTION
Proportion of people with glaucoma (%), and cataracts (%)
SOURCE, YEAR RANGE AVAILABLE
ABS National Health Survey – 2015
REASON FOR EXCLUSION
Not enough data points

INDIGENOUS HEARING HEALTH
DESCRIPTION
Total Indigenous people with hearing problems as a proportion of total Indigenous sample/population
SOURCE, YEAR RANGE AVAILABLE
ABS National Aboriginal and Torres Strait Islander Social Survey – 2014-15
REASON FOR EXCLUSION
Not enough data points

INDIGENOUS OPTICAL HEALTH

DESCRIPTION
Total Indigenous people with eye or sight problems as a proportion of total Indigenous sample/population
SOURCE, YEAR RANGE AVAILABLE
ABS National Aboriginal and Torres Strait Islander Social Survey – 2014-15
REASON FOR EXCLUSION
Not enough data points

HARMFUL ALCOHOL USE
DESCRIPTION
Age standardised proportion of persons aged 14 years and older who have lifetime high risky alcohol use (%)
SOURCE, YEAR RANGE AVAILABLE
National Drug Strategy Household Survey – 2013, 2016
REASON FOR EXCLUSION
Not enough data points

DEATH FROM ALCOHOLIC LIVER DISEASE
DESCRIPTION
Standardised death rate due to alcoholic liver disease
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2008-2017
REASON FOR EXCLUSION
LOW RATES AND LIKELY TO BE ONLY ONE OUTCOME FROM HARMFUL ALCOHOL USE

TOBACCO USE
DESCRIPTION
Age-standardised prevalence of persons aged 14 years and older who have never smoked (%)
SOURCE, YEAR RANGE AVAILABLE
National Drug Strategy Household Survey – 2013, 2016
REASON FOR EXCLUSION
Not enough data points

CHLAMYDIA DIAGNOSIS
DESCRIPTION
Notification rate of chlamydia, per 100,000
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2016
REASON FOR EXCLUSION
Not useful as an STD indicator – not as impactful

SYPHILIS DIAGNOSIS
DESCRIPTION
Notification rate of syphilis < 2 years, per 100,000
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION

Poor model fit

HIV DIAGNOSIS
DESCRIPTION
New HIV diagnoses, rate per 100,000 population
SOURCE, YEAR RANGE AVAILABLE
Kirby Institute – 2007-201y
REASON FOR EXCLUSION
Negative/low correlations

HEPATITIS C DIAGNOSIS
DESCRIPTION
Notification rate of Hepatitis C (newly acquired), per 100,000
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
NEGATIVE/LOW CORRELATIONS

TUBERCULOSIS
DESCRIPTION
Notification rate of tuberculosis, per 100,000
SOURCE, YEAR RANGE AVAILABLE
Department of Health National Notifiable Diseases Surveillance System – 2007-2019
REASON FOR EXCLUSION
Primarily an illness that is contracted overseas

Environmental Quality
AIR QUALITY
DESCRIPTION
SOURCE, YEAR RANGE AVAILABLE
REASON FOR EXCLUSION
Broad term – used air quality monitoring publications instead

OZONE CONCENTRATIONS
DESCRIPTION
Median daily maximum 1 hour average concentrations of ozone, averaged across monitoring stations
SOURCE, YEAR RANGE AVAILABLE
Individual State and Territory Environmental Agencies
NSW – https://www.environment.nsw.gov.au/topics/air-quality-annual-reports
VIC – https://www.epa.vic.gov.au/our-work/monitoring-the-environment/monitoring-victorias-air/monitoring-results
QLD – https://www.qld.gov.au/environment/pollution/monitoring/air/air-reports

SA – https://www.epa.sa.gov.au/data_and_publications/air_quality_monitoring/reports_and_summaries - doesn't report at State level (reports for each individual monitoring station); reports quarterly rather than annually
WA – https://www.der.wa.gov.au/your-environment/air/203-air-quality-publications
TAS – https://epa.tas.gov.au/epa/air/monitoring-air-pollution/annual-nepm-reports not updated since 2015
NT – https://ntepa.nt.gov.au/waste-pollution/air
ACT – https://www.act.gov.au/ - search 'air quality report [year]

