

# *COVID-19* *- statistics and geospatial*



## UN-GGIM Virtual GIS Summit

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Australian Bureau of Statistics  
Informing Australia's important decisions



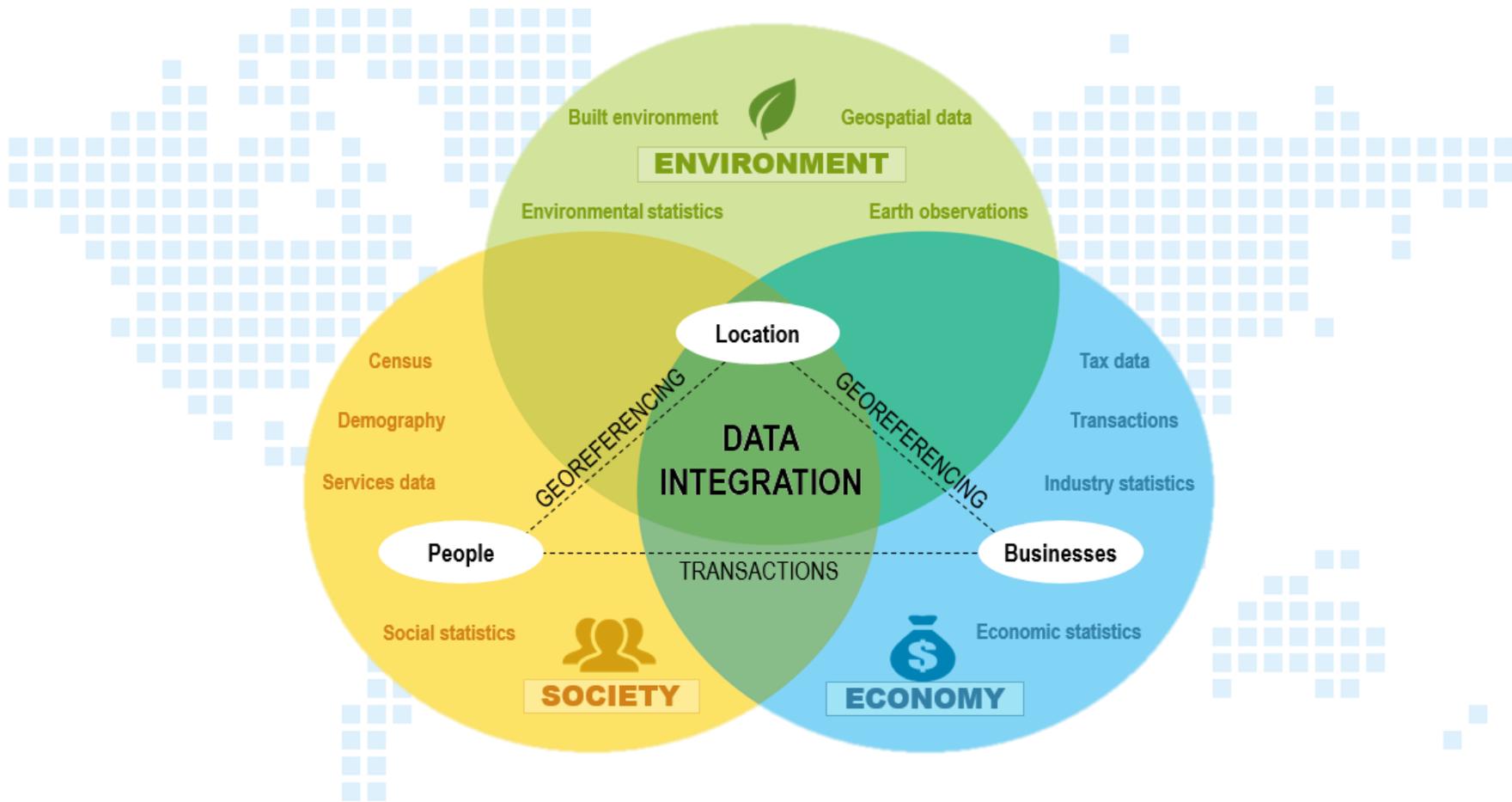


*Inform important decisions*

**Observations and data**

- ▶ **Statistical / Geospatial content**
- ▶ **Information**
- ▶ **Insights**

*Who, what , when, **where***



# Global Statistical Geospatial Framework



## PRINCIPLES

- Accessible & usable
- Statistical and geospatial interoperability
- Common geographies for dissemination of statistics
- Geocoded unit record data in a data management environment
- Use of fundamental geospatial infrastructure and geocoding