REASON FOR EXCLUSION
Poor model fit

WATER QUALITY
DESCRIPTION
SOURCE, YEAR RANGE AVAILABLE
REASON FOR EXCLUSION
Cannot find data source

WATER SCARCITY
DESCRIPTION
Percentage full of water storage in publicly-owned lakes, reservoirs and weirs.
SOURCE, YEAR RANGE AVAILABLE
Bureau of Meteorology – 2017, 2018
REASON FOR EXCLUSION
Data not reported consistently

ENERGY FROM RENEWABLES (PRODUCTION/CONSUMPTION)
DESCRIPTION
Energy generation by fuel type, non-renewable and renewable (GWh)
SOURCE, YEAR RANGE AVAILABLE
Department of Environment and Energy Australian Energy statistics – 1989-2016
REASON FOR EXCLUSION
Input rather than outcome

TERRESTRIAL PROTECTED AREAS
DESCRIPTION
Terrestrial protected areas by area (ha) and % of land
SOURCE, YEAR RANGE AVAILABLE
Department of Environment and Energy CAPAD – 1997, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016
REASON FOR EXCLUSION

Not enough data points

MARINE PROTECTED AREAS
DESCRIPTION
Marine protected areas by area (ha) and % of waters
SOURCE, YEAR RANGE AVAILABLE
Department of Environment and Energy CAPAD – 1997, 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2017
REASON FOR EXCLUSION
Not enough data points

ENVIRONMENTAL BEHAVIOUR
DESCRIPTION
Frequency of personal recycling, composting, reusing bags (%) (aggregate)
SOURCE, YEAR RANGE AVAILABLE
ABS Environmental Views and Behaviour – 2011-12
REASON FOR EXCLUSION
Data more than 5 years old; No longer being collected

SATISFACTION WITH WASTE COLLECTION
DESCRIPTION
Proportion satisfied with waste collection services in area
SOURCE, YEAR RANGE AVAILABLE
ABS Environmental Views and Behaviour – 2011-12
REASON FOR EXCLUSION
Data more than 5 years old; No longer being collected

BIODIVERSITY – DETERIORATION OF SPECIES, OVERPOPULATION
DESCRIPTION
Proportion of rare, endangered or vulnerable species, as a % of total native species)
SOURCE, YEAR RANGE AVAILABLE
CSIRO – 2011-2012
REASON FOR EXCLUSION
Data more than 5 years old

ASSET ACCOUNT FOR FORESTS
DESCRIPTION
Asset account for forests ('000 hectares)
SOURCE, YEAR RANGE AVAILABLE
ABS Environmental-Economic Accounting for Agriculture – 2015-16
REASON FOR EXCLUSION
Not enough data points

AIR-POLLUTION CAUSED DEATHS
DESCRIPTION
Standardised death rate due to environmental-pollution-related condition
SOURCE, YEAR RANGE AVAILABLE

ABS Causes of Death – 2008-2017
REASON FOR EXCLUSION
No rates reported

CLIMATE-RELATED DEATHS
DESCRIPTION
Exposure to natural forces - standardised death rate
SOURCE, YEAR RANGE AVAILABLE
ABS Causes of Death – 2008-2017
REASON FOR EXCLUSION
No rates reported

GREEN SPACE COVERAGE IN CITIES/URBAN AREAS
DESCRIPTION
Proportion of people living in urban areas within 400m of greenspace (%)
SOURCE, YEAR RANGE AVAILABLE
ABS National Health Survey – 2015
REASON FOR EXCLUSION
Not enough data points

WASTE GENERATION
DESCRIPTION
Percent change in generation of core waste
SOURCE, YEAR RANGE AVAILABLE
Department of Environment and Energy – 2017
REASON FOR EXCLUSION
Not enough data points

RESOURCE RECOVERY
DESCRIPTION
Percent of waste that is recovered through energy recovery and recycling, divided by total waste generation
SOURCE, YEAR RANGE AVAILABLE
Department of Environment and Energy – 2014-2017
REASON FOR EXCLUSION
Not enough data points

MESOTHELIOMA RELATED DEATHS
DESCRIPTION
Age-standardised incidence rate of mesothelioma
SOURCE, YEAR RANGE AVAILABLE
AIHW Australian Mesothelioma Registry – 2011-2016
REASON FOR EXCLUSION
Poor correlations

RENEWABLE ENERGY
DESCRIPTION
Proportion of total energy mix that is renewable or hydro
SOURCE, YEAR RANGE AVAILABLE
Department of the Environment and Heritage – 2015-

2017
REASON FOR EXCLUSION
Poor correlations

NATIVE FOREST COVERAGE
DESCRIPTION
Native forest area as a proportion of total land area (%)
SOURCE, YEAR RANGE AVAILABLE
Department of Agriculture and Water Resources– 2013, 2018
REASON FOR EXCLUSION
Not enough data points

FOREST COVERAGE
DESCRIPTION
Forest area as a proportion of total land area (%)
SOURCE, YEAR RANGE AVAILABLE
Department of Agriculture and Water Resources– 2013, 2018
REASON FOR EXCLUSION
Not enough data points

FOREST AREA
DESCRIPTION
Forest area differences between State of Forest Report (% change)
SOURCE, YEAR RANGE AVAILABLE
Department of Agriculture and Water Resources– 2013, 2018
REASON FOR EXCLUSION
Not enough data points

FOREST CONSERVATION
DESCRIPTION
Proportion of native forest ecosystems protected for biodiversity conservation (%)
SOURCE, YEAR RANGE AVAILABLE
Department of Agriculture and Water Resources– 2013, 2018
REASON FOR EXCLUSION
Not enough data points

FOREST SOIL AND WATER PROTECTION
DESCRIPTION
Proportion of public forest managed primarily for protection functions of soil and water values (%)
SOURCE, YEAR RANGE AVAILABLE
Department of Agriculture and Water Resources– 2011, 2016
REASON FOR EXCLUSION
Not enough data points

ENVIRONMENTAL CRIME
DESCRIPTION
Offender rate for property damage and environmental pollution
SOURCE, YEAR RANGE AVAILABLE
ABS Recorded Crime – 2014-2018
REASON FOR EXCLUSION
POOR MODEL FIT

TREE COVER LOSS
DESCRIPTION
Percentage decrease in tree cover compared to 2000 tree cover extent (>30% tree canopy)
SOURCE, YEAR RANGE AVAILABLE
Global Forest Watch, 2010-2018
REASON FOR EXCLUSION
Poor model fit
CARBON MONOXIDE CONCENTRATIONS
DESCRIPTION
Median daily maximum rolling 8 hour average concentrations of carbon monoxide, averaged across monitoring stations
SOURCE, YEAR RANGE AVAILABLE
Individual State and Territory Environmental Agencies
NSW – https://www.environment.nsw.gov.au/topics/air/air-quality-annual-reports
VIC – https://www.epa.vic.gov.au/our-work/monitoring-the-environment/monitoring-victorias-air/monitoring-results
QLD – https://www.qld.gov.au/environment/pollution/monitoring/air/air-reports
SA – https://www.epa.sa.gov.au/data_and_publications/air_quality_monitoring/reports_and_summaries - doesn't report at State level (reports for each individual monitoring station); reports quarterly rather than annually
WA – https://www.der.wa.gov.au/your-environment/air/203-air-quality-publications
TAS – https://epa.tas.gov.au/epa/air/monitoring-air-pollution/annual-nepm-reports not updated since 2015
NT – https://ntepa.nt.gov.au/waste-pollution/air
ACT – https://www.act.gov.au/ - search 'air quality report [year]