## KEY ELEMENTS

Standards and Good Practices

National Laws and Policy

Technical Infrastructure

Institutional Collaboration

## INPUT

### Geospatial

- Fundamental data
- Supplementary data
- New data sources

### Statistical

- Censuses
- Surveys
- Administrative data records
- Big data and other sources

## OUTPUT

Integration

Harmonised and standardised information

Interoperability  
Comparability

Analysis

Diffusion

Decision making

# Role of the public sector

## Inform decision makers

- ▶ Health – infections, at risk populations and health systems
- ▶ Society – populations, responses and social infrastructure
- ▶ Economy – business, employment, incomes

*Data and capability – statistical and geospatial*

# Population Grid 2019

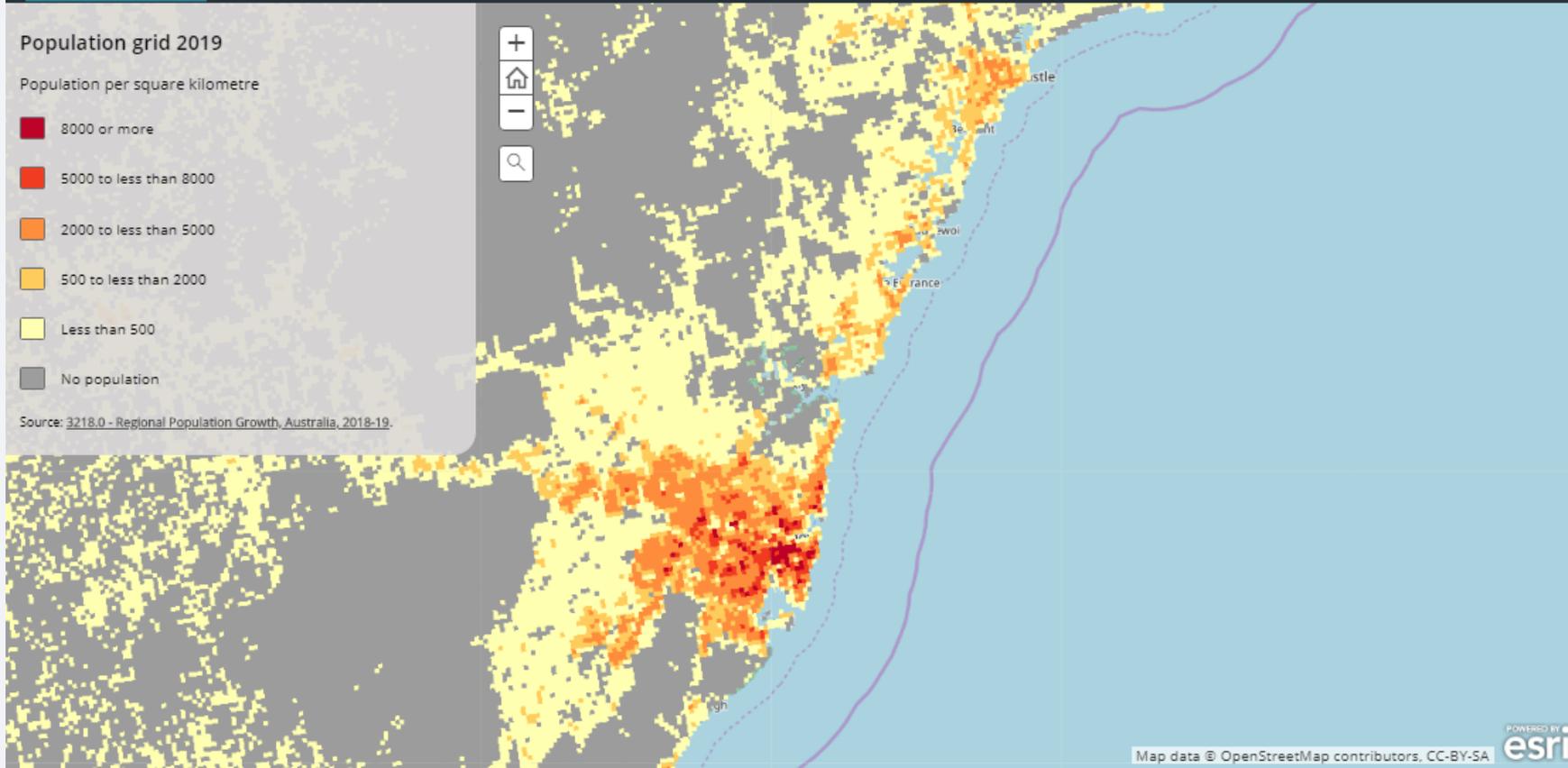
Population grid 2019

## Population grid 2019

Population per square kilometre

- 8000 or more
- 5000 to less than 8000
- 2000 to less than 5000
- 500 to less than 2000
- Less than 500
- No population

Source: 3218.0 - Regional Population Growth, Australia, 2018-19.