REASON FOR EXCLUSION
Poor model fit

NITROGEN DIOXIDE CONCENTRATIONS
DESCRIPTION
Median daily maximum 1 hour average concentrations of nitrogen dioxide, averaged across monitoring stations
SOURCE, YEAR RANGE AVAILABLE
Individual State and Territory Environmental Agencies
    NSW – https://www.environment.nsw.gov.au/topics/air/air-quality-annual-reports
    VIC – https://www.epa.vic.gov.au/our-work/monitoring-the-environment/monitoring-victorias-air/monitoring-results
    QLD – https://www.qld.gov.au/environment/pollution/monitoring/air/air-reports
    SA – https://www.epa.sa.gov.au/data_and_publications/air_quality_monitoring/reports_and_summaries - doesn't report at State level (reports for each individual monitoring station); reports quarterly rather than annually
    WA – https://www.der.wa.gov.au/your-environment/air/203-air-quality-publications
    TAS – https://epa.tas.gov.au/epa/air/monitoring-air-pollution/annual-nepm-reports not updated since 2015
    NT – https://ntepa.nt.gov.au/waste-pollution/air
    ACT – https://www.act.gov.au/ - search 'air quality report [year]

REASON FOR EXCLUSION
Poor model fit

MEAN TEMPERATURE ANOMALY
DESCRIPTION
Annual mean temperature anomaly based on 30-year climatology (1961-1990)
SOURCE, YEAR RANGE AVAILABLE
Bureau of Meteorology 1910-2018
REASON FOR EXCLUSION
Poor model fit

Personal Rights
REPRESENTATION IN PARLIAMENT – GENDER
DESCRIPTION
Proportion of women members in parliament (%)
SOURCE, YEAR RANGE AVAILABLE
Australian Parliamentary Library - 2018
REASON FOR EXCLUSION
Not enough time points available - APL updates briefing annually, previous reports not available

NATIVE TITLES
DESCRIPTION
Proportion of land covered by Registered Native Title Claimants (%)
SOURCE, YEAR RANGE AVAILABLE
National Native Title Tribunal National-Registered Claims - 2018
REASON FOR EXCLUSION
Correlations don't' fit within component. TAS and NT have 0% so not relevant for those states

SEXUAL ASSAULTS ON WOMEN
DESCRIPTION
Rate of women aged 18+ who had experienced sexual assault
SOURCE, YEAR RANGE AVAILABLE
ABS Crime Victimisation Survey
REASON FOR EXCLUSION
Poor correlations, data unreliable at gender/state territory level

CRIME RATES – SEXUAL ASSAULT AND RELATED OFFENCES
DESCRIPTION
Offender rate of recorded sexual assault and related offences
SOURCE, YEAR RANGE AVAILABLE
ABS Recorded Crime – 2008-2018
REASON FOR EXCLUSION
After feedback, changed to male offender rate to reflect gendered nature of sexual assault and violence

Personal Freedom and Choice
TEEN PREGNANCY
DESCRIPTION
Birth rate per 1,000 women aged younger than 20 years who gave birth
SOURCE, YEAR RANGE AVAILABLE
AIHW – 2015
REASON FOR EXCLUSION
Not enough data points

TEEN PREGNANCY
DESCRIPTION
Proportion of women aged 15-19 who have had at least one child (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census – 2016
REASON FOR EXCLUSION
Not enough data points

EARLY MARRIAGE
DESCRIPTION
Proportion of people aged 15-18 who are married (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION
Will use other ABS source which reports annually

EARLY MARRIAGE
DESCRIPTION
Age-specific marriage rate for women aged 16-19 per 1000
SOURCE, YEAR RANGE AVAILABLE
ABS – 2015-2017
REASON FOR EXCLUSION
Correlation doesn't fit within component and rates are low – not seen as an issue in Australian context (teen pregnancy more representative).

CONVICTION FOR DRUG POSSESSION
DESCRIPTION
Offender rate for recorded drug possession (principle offence) per 100,000
SOURCE, YEAR RANGE AVAILABLE
ABS Recorded Crime – 2008-2017
REASON FOR EXCLUSION
Correlation doesn't fit within component. Conceptually problematic, may be hard to communicate why higher rates are not representative of social progress.

NDIS ROLLOUT
DESCRIPTION
Proportion of all NDIS plans approved to date compared to bilateral estimates (December Quarterly Report)
SOURCE, YEAR RANGE AVAILABLE
NDIS Quarterly Reports
REASON FOR EXCLUSION
Correlations don't fit within component – some outliers (NT has very high 6:1 ratio) therefore not relevant.

SATISFACTION WITH LIFE/WORK BALANCE
DESCRIPTION
Satisfaction with the amount of free time you have, 1-5 scale
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Will use HILDA work flexibility indicator instead - more representative of component

WORK FLEXIBILITY
DESCRIPTION
Proportion of people reporting they are satisfied with the flexibility to balance work and non-work commitments
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Poor model fit

Inclusiveness
CARE LEAVE – GENDER GAP
DESCRIPTION
Male employees who utilised primary or secondary care leave, as a ratio to female employees
SOURCE, YEAR RANGE AVAILABLE
Workplace Gender Equality Agency – 2013-2018
REASON FOR EXCLUSION
Poor model fit

ACCEPTANCE/ATTITUDES TO MIGRATION AND REFUGEES
DESCRIPTION
Proportion of people who believe immigration is a burden on social welfare system, there is too much immigration, and that immigrants take away jobs (%)
SOURCE, YEAR RANGE AVAILABLE
Lowy Institute – 2016
REASON FOR EXCLUSION
Data only at a national level

SATISFACTION WITH FAMILY RELATIONSHIPS – PARENTS, STEP-PARENTS, PARTNER, CHILDREN, STEP-CHILDREN
DESCRIPTION
Proportion of people who are satisfied or very satisfied with relationship with parents, step-parents, partner, children, step-children
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2017
REASON FOR EXCLUSION
Conceptually does not fit with model – more of an input, than an indicator of social progress

ATTITUDES TO PEOPLE IN MINORITY
DESCRIPTION
Proportion who agree that "Homosexual couples should have the same rights as heterosexual couples do" (Scale 1-7) (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2005, 2008, 2011, 2015
REASON FOR EXCLUSION
Not enough data points

DISCRIMINATION
DESCRIPTION

Proportion of people felt their employer had discriminated against them because of their ethnicity (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
Not enough data points

DISABILITY PARTICIPATION IN THE WORKFORCE
DESCRIPTION
Proportion of Australian Public Service employees with a disability (%)
SOURCE, YEAR RANGE AVAILABLE
Australian Public Service Employment Database – 2000-2018
REASON FOR EXCLUSION
Will use HILDA indicator of disability access to employment, more representative

DISABILITY PARTICIPATION IN THE WORKFORCE
DESCRIPTION
Proportion of people who are unemployed reporting experience a difficulty getting a job due to disability/ill health (%)
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2016
REASON FOR EXCLUSION
Poor model fit

VOLUNTEERING
DESCRIPTION
Proportion who did unpaid voluntary work in last 12 months through an organisation (%)
SOURCE, YEAR RANGE AVAILABLE
ABS General Social Survey
REASON FOR EXCLUSION
Not enough data points

VOLUNTEERING
DESCRIPTION
Proportion of people who reporting volunteering for more than half an hour a week
SOURCE, YEAR RANGE AVAILABLE
HILDA – 2001-2017
REASON FOR EXCLUSION
More of an input, social connection is already covered

SENSE OF SOCIAL CONNECTION
DESCRIPTION
Mean composite score for sense of social connection (1-7 scale)
SOURCE, YEAR RANGE AVAILABLE

HILDA – 2001-2017
REASON FOR EXCLUSION
Social connection is already covered

FEMALE REPRESENTATION IN LEADERSHIP
DESCRIPTION
Total female directors in ASX Listed Companies, by states in which shares are registered
SOURCE, YEAR RANGE AVAILABLE
Women on Boards report – 2015-2018
REASON FOR EXCLUSION
Not enough data points

ENROLMENT RATES - INDIGENOUS
DESCRIPTION
Proportion of 5 to 15 year olds participating in education (%) Indigenous compared to non-Indigenous
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Education and Work
REASON FOR EXCLUSION
Annual ABS Survey of Education and Work doesn't report by Indigenous status