# Health – At risk populations: age distribution

Persons 60 years and older

Persons 70 years and older

Persons 80 years and older

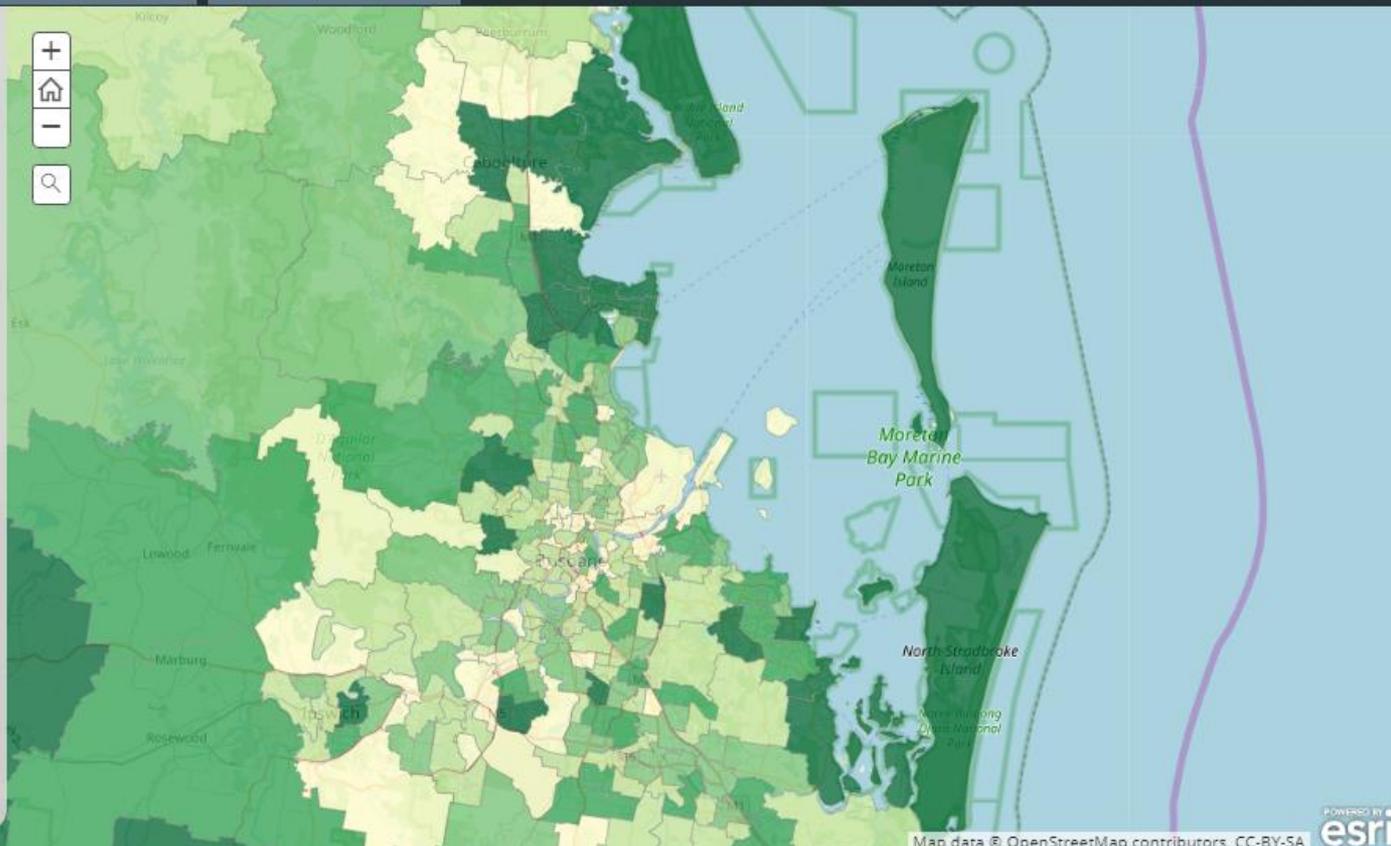
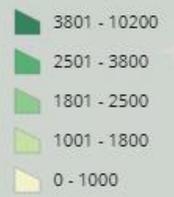
These interactive maps examine the geographic distribution of people who are aged 60 years and older, 70 years and older, and 80 years and older as at 30 June 2020 (projected), by Statistical Area Level 2 (SA2) of residence. These age groups are considered to be at a higher risk from COVID-19, however other health factors may affect a person's risk.

Other age range divisions are available from the source data, and may be used to derive additional maps and analyses. The population data are projections and should be used with the understanding of the Conditions of use explained by Australian Institute of Health and Welfare (AIHW).

Source: Department of Health

## Persons 60 years and older

Number of persons resident



# Health – At risk populations: health conditions

Total population

Persons 60 years and over

Persons 70 years and over

Three or more chronic conditions

Heart, stroke, or vascular disease

Diabetes mellitus

Asthma

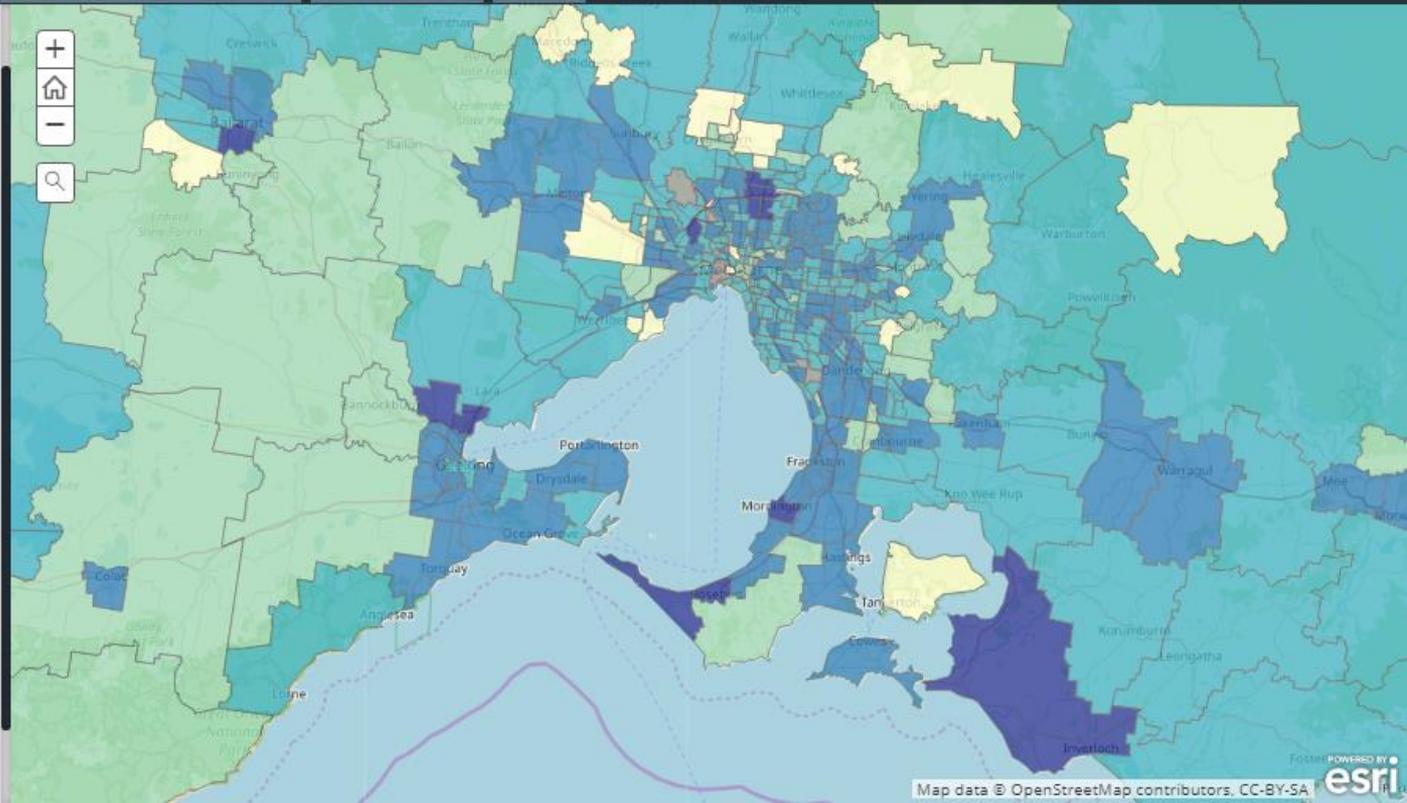
range of **chronic health conditions**, across several age groups, by **Statistical Area Level 2 (SA2)** of residence. These groups are considered by the **WHO** to be at a higher risk from COVID-19 and these maps can be used in conjunction with local or expert knowledge to provide insights into the geographic spread of these conditions.