ENROLMENT RATES - DISABILITY
DESCRIPTION
Proportion of 5 to 15 year olds participating in education (%) people with a disability compared to people without a disability
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Education and Work
REASON FOR EXCLUSION
Annual ABS Survey of Education and Work doesn't report by disability status

ENGAGEMENT OF NON-ENGLISH SPEAKERS IN SOCIETY
DESCRIPTION
Proportion of Australian Public Service employees from a non-English speaking background (%)
SOURCE, YEAR RANGE AVAILABLE
Australian Public Service Employment Database – 2000-2018
REASON FOR EXCLUSION
Doesn't fit well with model

ENGAGEMENT OF INDIGENOUS PEOPLE IN SOCIETY/WORKFORCE
DESCRIPTION
Proportion of Australian Public Service employees who identify as Indigenous (%)
SOURCE, YEAR RANGE AVAILABLE
Australian Public Service Employment Database – 2000-2018

REASON FOR EXCLUSION
Poor quality indicator

FEMALE REPRESENTATION IN LEADERSHIP
DESCRIPTION
Female CEOs of non-public sector employers as a ratio to male CEOs
SOURCE, YEAR RANGE AVAILABLE
Workplace Gender Equality Agency – 2013-2018
REASON FOR EXCLUSION
DATA SOURCE PROBLEMATIC

ENROLMENT RATES - SEX
DESCRIPTION
Proportion of 5 to 15 year olds participating in education (%) males compared to females
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Education and Work – 2004-2018
REASON FOR EXCLUSION
Doesn't fit conceptually

ENROLMENT RATES – COUNTRY OF BIRTH
DESCRIPTION
People born outside Australia aged 5 to 15 years participating in education compared to people born in Australia
SOURCE, YEAR RANGE AVAILABLE
ABS Survey of Education and Work – 2004-2018
REASON FOR EXCLUSION
Doesn't fit conceptually

Access to Advanced Education
SATISFACTION WITH SUPPORT TO COMPLETE HIGHER EDUCATION
DESCRIPTION
Proportion of students giving positive ratings for 'Entire educational experience' (%)
SOURCE, YEAR RANGE AVAILABLE
Quality Indicators for Learning and Teaching – 2012-2017
REASON FOR EXCLUSION
2017 data for individual universities available only

LIFELONG LEARNING
DESCRIPTION
Proportion of adults who participated in formal or non-formal learning in the last 12 months
SOURCE, YEAR RANGE AVAILABLE
ABS Work-Related Training and Adult Learning – 2013, 2016-17
REASON FOR EXCLUSION
Not enough data points

NEET (NOT IN EDUCATION, EMPLOYMENT OR TRAINING)
DESCRIPTION
Proportion of the population aged 15-24 who are not engaged in employment, education or training (%)
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION
More recent data available survey of education and work

EDUCATIONAL ATTAINMENT PER POPULATION
DESCRIPTION
Proportion of the population aged 25+ with post-school qualifications
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION
More recent data available survey of education and work

INDIGENOUS DISPARITY IN HIGHER EDUCATION
DESCRIPTION
Proportion of Indigenous Australians with a post-secondary degree as a ratio to non-Indigenous Australians with a post-secondary degree
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION
More recent data available survey of education and work

PEOPLE WITH DISABILITY DISPARITY IN HIGHER EDUCATION
DESCRIPTION
Proportion of people with a disability with a post-secondary degree as a ratio to people without a disability with a post-secondary degree
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION
More recent data available survey of education and work

GENDER DISPARITY IN HIGHER EDUCATION
DESCRIPTION
Proportion of women with a post-secondary degree as a ratio to men with a post-secondary degree
SOURCE, YEAR RANGE AVAILABLE
ABS Census - 2016
REASON FOR EXCLUSION

More recent data available survey of education and work

HIGHER EDUCATION ACHIEVEMENT - COB

DESCRIPTION

Proportion of people born overseas with a bachelor's degree or above as a ratio to people born in Australia with a bachelor degree or above aged 15+