Underlying data is currently being prepared for publication on the ABS website ([cat.4364.0.55.001](http://cat.4364.0.55.001)). Other age range divisions and health conditions are available from the source data and may be used to derive additional maps and analyses.

Source: Data modelled from **National Health Survey 2017-18**

Persons 70 years and over with three or more chronic health conditions

Number of persons



# Economy – At risk populations: employment

Total employment 50 years and over

Health employment 50 years and over

Education employment 50 years and over

Hospitality employment 50 years and over



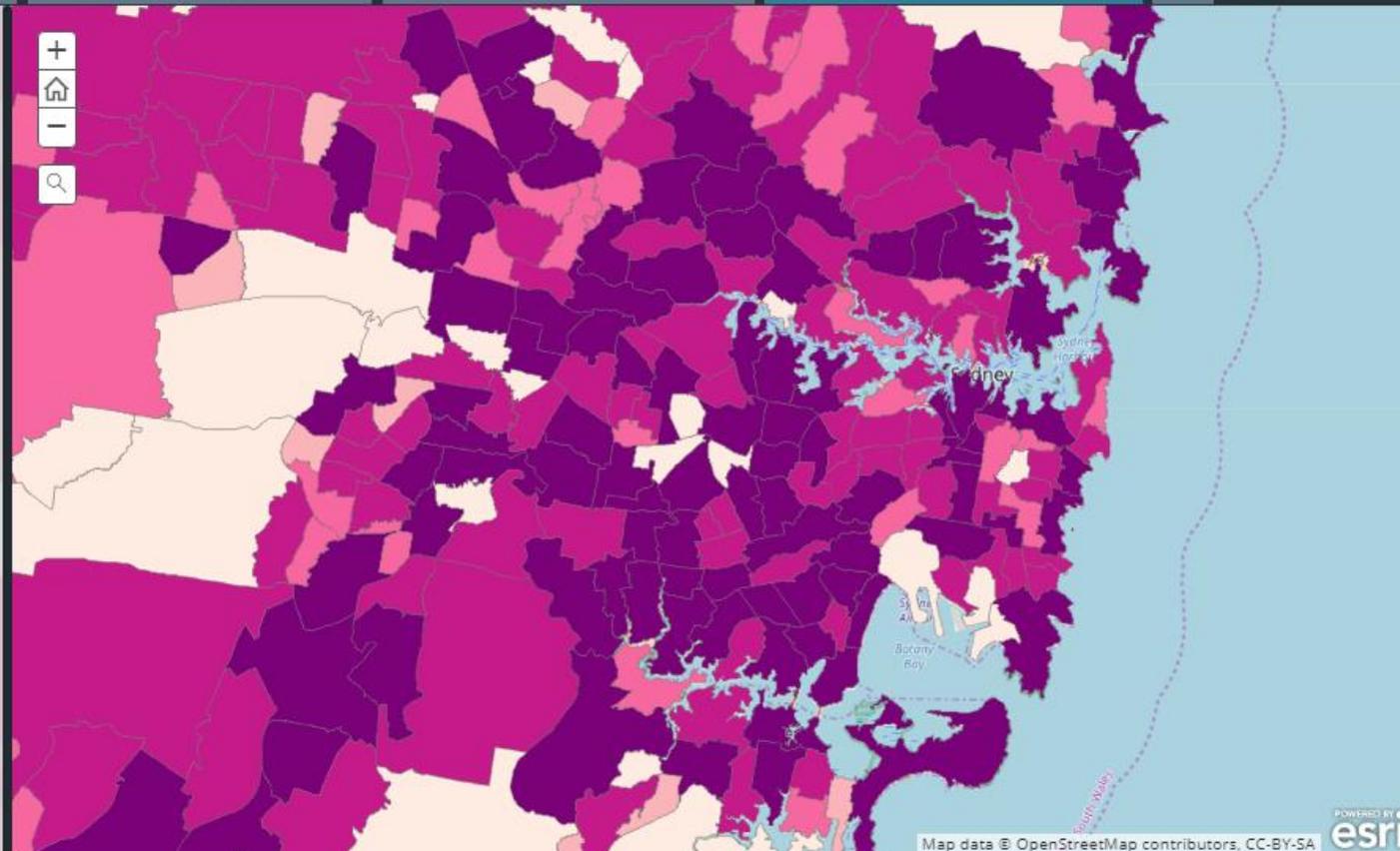
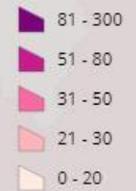
These interactive maps examine the geographic distribution of people who are aged 50 and older, and who work in a range of industries, by [Statistical Area Level 2 \(SA2\)](#) of residence. This workforce age group is considered to be at a higher risk from COVID-19 and these maps provide insights into the geographic spread of this part of the workforce and for those in a number of industries of particular interest.

Other industry categories and age ranges are available from the source data, and may be used to derive additional maps and analyses.

Source: [Jobs in Australia \(2016-17\)](#) (cat. no. 6160.0).

Persons 50 years and older working in accommodation and food services

Number of persons



# Role of the public sector

## Inform the public

- ▶ Enable personal management – understand risks
- ▶ Communicate and care for others – older parents, health issues
- ▶ Make good decisions – business owners and workers
- ▶ Inform and reassure about overall impacts – extent and progress

*Presentation and visualisation – statistical and geospatial*



CURRENT STATUS OF CONFIRMED CASES

5,908

Total cases

45

Total deaths

2,547

Cases recovered

93

CURRENT CASES  
INTENSIVE CARE UNITS (ICU)



ACT	NSW	NT	QLD	SA	TAS	VIC	WA
3	37	0	13	10	2	13	15

305

CURRENT CASES  
ADMITTED TO HOSPITALS



ACT	NSW	NT	QLD	SA	TAS	VIC	WA
6	103	24	42	16	13	47	54

310,700

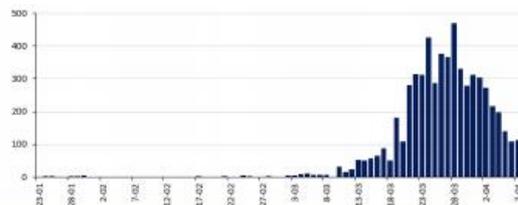
1.9% POSITIVE



TOTAL TESTS  
CONDUCTED

ACT	NSW	NT	QLD
5,497	126,146	2,999	61,834
POSITIVE	POSITIVE	POSITIVE	POSITIVE
1.8%	2.1%	0.9%	1.5%
SA	TAS	VIC	WA
33,831	3,192	58,000	19,201
POSITIVE	POSITIVE	POSITIVE	POSITIVE
1.2%	2.8%	2.1%	2.4%

DAILY NUMBER OF REPORTED CASES

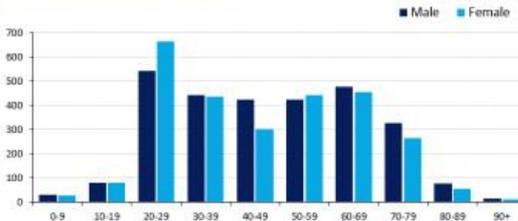


CASES IN AGED CARE SERVICES

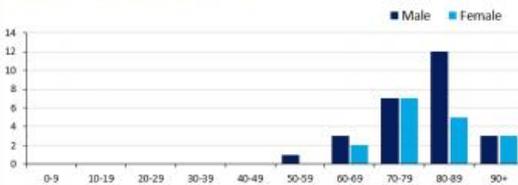
Confirmed cases	Australia	ACT	NSW	NT	Qld	SA	Tas	Vic	WA
Residential Care	25 [5] [9]	0	23 [5] [8]	0	1 [1]	0	0	1	0
In Home Care	7 [1]	0	3	0	2	0	1 [1]	1	0

Cases in care recipients [recovered] (deaths)