SOURCE, YEAR RANGE AVAILABLE

ABS Survey of Education and Work – 2004-2018

REASON FOR EXCLUSION

Poor conceptual fit

APPENDIX D: INVERTED INDICATORS

Inverted indicators
Infant mortality
Pnenumococcal prevalence
Rotavirus prevalence
Premature mortality (<75)
Indigenous mortality rates
Waterborne diseases - Shingellosis
Waterborne diseases - Cryptosporidiosis
Waterborne diseases - Salmonella
Water interruption
Overcrowding
Victimization - physical assault
Crime rates – acts to cause injury
Crime rates – youth
Young people under supervision
NAPLAN - Numeracy Year 9
NAPLAN Reading Indigenous - Year 9
Gap in student attendance rate - Indigenous compared to non-Indigenous students
Community mental health treatment
Suicide
Respiratory mortality
Diabetes mortality
Cancer mortality
Cardiovascular mortality
Sulfur dioxide concentrations
PM10 concentrations
PM2.5 concentrations
Water stress
Crime rates – sexual assault and related offences
Teen pregnancy
Abuse substantiations - Indigenous disparity
Out of home care/separation from parents - Indigenous
Public transport safety
Gender pay gap
Gender employment under utilisation
NEET

APPENDIX E: WEIGHTS

Dimension/component	Indicator Name	Weight	Scaled Weight
Basic Human Needs			
Nutrition and Basic Medical Care	Infant mortality	0.232	0.207
	Pnenumococcal prevalence	0.225	0.201
	Rotavirus prevalence	0.203	0.182
	Premature mortality (<75)	0.238	0.213
	Indigenous mortality rates	0.220	0.197
Water and Sanitation	Waterborne diseases - Shingellosis	0.295	0.259
	Waterborne diseases - Cryptosporidiosis	0.272	0.238
	Waterborne diseases - Salmonella	0.315	0.276
	Water interruption	0.260	0.227
Shelter	Estimated homelessness rate	0.377	0.303
	Overcrowding	0.338	0.272
	Housing service accommodation provision	0.137	0.110
	Social housing overcrowding	0.390	0.314
Personal Safety	Perceived safety at home at night	0.216	0.189
	Physical assaults	0.245	0.214
	Acts to cause injury	0.241	0.211
	Youth crime rates	0.203	0.177
	Youth justice supervision	0.240	0.209
Foundations of Wellbeing			
Access to Basic Knowledge	NAPLAN - Numeracy Year 9	0.233	0.211
	NAPLAN Reading Year 9 - Indigenous	0.209	0.189
	High school student retention rates	0.211	0.191
	Access to early childhood education	0.225	0.204
	Gap in Indigenous student attendance rate	0.227	0.205
Access to Information and Communications	Digital access	0.296	0.258
	Digital affordability	0.304	0.265
	Digital ability	0.276	0.240
	Registered library users	0.273	0.237
Health and Wellness	Community mental health treatment	0.144	0.130

	Suicide	0.191	0.173
	Respiratory mortality	0.192	0.173
	Diabetes mortality	0.197	0.177
	Cancer mortality	0.197	0.178
	Cardiovascular mortality	0.187	0.169
Environmental Quality	Sulfur dioxide concentrations	0.209	0.176
	PM10 concentrations	0.325	0.274
	PM2.5 concentrations	0.336	0.283
	Water stress	0.316	0.267
Opportunity			
Personal Rights	Voter registration	0.289	0.265
	Police integrity	0.248	0.227
	Male sexual assault and related offences	0.276	0.253
	Teen pregnancy	0.278	0.255
Personal Freedom and Choice	Child abuse substantiations - Indigenous disparity	0.375	0.331
	Out of home care - Indigenous disparity	0.407	0.360
	Public transport safety	0.350	0.309
Inclusiveness	Gender pay gap	0.298	0.268
	Gender employment underutilisation	0.258	0.232
	Volunteering	0.269	0.242
	Satisfaction with connection to community	0.286	0.257
Access to Advanced Education	Post high school enrolment	0.289	0.260
	Educational attainment per population	0.290	0.261
	NEET	0.283	0.255
	Gender parity in higher education achievement	0.250	0.225