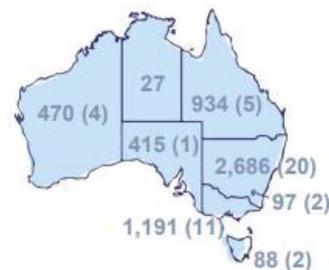
CASES BY AGE GROUP AND SEX



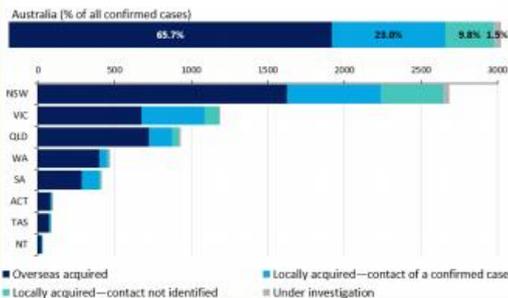
DEATHS BY AGE GROUP AND SEX



CASES (DEATHS) BY STATE AND TERRITORIES



CASES BY SOURCE OF INFECTION



PUBLIC HEALTH RESPONSE MEASURE

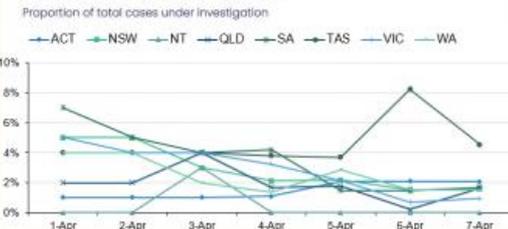
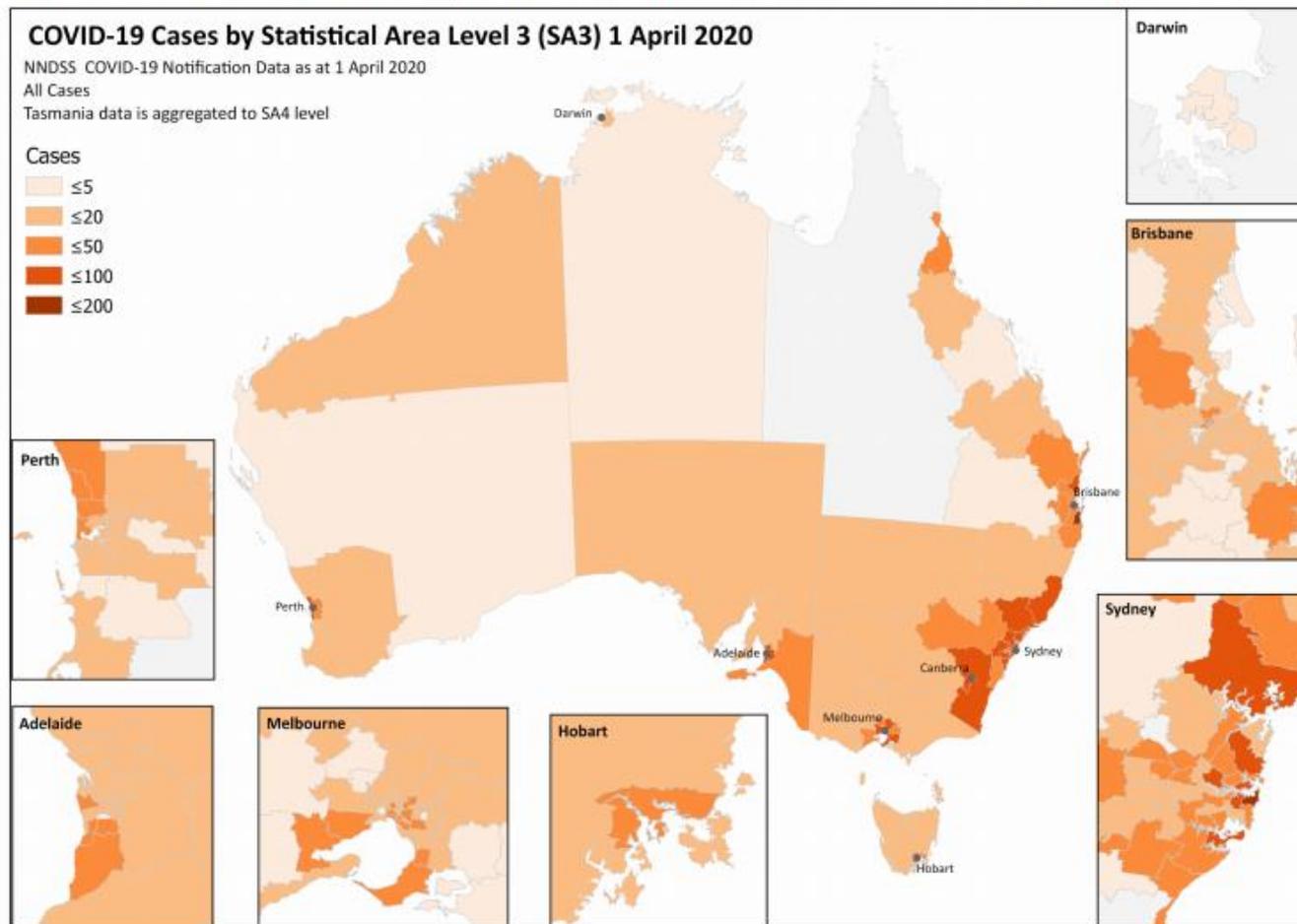


Figure 3: Confirmed cases of COVID-19, Australia, by location of usual residence and statistical area level 3, as at 1 April 2020<sup>a</sup>



a Represents the usual location of residence of a case, which does not necessarily mean that this is the place where they acquired their infection or were diagnosed. Overseas residents who do not have a usual place of residence in Australia are not shown.