APPENDIX F: BEST CASE AND WORST CASE SCENARII

Dimension/component	Indicator Name	Best Case	Worst Case
Basic Human Needs			
Nutrition and Basic Medical Care	Infant mortality	1.95	9.8
	Pnenumococcal prevalence	0	55.8
	Rotavirus prevalence	0	91.08
	Premature mortality (<75)	1135.82	5692.44
	Indigenous mortality rates	1	3.07
Water and Sanitation	Waterborne diseases - Shingellosis	0	178.60
	Waterborne diseases - Cryptosporidiosis	1.80	114.00
	Waterborne diseases - Salmonella	36.13	267.80
	Water interruption	46.40	442.29
Shelter	Estimated homelessness rate	24.9	65.52
	Overcrowding	0	0.071
	Housing service accommodation provision	702.7	234.13
	Social housing overcrowding	0	0.085
Personal Safety	Perceived safety at home at night	5.00	3.39
	Physical assaults	124.60	571.40
	Acts to cause injury	136.20	1672.80
	Youth crime rates	1000	3361.45
	Youth justice supervision	10.43	70.21
Foundations of Wellbeing			
Access to Basic Knowledge	NAPLAN - Numeracy Year 9	2.20	31.80
	NAPLAN Reading Year 9 - Indigenous	0	62.30
	High school student retention rates	100	70.70
	Access to early childhood education	0.99	0.86
	Gap in Indigenous student attendance rate	0	-30.50
Access to Information and Communications	Digital access	87.40	58.70
	Digital affordability	77.40	44.20
	Digital ability	71.50	37.90
	Registered library users	0.75	0.187

Health and Wellness	Community mental health treatment	9.06	30.30
	Suicide	5.60	23.70
	Respiratory mortality	28.20	94.90
	Diabetes mortality	8.33	60.10
	Cancer mortality	108.15	226.70
	Cardiovascular mortality	90.98	210.50
Environmental Quality	Sulfur dioxide concentrations	0	0.0046
	PM10 concentrations	6.435	22.86
	PM2.5 concentrations	3.885	8.57
	Water stress	0	4

Opportunity

Personal Rights	Voter registration	100	76.2
	Police integrity	96.1	51.6
	Male sexual assault and related offences	16.1	179.4
	Teen pregnancy	3.7	44.52
Personal Freedom and Choice	Child abuse substantiations - Indigenous disparity	1	15.2
	Out of home care - Indigenous disparity	1	23.55
	Public transport safety	4.23	2.4
Inclusiveness	Gender pay gap	1	0.51
	Gender employment underutilisation	1	1.64
	Volunteering	0.714	0.428
	Satisfaction with connection to community	0.186	0.087
Access to Advanced Education	Post high school enrolment	0.233	0.090
	Educational attainment per population	0.827	0.473
	NEET	0.029	0.167
	Gender parity in higher education achievement	1	1.92

APPENDIX G: PEER GROUPS

Gross State Product

Australian Capital Territory	Western Australia, Northern Territory, New South Wales, Queensland
New South Wales	Queensland, Victoria, South Australia, Tasmania
Northern Territory	Western Australia, Australian Capital Territory, New South Wales, Queensland
Queensland	Victoria, New South Wales, South Australia, Tasmania
South Australia	Tasmania, Victoria, Queensland, New South Wales
Tasmania	South Australia, Victoria, Queensland, New South Wales
Victoria	Queensland, South Australia, New South Wales, Tasmania
Western Australia	Northern Territory, Australian Capital Territory, New South Wales, Queensland

Net Wealth

Australian Capital Territory	New South Wales, Victoria, Western Australia, Northern Territory
New South Wales	Australian Capital Territory, Victoria, Western Australia, Northern Territory
Northern Territory	Queensland, South Australia, Tasmania, Western Australia
Queensland	South Australia, Northern Territory, Tasmania, Western Australia
South Australia	Queensland, Northern Territory, Tasmania, Western Australia
Tasmania	South Australia, Queensland, Northern Territory, Western Australia
Victoria	Western Australia, Australian Capital Territory, New South Wales, Northern Territory
Western Australia	Victoria, Northern Territory, Queensland, South Australia