# Data sharing and restrictions

## Privacy and confidentiality

- ▶ Statisticians can contribute methods and tools

## Roles, authority and specialisation

- ▶ Respect roles – but make progress
- ▶ Enablers and connectors – does not have to be me

## Interoperability, infrastructure and capability

- ▶ System and domain interoperability – formats, data models, world views
- ▶ Be prepared to share or contribute infrastructure and capability  
- geocoding, mapping, analysis

# What next???

## Recovery

- ▶ What role should geospatial and statistics take?

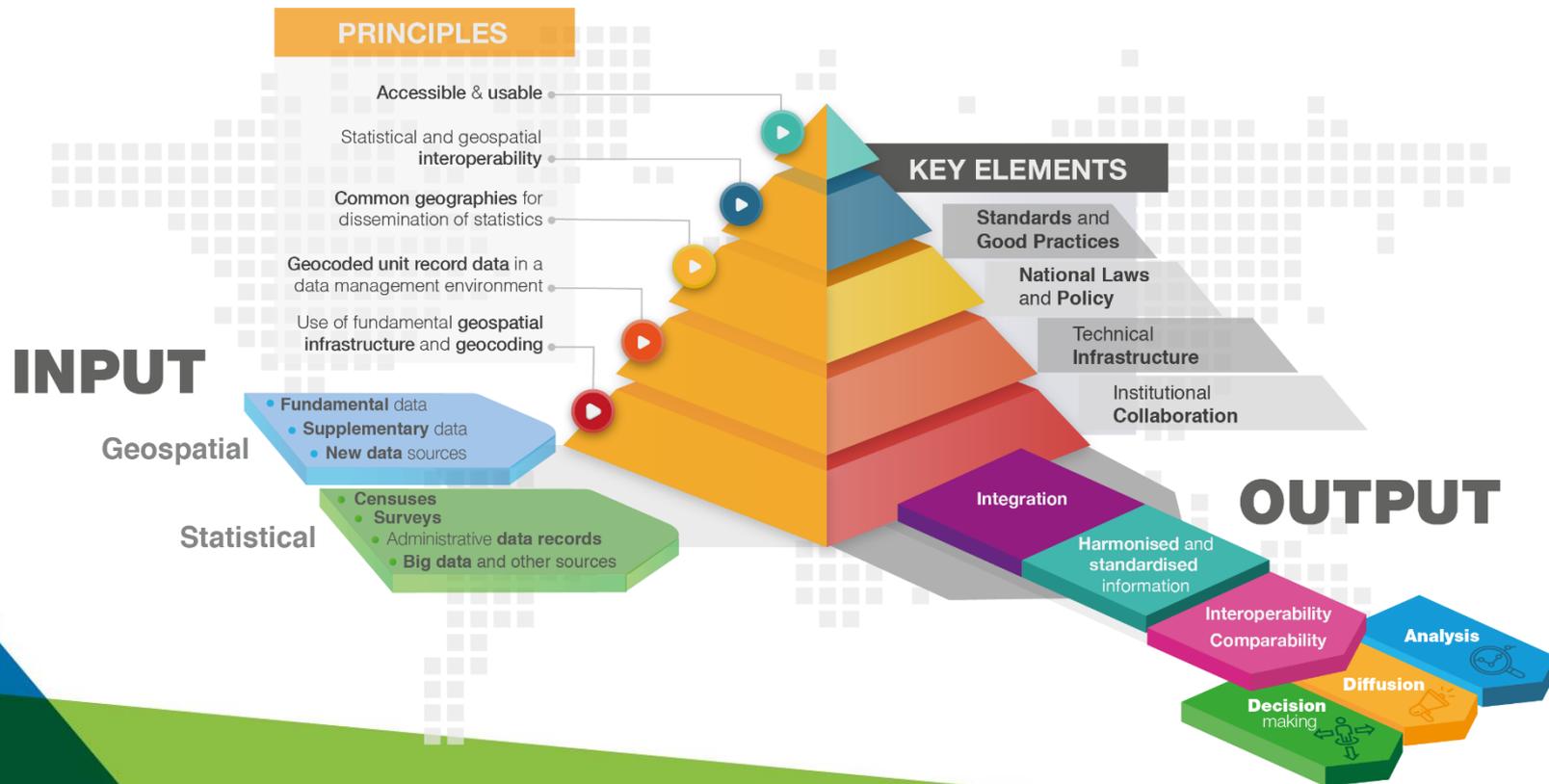
## How do we make it better for when the next crisis occurs?

- ▶ Review with your partners – good and bad
- ▶ Promote the value delivered through geospatial and statistics

## Global Statistical Geospatial Framework

- ▶ Where were the gaps in your countries capacity?
- ▶ Were there gaps in the framework?

# Global Statistical Geospatial Framework



# Terminado